# DRAFT EIR

FOR THE

# TRACY COSTCO DEPOT ANNEX PROJECT
(SCH # 2020080531)

SEPTEMBER 2022

*Prepared for:*

City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

*Prepared by:*

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De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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# DRAFT EIR

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# INTRODUCTION

The City of Tracy has determined that the Tracy Costco Depot Annex Project is a "Project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the Project, description of the environmental setting, identification of Project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of Project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the Notice of Preparation (NOP) were considered in preparing the analysis in this EIR.

# PROJECT DESCRIPTION

The Project site includes two distinct planning boundaries defined below. The following terms are used throughout this Draft EIR to describe the planning boundaries within the Project site:

- **Project Site** (or **Annexation Area**) – totals 104.46 acres and includes the whole of the Project, including the proposed 103.0-acre Development Area, and 1.46 acres of land along the Delta Mendota Canal (which would not be developed as part of the proposed Project).
- **Development Area** – includes a 103.0-acre parcel (Assessor's Parcel Number [APN] 209-230-02) that is intended for the development of up to 1,745,052 square feet (sf) of industrial uses.

The Project would include the construction and subsequent operation of two Costco warehouse buildings that would serve as an annex to the existing Costco Depot located approximately 1.5-miles to the west of the Project and as a Direct Delivery Center. The two buildings (approximately 543,326 sf for Building 1 and 1,201,726 sf for Building 2) will total approximately 1,745,052 sf on the 104.46-acre Project site. The smaller Building 1 is anticipated to serve as an annex by providing additional storage for high-turnover merchandise processed through the nearby Costco Depot, a pallet repair facility, and a return to vendor (RTV) facility for large items returned to a Costco warehouse. The larger Building 2 is anticipated to serve as a Direct Delivery Center (DDC), which is an ecommerce distribution center primarily for large and bulky items ordered online by Costco members for direct delivery. The Project would also include the required circulation, parking, and utility improvements. The principal objective of the proposed Project is the approval and subsequent construction and operation of the two warehouse buildings

The Project site is designated as Agriculture by San Joaquin County's General Plan Land Use Map and is zoned as AG-40 Agriculture by the County. The site currently has a City General Plan land use

designation of Industrial (I). The San Joaquin County Local Agency Formation Commission (LAFCO) will require the Project site to be pre-zoned by the City of Tracy in conjunction with the proposed annexation. The City's pre-zoning will include the Light Industrial (M-1) zoning designation for the Project site. Additionally, the proposed Project would result in the annexation of the Annexation Area into the City of Tracy.

## AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed Project that are known to the City of Tracy, were raised during the NOP process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with aesthetics, agricultural resources, air quality, biological resources, cultural and tribal resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use, noise, public services, transportation and circulation, utilities, and wildfire.

The City of Tracy received three written comment letters on the NOP for the proposed Project from the agencies listed below. Copies of those NOP comment letters are provided in Appendix A of this Draft EIR. The City also held a public scoping meeting on September 9, 2020. No written or verbal comments were provided at that scoping meeting.

- California Department of Conservation;
- Central Valley Regional Water Quality Control Board;
- San Joaquin Valley Air Pollution Control District.

## ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the Project or to the location of the Project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed Project. Three alternatives to the proposed Project were developed based on input from City staff, various outside agencies during the NOP review period, and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition and not be annexed into the City.
- **Reduced Project Alternative:** Under this alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the amount of developed land and industrial square footage would each decrease by 25 percent.
- **Agriculture Protection Alternative:** Under this alternative, the proposed Project would be developed in such a way to protect some of the on-site Important Farmland by reducing the overall footprint of the developed areas to a greater extent than the Reduced Project Alternative.

Alternatives are described in detail in Chapter 5.0. Table ES-1 provides a comparison of the alternatives using a qualitative matrix that compares each alternative relative to the other Project alternatives. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the remaining alternatives must be identified. The Reduced Project Alternative would have equal impacts in two areas, slightly less impacts in seven areas, and less impacts in six areas. The Agriculture Protection Alternative would have greater impacts in one area, equal impacts in eight areas, slightly less impacts in one area, and less impacts in four areas. Therefore, the Reduced Project Alternative would be the next environmentally superior alternative. It is noted that the Reduced Project Alternative would not fully meet all of the Project objectives.

***TABLE ES-1: COMPARISON SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT***

| *ENVIRONMENTAL ISSUE* | *NO PROJECT (NO BUILD) ALTERNATIVE* | *REDUCED PROJECT ALTERNATIVE* | *AGRICULTURE PROTECTION ALTERNATIVE* |
|---|---|---|---|
| Aesthetics and Visual Resources | Less (Best) | Slightly Less (2nd Best) | Greater (3rd Best) |
| Agricultural Resources | Less (Best) | Slightly Less (3rd Best) | Less (2nd Best) |
| Air Quality | Less (Best) | Less (2nd Best) | Equal (3rd Best) |
| Biological Resources | Less (Best) | Slightly Less (3rd Best) | Less (2nd Best) |
| Cultural and Tribal Resources | Less (Best) | Slightly Less (3rd Best) | Less (2nd Best) |
| Geology and Soils | Less (Best) | Slightly Less (2nd Best) | Equal (3rd Best) |
| Greenhouse Gases, Climate Change and Energy | Less (Best) | Less (2nd Best) | Equal (3rd Best) |
| Hazards and Hazardous Materials | Less (Best) | Less (2nd Best) | Equal (3rd Best) |
| Hydrology and Water Quality | Less (Best) | Slightly Less (3rd Best) | Less (2nd Best) |
| Land Use | Less (Best) | Equal (2nd Best) | Equal (2nd Best) |
| Noise | Less (Best) | Less (2nd Best) | Slightly Less (3rd Best) |
| Public Services | Less (Best) | Equal (2nd Best) | Equal (2nd Best) |
| Transportation and Circulation | Less (Best) | Less (2nd Best) | Equal (3rd Best) |
| Utilities | Less (Best) | Less (2nd Best) | Equal (3rd Best) |

*GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT*
*LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT*
*EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT*

## SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines define a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations.

The environmental impacts of the proposed Project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

***TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES***

| *ENVIRONMENTAL IMPACT* | *LEVEL OF SIGNIFICANCE WITHOUT MITIGATION* | *MITIGATION MEASURE* | *RESULTING LEVEL OF SIGNIFICANCE* |
|---|---|---|---|
| AESTHETICS AND VISUAL RESOURCES | | | |
| Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources. | PS | *None feasible.* | SU |
| Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway. | LS | | -- |
| Impact 3.1-3: In an urbanized area, Project implementation would not conflict with the applicable zoning and other regulations governing scenic quality. | LS | | -- |
| Impact 3.1-3: Project implementation may result in light and glare impacts. | LS | | -- |
| AGRICULTURAL RESOURCES | | | |
| Impact 3.2-1: The proposed Project has the potential to result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses. | PS | | SU |

*CC – cumulatively considerable* *LCC – less than cumulatively considerable* *LS – less than significant*

*PS – potentially significant* *B – beneficial impact* *SU – significant and unavoidable*

| *ENVIRONMENTAL IMPACT* | *LEVEL OF SIGNIFICANCE WITHOUT MITIGATION* | *MITIGATION MEASURE* | *RESULTING LEVEL OF SIGNIFICANCE* |
|---|---|---|---|
| Impact 3.2-2: The proposed Project has the potential to conflict with existing zoning for agricultural use, or Williamson Act Contracts. | LS | | -- |
| Impact 3.2-3: The proposed Project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands. | PS | ***Mitigation Measure 3.2-1:*** *Prior to approval of a grading permit for each phase of the Project, the Project applicant shall demonstrate that the Project site plans include adequate measures to buffer adjacent agricultural uses from urban uses on the Project site and to reduce adverse impacts to neighboring agricultural uses. Additionally, the Project applicant shall provide notifications to all operators of uses on the Project site that are adjacent or in the vicinity of existing agricultural land of the City's Right-to-Farm Ordinance.* | LS |
| AIR QUALITY | | | |
| Impact 3.3-1: Project operation would conflict or obstruct implementation of the District's air quality plan. | PS | ***Mitigation Measure 3.3-1:*** *During Project operation, operators of heavy-duty trucks that travel to and from the Project site are required to use trucks that have 2010 model year or newer engines that meet the CARB's 2010 engine emission standards of 0.01 g/bhp-hr for particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions, or newer, cleaner trucks and equipment.* | SU |
| Impact 3.3-2: The proposed Project would result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard. | PS | *Implement* ***Mitigation Measure 3.3-1****.* | SU |
| Impact 3.3-3: The proposed Project would not expose sensitive receptors to substantial pollutant concentrations. | LS | | -- |
| Impact 3.3-4: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people. | LS | | -- |

*CC – cumulatively considerable* *LCC – less than cumulatively considerable* *LS – less than significant*

*PS – potentially significant* *B – beneficial impact* *SU – significant and unavoidable*

| *ENVIRONMENTAL IMPACT* | *LEVEL OF SIGNIFICANCE WITHOUT MITIGATION* | *MITIGATION MEASURE* | *RESULTING LEVEL OF SIGNIFICANCE* |
|---|---|---|---|
| BIOLOGICAL RESOURCES | | | |
| Impact 3.4-1: The proposed Project has the potential to have a direct or indirect effect on special-status invertebrate species. | PS | ***Mitigation Measure 3.4-1****: Prior to commencement of any grading activities, the Project proponent shall obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization Measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.* | LS |
| Impact 3.4-2: The proposed Project has the potential to have direct or indirect effects on special-status reptile and amphibian species. | PS | *Implement* ***Mitigation Measure 3.4-1.*** | LS |
| Impact 3.4-3: The proposed Project has the potential to have direct or indirect effects on special-status bird species. | PS | *Implement* ***Mitigation Measure 3.4-1.*** | LS |
| Impact 3.4-4: The proposed Project has the potential to result in direct or indirect effects on special-status mammal species. | PS | *Implement* ***Mitigation Measure 3.4-1.*** | LS |
| Impact 3.4-5: The proposed Project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species. | LS | | -- |
| Impact 3.4-6: The proposed Project has the potential to effect protected wetlands and jurisdictional waters. | NI | | -- |

*CC – cumulatively considerable* *LCC – less than cumulatively considerable* *LS – less than significant*

*PS – potentially significant* *B – beneficial impact* *SU – significant and unavoidable*

| *ENVIRONMENTAL IMPACT* | *LEVEL OF SIGNIFICANCE WITHOUT MITIGATION* | *MITIGATION MEASURE* | *RESULTING LEVEL OF SIGNIFICANCE* |
|---|---|---|---|
| Impact 3.4-7: The proposed Project has the potential to result in adverse effects on riparian habitat or a sensitive natural community. | LS | | -- |
| Impact 3.4-8: The proposed Project has the potential to result in interference with the movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites. | LS | | -- |
| Impact 3.4-9: The proposed Project has the potential to conflict with an adopted Habitat Conservation Plan. | PS | *Implement **Mitigation Measure 3.4-1.*** | LS |
| Impact 3.4-10: The proposed Project has the potential to conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. | LS | | -- |
| CULTURAL AND TRIBAL RESOURCES | | | |
| Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as defined in CEQA Guidelines §15064.5. | PS | ***Mitigation Measure 3.5-1:*** *If any historical resources, cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, are found during grading and construction activities during any phase of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).*<br><br>*Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource.* | LS |

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*PS – potentially significant* *B – beneficial impact* *SU – significant and unavoidable*

| *ENVIRONMENTAL IMPACT* | *LEVEL OF SIGNIFICANCE WITHOUT MITIGATION* | *MITIGATION MEASURE* | *RESULTING LEVEL OF SIGNIFICANCE* |
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| | | *In addition, if the resource(s) identified is cultural or tribal in nature, the Confederated Villages of Lisjan shall be contacted to review and identify the resource, prior to work continuing at the discovery site.*<br><br>*If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, would also be required and, if Native American resources are identified, shall be retained at the Project applicant's expense.* | |
| Impact 3.5-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as defined in CEQA Guidelines §15064.5, or a significant tribal cultural resource, as defined in Public Resources Code §21074. | PS | *Implement* ***Mitigation Measure 3.5-1.***<br><br>***Mitigation Measure 3.5-2:*** *If human remains are discovered during the course of construction during any phase of the Project, work shall be halted at the site and at any nearby area reasonably suspected to overlie adjacent human remains until the San Joaquin County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps will be taken:*<br><br>• *The coroner shall contact the Native American Heritage Commission and the Confederated Villages of Lisjan in order to ascertain the Most Likely Descendant (MLD) from the deceased individual. If a MLD is identified, the MLD, with the permission of the owner of the land, or his or her authorized representative, in accordance with the law, may inspect the site discovery site and recommend to the landowner, or his or her representative, means for the treatment or disposition, with appropriate dignity' of the human remains and any associated grave goods. The landowner has no legal obligation to allow the MLD accesses to the property for the purpose of making a recommendation. The MLD must complete their inspection and make their recommendation within 48 hours of their notification by the NAHC. The recommendation may include the scientific removal and analysis of human remains and items associated with Native American burials. The coroner shall make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing* | LS |

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| | | *of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.*<br>• *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:*<br>o *The Native American Heritage Commission and Confederated Villages of Lisjan is unable to identify a descendent.*<br>o *The descendant identified fails to make a recommendation.*<br>o *The City of Tracy or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.* | |
| Impact 3.5-3: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries. | PS | *Implement* ***Mitigation Measure 3.5-2.*** | LS |
| GEOLOGY AND SOILS | | | |
| Impact 3.6-1: The proposed Project may cause potential adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic related ground failure, or landslides. | LS | | -- |
| Impact 3.6-2: Implementation and construction of the proposed Project may result in substantial soil erosion or the loss of topsoil. | PS | *Implement* ***Mitigation Measure 3.9-1.*** | LS |

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| Impact 3.6-3: The proposed Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse. | PS | ***Mitigation Measure 3.6-1****: Prior to earthmoving activities for each phase of the Project, a certified geotechnical engineer shall perform a final geotechnical evaluation of the soils at a design-level as required by the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The geotechnical evaluation shall be funded by the Project applicant.*<br><br>*The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction or lateral spreading. The grading and improvement plans, as well as the storm drainage and building plans for each phase of the Project shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.* | LS |
| Impact 3.6-4: Potential for expansive soils to create substantial risks to life or property. | PS | *Implement* ***Mitigation Measure 3.6-1.*** | LS |
| Impact 3.6-5 The proposed Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. | PS | ***Mitigation Measure 3.6-2:*** *If any paleontological resources are found during grading and construction activities of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find. A paleontologist is a scientist with an advanced degree (Master's or Doctorate) who studies the history of life on Earth through the fossil record.*<br><br>*Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating on the Project site, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology. The paleontologist recommendations shall be implemented.* | LS |

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| GREENHOUSE GASES AND CLIMATE CHANGE | | | |
| Impact 3.7-1: Project implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. | LS | | -- |
| Impact 3.7-2: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources | LS | | -- |
| HAZARDS AND HAZARDOUS MATERIALS | | | |
| Impact 3.8-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. | PS | *Implement **Mitigation Measure 3.9-1**.*<br><br>***Mitigation Measure 3.8-1**: In the event that hazardous materials are encountered during construction, a Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.*<br><br>***Mitigation Measure 3.8-2**: Prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to San Joaquin County Environmental Health Department (CUPA) for review and approval. If during the construction process the applicant or its subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).* | LS |

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| | | ***Mitigation Measure 3.8-3**: During construction and Project operation, if subsurface contamination as a result of leaks from the crude oil pipeline is detected, the Project proponent/operator shall notify the San Joaquin County Department of Environmental Health Division (CUPA) to facilitate the site cleanup. Crimson Pipeline, L.P., or the current pipeline operator, shall be responsible for the site cleanup.* | |
| HYDROLOGY AND WATER QUALITY | | | |
| Impact 3.9-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. | PS | ***Mitigation Measure 3.9-1:** Prior to any site disturbance, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Tracy and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*<br><br>***Mitigation Measure 3.9-2:** Prior to the issuance of grading permits, the applicant must submit a site-specific Project Stormwater Quality Control Plan to the City of Tracy for review and approval. The site-specific Project Stormwater Quality Control Plan must specify operational BMPs the Project will use and design specifications for selected operational BMPs to ensure the Project's consistency with State and local water quality regulations.* | LS |
| Impact 3.9-2: The proposed Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. | LS | | -- |

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| Impact 3.9-3: The proposed Project would not alter the existing drainage pattern of the site or area, including the alteration of the course of a river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff. | LS | | -- |
| Impact 3.9-4: The proposed Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. | LS | | -- |
| LAND USE | | | |
| Impact 3.10-1: The proposed Project would not conflict with an applicable land use plan, policy, or regulation adopted to avoid or mitigate an environmental effect. | LS | | -- |
| NOISE | | | |
| Impact 3.11-1: The proposed Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. | PS | ***Mitigation Measure 3.11-1:*** *To reduce potential construction noise impacts during Project construction, the following multi-part mitigation measure shall be implemented for the Project:*<br>• *All construction equipment powered by internal combustion engines shall be muffled and maintained.*<br>• *Quiet construction equipment, particularly air compressors, shall be selected whenever possible.*<br>• *All stationary noise-generating construction equipment such as generators or air compressors shall be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction* | SU |

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| | | *equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.*<br>• *Unnecessary idling of internal combustion engines shall be prohibited.*<br>• *The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.*<br>• *Construction shall be limited to 7:00 a.m. to 7:00 p.m. per General Plan Policy P4.*<br><br>*These requirements shall be noted on the Project improvement plans.*<br><br>***Mitigation Measure 3.11-2:** To reduce potential operational noise impacts during Project operation, a minimum 6-foot tall sound wall and/or landscaped berm shall be constructed along the western Project boundary. Noise barrier walls shall be constructed of concrete masonry units, earthen berms, or any combination of these materials. Should the adjacent west residential use be vacated, demolished, and rezoned to industrial before the proposed Project is completed, a sound wall shall not be required. These requirements shall be included in the improvements plans prior to their approval by the City's Public Works Department* | |
| Impact 3.11-2: The proposed Project would not generate excessive groundborne vibration or groundborne noise levels. | LS | | -- |
| PUBLIC SERVICES | | | |
| Impact 3.12-1: The proposed Project has the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts. | LS | | -- |
| Impact 3.12-2: The proposed Project has the potential to require the construction of fire | LS | | -- |

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| department facilities which may cause substantial adverse physical environmental impacts. | | | |
| Impact 3.12-3: The proposed Project has the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts. | LS | | -- |
| Impact 3.12-4: The proposed Project has the potential to have effects on other public facilities. | LS | | -- |
| TRANSPORTATION AND CIRCULATION | | | |
| Impact 3.13-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). | PS | ***Mitigation Measure 3.13-1:*** *The Project applicant shall implement feasible Transportation Demand Management (TDM) strategies, which would decrease the VMT generated by the Project by 15 percent. Specific potential TDM strategies include, but are not limited to, the following:*<br><br>• *Emergency Ride Home (ERH) Program*<br>• *Designated Parking Spaces for Car Share Vehicles*<br><br>*The TDM Plan shall be submitted to the City for review prior to approval of improvement plans, and the effectiveness of the TDM Plan shall be evaluated, monitored, and revised, if determined necessary by the City. The TDM Plan shall include the TDM strategies that will be implemented during the lifetime of the proposed Project and shall outline the anticipated effectiveness of the strategies. The anticipated effectiveness of the TDM Plan may be monitored through annual surveys to determine employee travel mode split and travel distance for home-based work trips, and/or the implementation of technology to determine the amount of traffic generated by and home-based work miles traveled by employees, which shall be determined in coordination with the City. The frequency and duration of the anticipated effectiveness would depend on the ultimate strategy determined in coordination with the City. Additionally, the Project applicant shall pay any VMT banking fee in effect at the time of building permit issuance to secure VMT credits of a total of 15 percent for the* | SU |

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| | | *subject building, taking into account the stated percent efficacy for the TDM measures above.* | |
| Impact 3.13-2: Project implementation would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. | LS | | -- |
| Impact 3.13-3: Project implementation would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). | PS | ***Mitigation Measure 3.13-2:*** *Prior to the start of construction, the Project applicant shall prepare and submit a Construction Traffic Control Plan. The Plan shall include the following items. The approved Plan shall be implemented during construction of the Project.*<br>• *Project staging plan to maximize on-site storage of materials and equipment.*<br>• *Permitted construction hours.*<br>• *Location of construction staging.*<br>• *Provisions for street sweeping to remove construction-related debris on public streets.*<br>• *A set of comprehensive traffic control measures including scheduling of major truck trips and deliveries to avoid peak-hours; lane closure proceedings; signs, cones, and other warning devices for drivers; and designation of construction haul routes.*<br>• *Survey of the pavement condition on roadways to be used as part of the haul route(s) or any alternate route(s) that are proposed to be utilized by hauling operation for the Project prior to the commencement of any work on-site. The survey shall include a video tape of the roadways. The Project applicant shall complete any remedial work prior to initiation of use and provide a bond assuring completion of the remediation work triggered by the individual development proposal, the amount which shall be deemed sufficient by the Public Works Department. If the work is completed before the use of the proposed buildings, a bond shall not be required.* | LS |

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| Impact 3.13-4: Project implementation would not result in inadequate emergency access. | LS | | -- |
| UTILITIES | | | |
| Impact 3.14-1: The proposed Project has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. | LS | | -- |
| Impact 3.14-2: The proposed Project has the potential to result in a determination by the wastewater treatment and/or collection provider which serves or may serve the Project that is does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. | LS | | -- |
| Impact 3.14-3: The proposed Project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. | LS | | -- |
| Impact 3.14-4: The proposed Project has the potential to require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. | LS | | -- |
| Impact 3.14-5: The proposed Project has the potential to have insufficient water supplies | LS | | -- |

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| available to serve the Project from existing entitlements and resources. | | | |
| Impact 3.14-6: The proposed Project has the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. | LS | | -- |
| Impact 3.14-7: The proposed Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. | LS | | -- |
| CUMULATIVE IMPACTS | | | |
| Impact 4.1: Cumulative Damage to Scenic Resources within a State Scenic Highway | LS and LCC | | -- |
| Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region | PS | | CC and SU |
| Impact 4.3: Cumulative Impact on Light and Glare | LS and LCC | | -- |
| Impact 4.4: Cumulative Impact on Agricultural Resources | PS | | CC and SU |

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| Impact 4.5: Cumulative Impact on the Region's Air Quality | PS | | CC and SU |
| Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species | LS and LCC | | -- |
| Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural Resources | LS and LCC | | -- |
| Impact 4.8: Cumulative Impact on Geologic and Soils Resources | LS and LCC | | -- |
| Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions | LS and LCC | | -- |
| Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials | LS and LCC | | -- |
| Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Project site | LS and LCC | | -- |
| Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality | LS and LCC | | -- |
| Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge | LS and LCC | | -- |
| Impact 4.14: Cumulative Impact on Communities and Local Land Uses | LS and LCC | | -- |

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| Impact 4.15: Cumulative Exposure of Existing Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development | PS | | CC and SU |
| Impact 4.16: Cumulative Impact on Public Services | LS and LCC | | -- |
| Impact 4.17: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) | PS | | CC and SU |
| Impact 4.18: Under Cumulative conditions, the proposed Project would not adversely affect pedestrian, bicycle, or transit facilities | LS and LCC | | -- |
| Impact 4.19: Cumulative Impact on Wastewater Utilities | LS and LCC | | -- |
| Impact 4.20: Cumulative Impact on Water Utilities | LS and LCC | | -- |
| Impact 4.21: Cumulative Impact on Stormwater Facilities | LS and LCC | | -- |
| Impact 4.22: Cumulative Impact on Solid Waste Facilities | LS and LCC | | -- |

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## 1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Tracy, as the lead agency, determined that the proposed Tracy Costco Depot Annex Project is a "Project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its significant adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development.

The City of Tracy, as the lead agency, has prepared this Draft EIR to provide the decisionmakers, the public and the responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from implementation of the proposed Project. The environmental review process enables interested parties to evaluate the proposed Project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potentially significant adverse impacts, and to consider a reasonable range of alternatives to the proposed Project. This EIR will be used by the City of Tracy to determine whether to approve, modify, or deny the proposed Project and associated approvals in light of the Project's environmental effects. The EIR will be used as the primary environmental document to evaluate full development, all associated infrastructure improvements, and permitting actions associated with the proposed Project. All of the actions and components of the proposed Project are described in detail in Chapter 2.0, Project Description.

## 1.2 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Project-level EIR, described in State CEQA Guidelines § 15161 as: "The most common type of EIR (which) examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation. The project-level analysis considers the broad environmental effects of the proposed Project.

## 1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the proposed Project or an aspect of the proposed Project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over

natural resources affected by a project which are held in trust for the people of the State of California (CEQA Guidelines Section 15386).

The following agencies are considered "Responsible Agencies" or "Trustee Agencies" for the proposed Project, and may be required to issue permits or approve certain aspects of the proposed Project:

- Central Valley Regional Water Quality Control Board (CVRWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES); and a Storm Water Pollution Prevention Plan (SWPPP) would be required prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Construction activities would be subject to the SJVAPCD codes and requirements;
- San Joaquin LAFCo - Annexation of the Project site would be required; and

## 1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

### NOTICE OF PREPARATION AND INITIAL STUDY

The City of Tracy circulated an Initial Study (IS) and Notice of Preparation (NOP) of an EIR for the proposed Project on August 28, 2020 to the State Clearinghouse, State Responsible Agencies, State Trustee Agencies, Other Public Agencies, Organizations and Interested Persons. A public scoping meeting was held during the Planning Commission meeting on September 9, 2020 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The IS, NOP, and comments received on the NOP by interested parties are presented in Appendix A.

### DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed Project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Tracy will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period. Additionally, the City of Tracy will file the Notice of Availability with the County Clerk and have it published in a newspaper of regional circulation to begin the local public review period.

## PUBLIC NOTICE/PUBLIC REVIEW

The City of Tracy will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Attn: Genevieve Federighi, Associate Planner
City of Tracy, Planning Division
333 Civic Center Plaza
Tracy, CA 95376
(209) 831-6435
Genevieve.federighi@cityoftracy.org

## RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments received at any public hearing that may be held during such review period.

## CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Tracy will review and consider the Final EIR. If the City of Tracy finds that the Final EIR is "adequate and complete", the City of Tracy will certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

1) The EIR shows a good faith effort at full disclosure of environmental information; and

2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

Following review and consideration of the Final EIR, the City of Tracy may take action to approve, modify, or reject the proposed Project. A Mitigation Monitoring and Reporting Program, as described below, would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the proposed Project to reduce or avoid significant effects on the environment. This Mitigation Monitoring and Reporting Program will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

# 1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the project and its environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the

environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the proposed Project, environmental and planning documentation prepared for recent projects located within the City of Tracy, applicable local and regional planning documents, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

## EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the proposed Project's environmental impacts and possible mitigation measures. The Executive Summary also identifies the alternatives that reduce or avoid at least one significant environmental effect of the proposed Project.

## CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

## CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed Project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related improvements, and a list of related agency action requirements.

## CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addresses a topical area and is organized as follows:

**Environmental Setting.** A description of the existing environment as it pertains to the topical area.

**Regulatory Setting.** A description of the regulatory environment that may be applicable to the proposed Project.

**Impacts and Mitigation Measures.** Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics and Visual Resources
- Agricultural Resources
- Air Quality

- Biological Resources
- Cultural and Tribal Resources
- Geology and Soils
- Greenhouse Gases, Climate Change, and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Public Services
- Transportation and Circulation
- Utilities and Service Systems

It is noted that the Initial Study for the Project (see Appendix A) concluded that impacts related to Mineral Resources, Population and Housing, Recreation, and Wildfire were determined to be less than significant.

### CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative, and significant and unavoidable environmental effects.

### CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the proposed Project, which could feasibly attain the basic objectives of the proposed Project and avoid and/or lessen any significant environmental effects of the proposed Project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the proposed Project and the selected alternatives.

### CHAPTER 6 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

### APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis.

## 1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Tracy received three written comment letters on the NOP for the proposed Project from the agencies listed below. Copies of those NOP comment letters are provided in Appendix A of this Draft EIR. The commenting agency/citizen is provided below. The City also held a public scoping

meeting on September 9, 2020. No written or verbal comments were provided at that scoping meeting.

- California Department of Conservation;
- Central Valley Regional Water Quality Control Board;
- San Joaquin Valley Air Pollution Control District.

## 1.7 POTENTIAL AREAS OF CONCERN

Aspects of the proposed project that could be of public concern include the following:

- The type and amount of agricultural land converted to urban uses;
- Impacts on any current and future agricultural operations in the vicinity;
- Potential impacts to surface and groundwater;
- Project-related construction and/or operational emissions potentially exceeding SJVAPCD thresholds;
- Operational emissions from off-road equipment (i.e., forklifts) and/or on-road equipment (i.e., mobile yard trucks with the ability to move materials) during Project operation;
- Truck routing and heavy-duty truck air emissions potentially impacting residential communities and sensitive receptors; and
- Toxic Air Contaminants impact on surrounding sensitive receptors.

## 2.1 PROJECT LOCATION

The Project site is located at 16000 West Schulte Road in unincorporated San Joaquin County, California (Figures 2.0-1 and 2.0-2). The Project site is within the Tracy Sphere of Influence (SOI) 10-Year Planning Horizon and is immediately adjacent to the Tracy city limits to the north of the site.

The Project site is immediately south of the intersection of Bud Lyons Way and West Schulte Road. The Project site is bounded on the north by West Schulte Road, on the west by an unnamed driveway serving the adjacent rural residence, on the south by the Delta Mendota Canal, and on the east by vacant agricultural land. The Project site is located within Sections 35 of Township 2 South, Range 4 East Mount Diablo Base Meridian (MDBM). Figures 2.0-1 and 2.0-2 show the Project's regional location and vicinity.

## 2.2 PROJECT SITE DEFINED

The Project site includes two distinct planning boundaries defined below. The following terms are used throughout this Draft EIR to describe the planning boundaries within the Project site:

- **Project Site** (or **Annexation Area**) – totals 104.46 acres and includes the whole of the Project, including the proposed 103.0-acre Development Area, and 1.46 acres of land along the Delta Mendota Canal (which would not be developed as part of the proposed Project).
- **Development Area** – includes a 103.0-acre parcel (Assessor's Parcel Number [APN] 209-230-02) that is intended for the development of up to 1,745,052 square feet (sf) of industrial uses.

## 2.3 PROJECT SETTING

### EXISTING SITE CONDITIONS

The APN for the Project site is 209-230-02. As noted above, the Project site totals approximately 104.46 acres of undeveloped land previously used for agricultural purposes. The site is regularly disked and moved for weed abatement. Since the issuance of the Notice of Preparation, the County approved the temporary parking of Costco truck trailers on a portion of the Project site. In order to ensure a conservative analysis, this EIR uses the vacant/undeveloped, on-the-ground conditions that existed at the time the environmental review process commenced with the release of the Notice of Preparation. Figure 2.0-3 shows the aerial view of the Project site.

### SITE TOPOGRAPHY

The Project site is relatively flat with natural gentle slope from southwest to northeast. The Project site topography ranges in elevation from approximately 148 to 187 feet above sea level[1].

[1] San Joaquin County GIS; ArcGIS Online USGS Topographic Map Service. Map date: November 1, 2019.

## EXISTING SURROUNDING USES

Surrounding land uses include warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area, located in the City of Tracy), vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

## 2.4 PROJECT GOALS AND OBJECTIVES

Consistent with the California Environmental Quality Act (CEQA) Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed Project shall be discussed. The principal objective of the proposed Project is the approval and subsequent construction and operation of the Costco depot and Direct Delivery Center warehouse facility.

The Tracy Costco Depot Annex Project identifies the following objectives:

- Construct and operate a new state-of-the-art Costco depot annex and Direct Delivery Center warehouse facility with two separate buildings containing ground-level shipping and receiving truck loading docks along the eastern and western sides that is of sufficient size to efficiently ship, receive, store and distribute regional merchandise and food products.
- Annex the property into the City Limits and develop the site with light industrial uses that the City's General Plan already designates the site for.
- Locate an industrial Project in an area with nearby access to a regional roadway network.
- Create approximately 150 to 250 full time jobs along with approximately 400 construction jobs during Project buildout within the City of Tracy, thus improving the local jobs/housing balance.
- Ensure that the industrial area along West Schulte Road continues to be developed in a visually pleasing manner.
- Increase contributions to the City's tax base.
- Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and Federal code requirements.
- Locate needed Costco facilities on a site which can be purchased (rather than leased) in order to protect Costco's substantial investment of time, money and goodwill in the proposed location.
- Locate the facilities in close proximity to Costco's existing distribution operations (i.e., Costco Depot located at 25501 Gateway Blvd, Tracy, CA) and centrally located to service Costco's retail warehouse locations within northern California.
- Provide site ingress access for trucks from West Schulte at one gated access point to manage security of the site. Provide site egress for trucks to West Schulte at two access points to allow for efficient on-site circulation.
- Improve services to Costco members, including by making appliances and big/bulky products more readily available.
- Complete the Project on schedule and within budget.

# 2.5 PROJECT CHARACTERISTICS AND DESCRIPTION

## PROJECT CHARACTERISTICS

The Project would include the construction and subsequent operation of two warehouse buildings that would serve as an annex to the existing Costco Depot located approximately 1.5-miles to the west of the Project and as a Direct Delivery Center. The two buildings (approximately 543,326 sf for Building 1 and 1,201,726 sf for Building 2) total approximately 1,745,052 sf on the Project site. The smaller Building 1 is anticipated to serve as the annex by providing additional storage for high-turnover merchandise processed through the nearby Costco Depot, a pallet repair facility, and a return to vendor facility for large items returned to a Costco warehouse. The larger Building 2 is anticipated to serve as a Direct Delivery Center (DDC), an ecommerce distribution center primarily for large and bulky items ordered online by Costco members for direct delivery through Market Delivery Operations (MDO) located in various smaller cities in the Northern California region. DDC warehouses distribute ordered goods to the MDOs for delivery (by appointment) to the members. The Project also would include the required circulation, parking, and utility improvements. The site plan is shown in Figure 2.0-4.

### Tracy Costco Depot Annex Traffic and Employment

Costco anticipates that approximately 100 trucks and 300 trailers typically would be parked on site, with the typical truck size being approximately 70 feet long for double-axle trailers. Trucks would enter the site from West Schulte Road at the eastern driveway. The proposed eastern driveway would provide two inbound lanes, each of approximately 1,600 feet, providing on-site storage capacity for up to42 trucks awaiting processing at the security gate.

It is anticipated that during operation of the Project facilities there will be approximately 150 to 250 full-time employees that would work from between 4 a.m. to 11 p.m. daily. The Project is anticipated to generate approximately 400 jobs during the construction phase.

### Warehouse Architecture

The proposed warehouse design would be contemporary in style and would use a variety of massing and materials appropriate for the scale of the buildings. Architectural metal with varied textures and horizontal and vertical orientations would be used, while varying parapet cap heights would break up the long elevations both horizontally and vertically. The parapets will also assist in concealing rooftop-mounted mechanical equipment. The proposed architecture places and focuses the design's detailed elements, varied building materials and color changes towards the front of the buildings along West Schulte Road.

### Energy Efficient Project Components

In an effort to reduce energy consumption and promote sustainability, the proposed Project would incorporate many energy saving measures during both construction and operation of the facility. Below are some of the significant practices that Costco would incorporate into its new buildings and overall operations that help reduce emissions and conserve energy and other natural resources:

SITE

- A substantial amount of the proposed plant material for new facilities will be native and drought tolerant and will use less water than other common species.
- Irrigation systems for new facilities include the use of deep root watering bubblers for parking lot trees to minimize water usage and ensure that water goes directly to the intended planting areas.
- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the City's requirements.
- Parking lot lights are designed at 38' in height to provide even light distribution and utilize less energy compared to a greater number of fixtures at lower heights. LED lamps are used to provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.

BUILDING

- New and renewable building materials are typically extracted and manufactured within the region. Materials such as concrete and concrete masonry units will be purchased local to the Project, minimizing the transport distances and resultant effects to road networks and regional air quality.
- Main building structures are comprised of pre-engineered systems that use 80% recycled steel. These pre-manufactured building components include structural framing and architectural metal wall and roof panels. These materials are shop finished, maximizing spans, and minimizing structure and waste during the construction process, reducing the overall construction duration.
- Roofs maintain a reflectance rating of .68, emittance of .25 and Solar Reflectance Index of 63, lessening heat gain. Reflective cool roof materials are used to lower heat absorption, subsequently lowering energy requirements during the hot summer months. This roofing material meets the requirements for the EPA's Energy Star energy efficiency program. Building management systems monitor performance and energy usage of HVAC systems.
- HVAC comfort systems are controlled by a computerized building management system to maximize efficiency. Costco's HVAC units are high efficiency direct ducted units. Costco completely phased out the use of HCFCs in its HVAC units, long before the Montreal Protocol timeline.
- Mechanical systems are site specifically commissioned and designed and field tested to ensure that the HVAC systems are performing to the high efficiency standards.
- The roof structure is designed to support future solar arrays.
- Pre-manufactured insulated architectural metal walls meet or exceed current energy code requirements. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall. Insulated architectural metal wall panels contain approximately 76 percent of recycled material.
- Mechanical heat from refrigeration systems is captured and reused to preheat hot water tanks.
- High-efficiency restroom fixtures are used, which conserves water by achieving a 40% decrease over U.S. standards.
- Energy efficient transformers (i.e., Square D Type EE transformers) are used.

- Variable speed motors are used on make-up air units and booster pumps.
- Gas water heaters are direct vent and 94% efficient or greater.
- Construction waste is recycled whenever possible.
- Lighting systems are designed with employee controllability in mind. Lighting is controlled by timers, but over-ride switches are provided for employee use.

OPERATIONS

- Deliveries are made in full trucks whenever feasible.
- Costco trucks are equipped with engine idle shut off timers.
- This Project's additional warehouse space will provide the existing nearby Tracy Depot distribution facilities with increased capacity and storage of products to minimize miles traveled for delivery.
- Costco has been an active user of recycled content in packaging for many years and continues to increase its use of recycled content.

## Landscape and Stormwater Plan

The landscape plan includes a mix of drought-tolerant shrubs and grasses, and a variety of shade trees appropriate for the climate in Tracy would be used throughout the parking lots and along the Project perimeter. The landscape design and plant palette would complement the existing street and building/development landscape character established by Prologis and the International Park of Commerce. The general pattern of landscape islands to be located throughout the employee parking lot would provide the required shading of the vehicle parking area. Four bioretention basins/planters are shown on the site plan located on the northeast and northwest portions of the site to provide for detention and water quality treatment of the storm water runoff generated by the Project. The treatment basin/planters would be landscaped with a variety of grasses and oak trees per the preliminary landscape plan.

In addition to the proposed landscaping on the 103-acre Development Area, the 1.46-acre area outside the Development Area but within the Project site may be improved for landscape and stormwater purposes. The 1.36-acre area, located adjacent to the Delta-Mendota Canal, would be improved with large rocks and would continue to be used as an overflow area for the Canal. Additionally, some landscaping may be incorporated for stormwater and drainage purposes; hardscape or utilities are not proposed for this area.

## Project Construction

To ensure the most conservative analysis, this EIR assumes that Project construction will be completed in one phase with a portion of the Project site developed and made operational prior to the remaining portion. Construction is anticipated to be completed within two years after building permits are received and will include construction of the warehouse buildings, as well as all related on-site improvements including the associated parking areas and stormwater features along West Schulte Road.

A construction staging area will be provided on-site, and the entire Project site would be graded as part of the proposed Project construction. The estimated cut and fill amounts for the Project are 259,000

cubic yards (cy) cut and 253,000 cy fill (for a total export [cut] of 6,000 cy of material). The excess dirt would be off-hauled in one-way trips or used on-site for landscape berms.

Table 2.0-1 shows the types of anticipated off-road construction equipment that will be utilized for the proposed Project. The construction-related worker and vendor trips are shown in Table 2.0-2. These trips would be spread out over the entire construction period for the Project.

***TABLE 2.0-1: CONSTRUCTION EQUIPMENT LIST***

| *EQUIPMENT TYPE* | *UNIT AMOUNT* | *HOURS/DAY* | *HORSEPOWER* | *LOAD FACTOR* |
|---|---|---|---|---|
| *SITE PREPARATION PHASE* | | | | |
| Rubber Tired Dozers | 3 | 8 | 247 | 0.40 |
| Tractors/Loaders/Backhoes | 4 | 8 | 97 | 0.37 |
| *GRADING PHASE* | | | | |
| Excavators | 2 | 8 | 158 | 0.38 |
| Graders | 1 | 8 | 187 | 0.41 |
| Rubber Tired Dozers | 1 | 8 | 247 | 0.40 |
| Scrapers | 2 | 8 | 367 | 0.48 |
| Tractors/Loaders/Backhoes | 2 | 8 | 97 | 0.37 |
| *BUILDING CONSTRUCTION PHASE* | | | | |
| Cranes | 1 | 7 | 231 | 0.29 |
| Forklifts | 3 | 8 | 89 | 0.20 |
| Generator Sets | 1 | 8 | 84 | 0.74 |
| Tractors/Loaders/Backhoes | 3 | 7 | 97 | 0.37 |
| Welders | 1 | 8 | 46 | 0.45 |
| *PAVING PHASE* | | | | |
| Pavers | 2 | 8 | 130 | 0.42 |
| Paving Equipment | 2 | 8 | 132 | 0.36 |
| Rollers | 2 | 8 | 80 | 0.38 |
| *ARCHITECTURAL COATING PHASE* | | | | |
| Air Compressors | 1 | 6 | 78 | 0.48 |

*SOURCE: CALEEMOD, 2022.*

***TABLE 2.0-2: CONSTRUCTION WORKER AND VENDOR TRIPS***

| *PHASE NAME* | *# OF WORKER TRIPS/DAY* | *# OF VENDOR TRIPS/DAY* | *# OF HAULING TRIPS* | *TOTAL CONSTRUCTION (WORKER AND VENDOR) TRIPS* |
|---|---|---|---|---|
| Site Preparation | 18 | 0 | 0 | 18 |
| Grading | 20 | 0 | 750 | 20 |
| Building Construction | 1,884 | 735 | 0 | 2,619 |
| Paving | 15 | 0 | 0 | 15 |
| Architectural Coating | 377 | 0 | 0 | 377 |

*SOURCE: CALEEMOD, 2022.*

## CIRCULATION, TRANSPORTATION, AND PARKING

The design of the site locates the office and ancillary/accessory administrative uses at the far northern portion of each of the two buildings, along West Schulte Road, with the warehousing and truck dock doors located at the center and southern portion of the buildings. Entries to the office and

administrative uses are located at the northern end of each building and adjacent to the employee parking areas.

The employee parking lot located on the north side of the site and adjacent to West Schulte Road includes a 30-foot landscape buffer area. Landscape buffers would be provided on all sides of the Project site to provide screening of the buildings and dock doors with various shade trees and drought tolerant shrubs and other vegetation.

Vehicle ingress/egress to/from the Project site will occur from three points along West Schulte Road. The main entry and exit point for employee vehicles would be located at the center of the site, at the existing signalized Bud Lyons Way intersection. The Bud Lyons Way driveway would also serve as a secondary exit with security gates for warehouse trucks, and no truck entry would be permitted. The main Bud Lyon Way driveway access would provide a deceleration lane for eastbound traffic and would have full turning movements to enter and exit the site. The deceleration lane at the Bud Lyons Way intersection will allow for the safe entry of employee vehicles to the site and access the parking adjacent to and in front of each building. A second employee entry would be located east of the Bud Lyons Way intersection and would be right-in and right-out only.

The third access driveway located at the Project site's northeast boundary includes a new signalized intersection and a deceleration lane for trucks traveling eastbound on West Schulte Road. This driveway would be the entrance for all truck traffic. A shared accessway to the adjacent parcel to the east is also provided with a left-hand turn pocket to provide access to the parcel. The deceleration lane at the eastern intersection will allow for the safe entry of warehouse trucks to access the loading docks and trailer parking surrounding the buildings. The new intersection provides the only truck access to the site, and also provides a second exit for the warehouse trucks. This truck entrance/exit provides two inbound lanes, each of approximately 2,300-feet, for trucks entering and one lane for trucks exiting the facility and includes a security building and security gates. Approximately 61 trucks could queue within the inbound lanes without spilling back to the new signalized intersection or the shared intersection for the parcel to the east.

A total of 611 employee vehicle parking stalls will be provided on the north side of the buildings, including 12 handicapped stalls, 45 electric vehicle-designated stalls and 554 standard parking stalls. The electric vehicle-designated stalls will include all the electrical infrastructure necessary to support the future installation of charging stations as required by the building code. The 611 parking stalls provided exceeds the City of Tracy's parking requirement of 556 stalls based on the building square footage. The Project would provide standard parking stalls of 9-foot by 18-foot, consistent with the City of Tracy's standards. The site would also include 604 truck and trailer parking stalls around the east, south, and west sides of the buildings. An ADA-compliant pedestrian pathway would extend from each building to the northern property boundary, where it would connect to West Schulte Road.

The employee vehicle parking lot and truck and trailer parking areas would be illuminated with standard downward pointing lights, each containing two LED fixtures affixed to a 38-foot foot light pole. The lighting fixtures would be of a "shoe-box" style. Parking lot light standards would be designed to provide even light distribution for vehicle and pedestrian safety as well as site and building security without causing light to spill onto adjacent properties. Lighting fixtures also would be located approximately

every 40 feet around the exterior of the warehouse buildings to provide additional lighting for safety and security.

## UTILITIES

The proposed Project would connect to existing City infrastructure to provide water, sewer, and storm drainage utilities. Existing storm drain, sewer, water, and gas lines/pipes are currently located along West Schulte Road.

The Project would be served by the following existing service providers:

1. City of Tracy for water;
2. City of Tracy for wastewater collection and treatment;
3. City of Tracy for stormwater collection;
4. Pacific Gas and Electric Company for gas and electricity.

Utility extensions would be installed to provide services to the Project. Utility lines within the Project site and adjacent roadways would be extended throughout the Project site. Wastewater, water, and storm drainage lines would be connected via existing lines along West Schulte Road. Eight-inch sanitary sewer lines are currently located along West Schulte Road. Additionally, 2-inch water lines are currently located along West Schulte Road. Further, storm drainage lines ranging in size from 12 to 24 inches and a six-inch gas line are currently located along West Schulte Road.

Stormwater treatment/detention basins and stormwater bioretention treatment planters would be located throughout the Project site, mainly in the proposed landscaped areas and along West Schulte Road. The Project site includes seven drainage areas: Area 1 (12.07 acres located along the western boundary of the site) Area 2 (36.50 acres located in the center of the site), Area 3 (2.46 acres located along the northwestern boundary of the site), Area 4 (2.00 acres located along the northern boundary of the site) Area 5 (34.26 acres located in the eastern portion of the site), Area 6 (1.64 acres located along the northern boundary of the site), and Area 7 (5.68 acres located along the eastern boundary of the site). Stormwater runoff from each of the seven drainage areas would be routed to a series of on-site stormwater bioretention treatment planters and treatment/detention basins. It is anticipated that the detention basin identified as LW-11 located on the adjacent City land east of the Project site as planned in the Storm Drain Master Plan would also be utilized in the future.

Best management practices (BMPs) will be applied to the proposed development to limit the concentrations of constituents in any site runoff to acceptable levels. Stormwater flows from the Project site would be directed to the proposed stormwater treatment basins, treatment planters, and bioretention areas by a new stormwater conveyance system on the Project site. Stormwater runoff would not be allowed to discharge directly to the existing storm drains in West Schulte Road without first discharging to the bioretention areas. The landscaping plan includes stormwater treatment plantings in the treatment/detention basins. Additionally, erosion and sediment control measures would be implemented during construction.

## GENERAL PLAN LAND USE AND ZONING

The City and County General Plan land use designations for the Project site and surrounding area are shown on Figure 2.0-5. The zoning is shown on Figure 2.0-6.

### General Plan

The Project site is designated as Agriculture by the County's General Plan Land Use Map and is zoned as AG-40 Agriculture by the County. The site is within the City's Sphere of Influence 10-Year Planning Horizon and currently has a City General Plan land use designation of Industrial (I).

Figure 2.0-5 illustrates Tracy General Plan land use within the Project site.

### Pre-zoning

The Project site is currently within the jurisdiction of San Joaquin County. As noted above, current county zoning for the Project site is AG-40.

The San Joaquin County Local Agency Formation Commission (LAFCO) will require the Project site to be pre-zoned by the City of Tracy in conjunction with the proposed annexation. The City's pre-zoning will include the Light Industrial (M-1) zoning designation for the Project site. The pre-zoning would go into effect upon annexation into the City of Tracy. Additionally, the Project is requesting a Conditional Use Permit to allow for food processing and canning in the proposed M-1 zoning district. The proposed pre-zoning for the Project site is shown on Figure 2.0-6.

## ANNEXATION

The Project site is currently within San Joaquin County, and within the City of Tracy's SOI 10-Year Planning Horizon. The proposed Project would result in the annexation of the Annexation Area into the City of Tracy. The EIR analyzes the potential annexation of the parcels into the City of Tracy. Annexation of the Project site is consistent with the growth plans for the City of Tracy. The annexation area would include the entire 104.46-acre Project site.

# 2.6 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed Project.

## CITY OF TRACY

The City of Tracy is the Lead Agency for the proposed Project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. If the City Council certifies the EIR in accordance with CEQA requirements, the City may use the EIR to support the following actions:

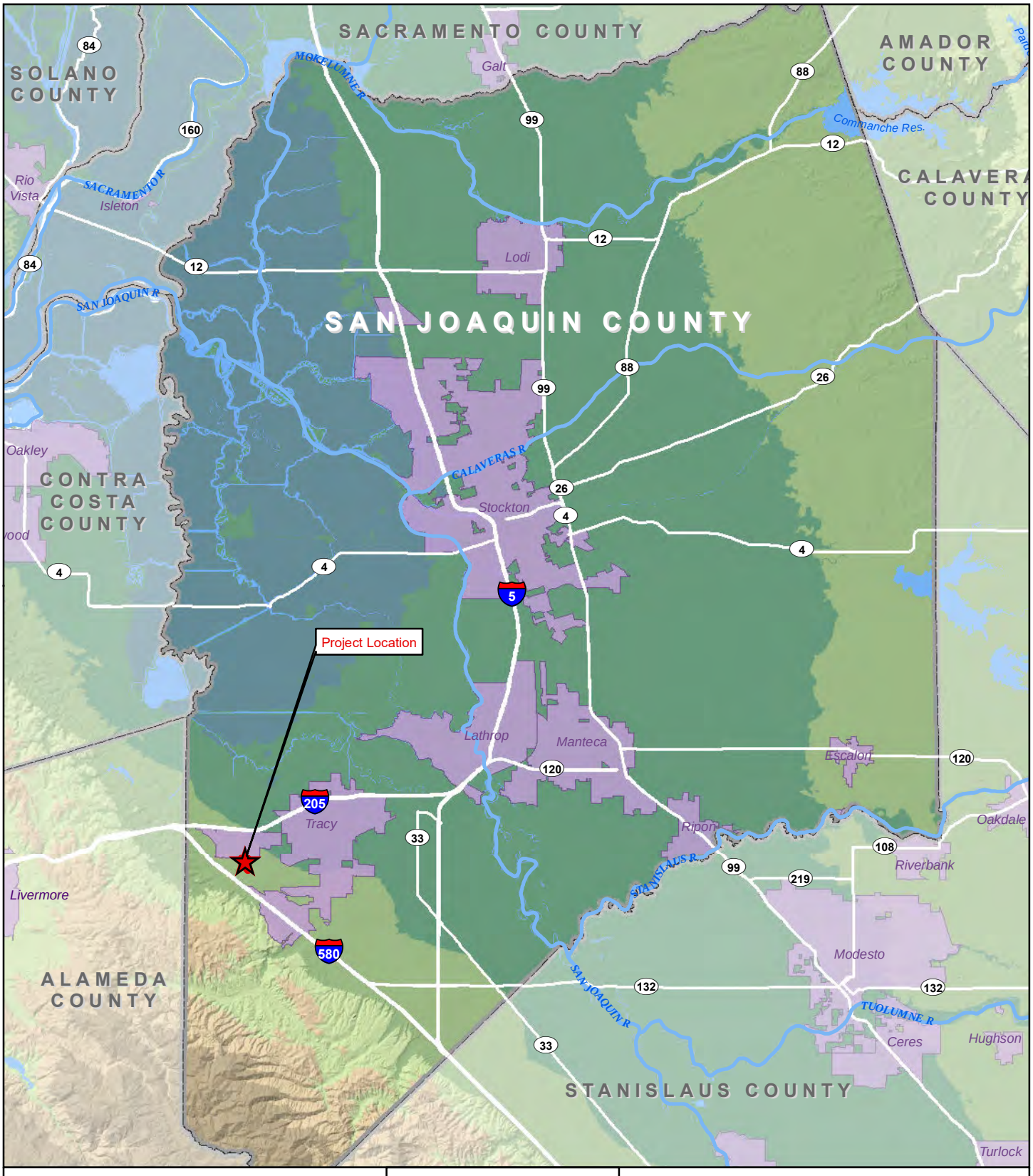
- Pre-zone of the property to the City's M-1 zoning district;
- Annexation of the Project site into the City (which requires approval by the San Joaquin County LAFCO);
- Development review permit for building design, landscaping, and other site features;

- A Conditional Use Permit to allow for food processing and canning in the M-1 Zoning District;
- Building, grading, and other permits as necessary for Project construction;
- Adopting a Mitigation Monitoring and Reporting Program (MMRP).

## OTHER GOVERNMENTAL AGENCY APPROVALS

The following agencies may rely on the certified EIR to issue permits or approve certain aspects of the proposed Project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES); and a Storm Water Pollution Prevention Plan (SWPPP) would be required prior to construction activities pursuant to the Clean Water Act;
- San Joaquin LAFCO – Annexation of the Project site would be required.
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction activities would be subject to the SJVAPCD codes and requirements.




**Legend**

- Project Location
- County Boundary
- City Area

*Sources: CalAtlas; San Joaquin, Stanislaus, Sacramento, Solano, Contra Costa, and Alameda Counties. Map date: October 22, 2019.*

N

0 2½ 5

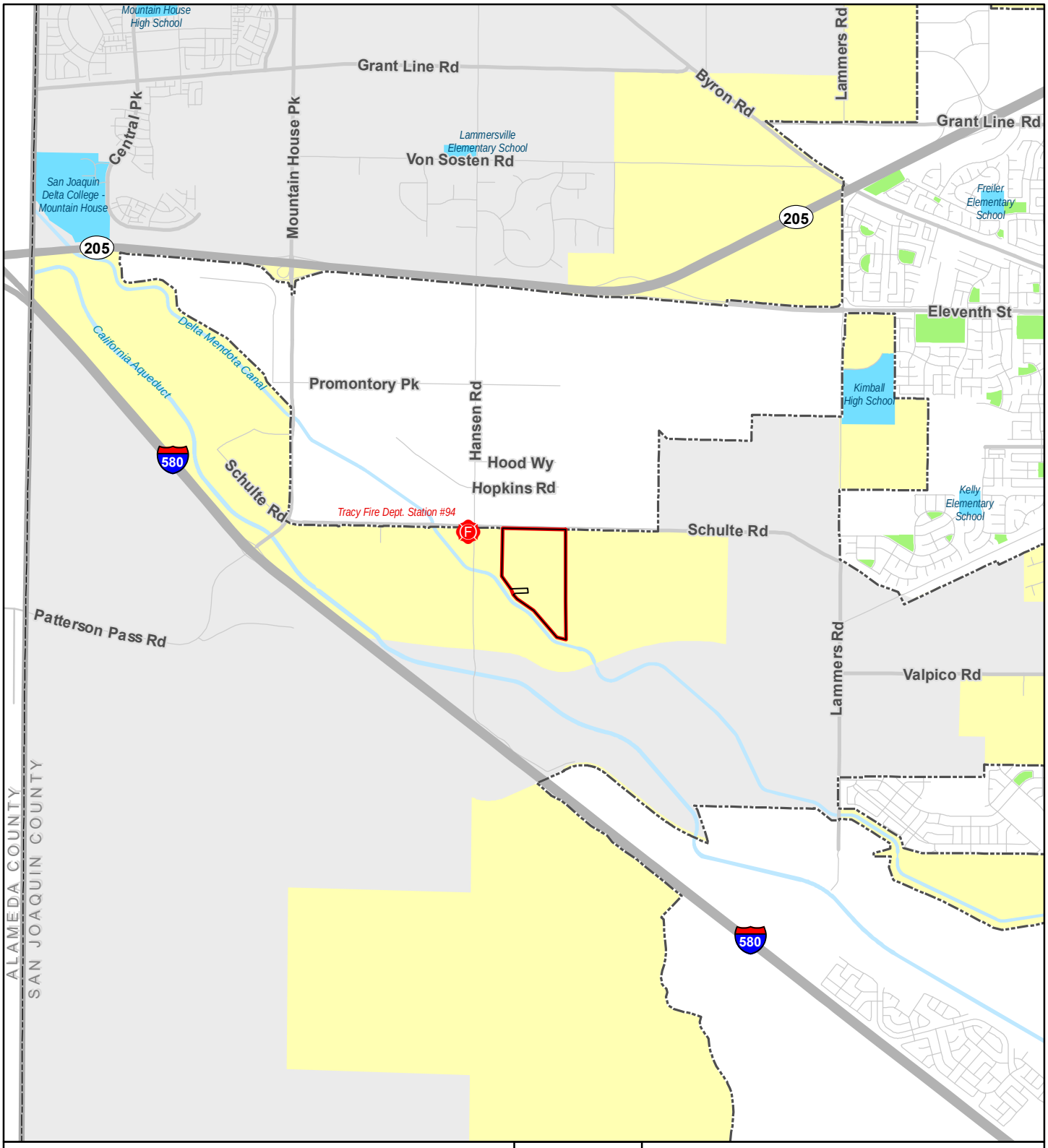
Miles

**TRACY COSTCO DEPOT PROJECT**

Figure 2.0-1. Regional Location Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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**Legend**

- Project Site/ Annexation Area
- Development Area
- Tracy City Limits
- Tracy Sphere of Influence
- San Joaquin County
- School
- Park
- Fire Station

N

0 ¼ ½

Miles

*Sources: San Joaquin County GIS. Map date: October 25, 2019. Revised: June 28, 2021.*

**TRACY COSTCO DEPOT PROJECT**

Figure 2.0-2. Project Vicinity

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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**Legend**

- Project Site/ Annexation Area
- Development Area
- Tracy City Limits

N

0 500 1,000

Feet

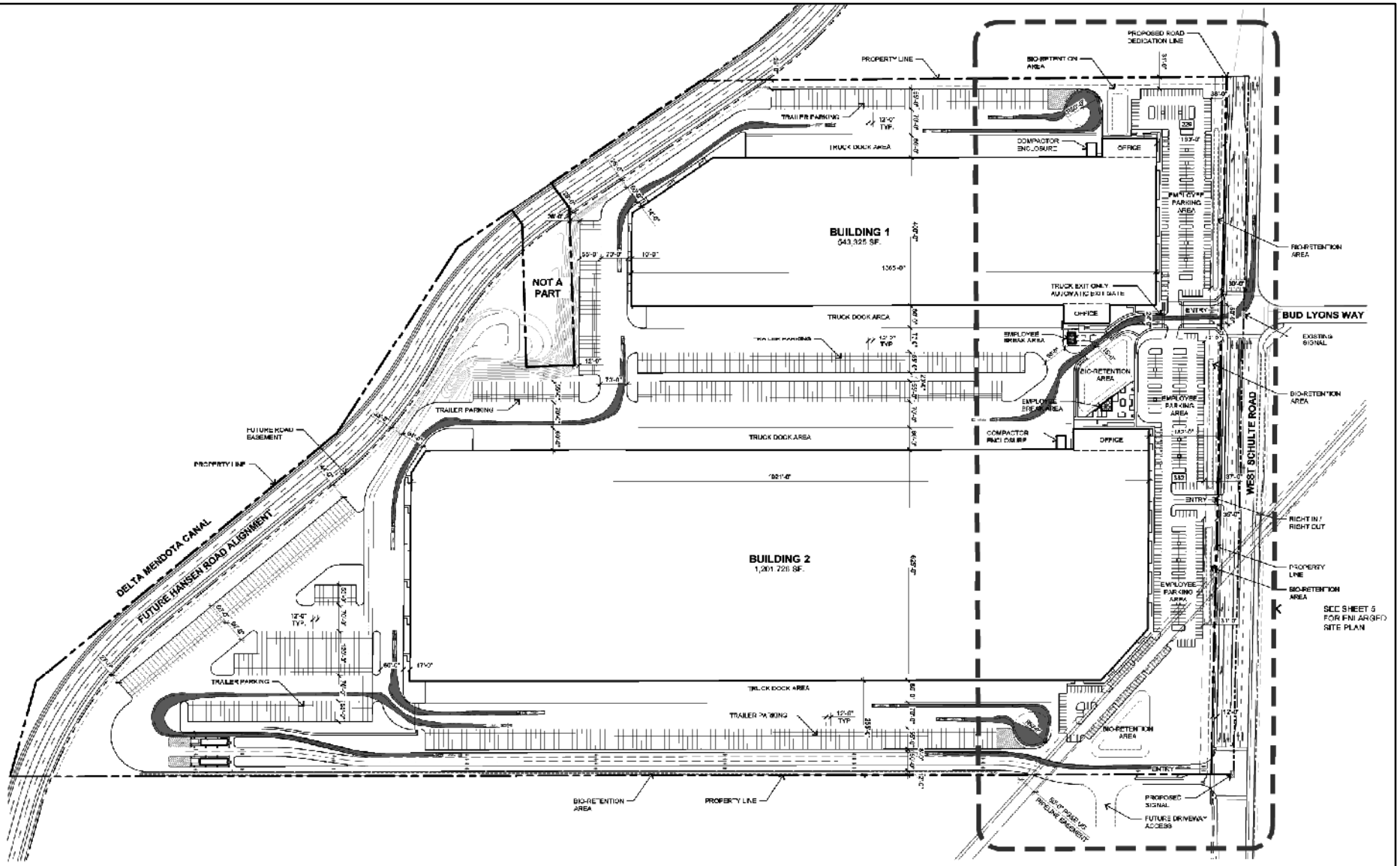
*Sources: San Joaquin County GIS; ArcGIS Online World Imagery Map Service.*
*Map date: October 25, 2019. Revised: June 28, 2021.*

**TRACY COSTCO DEPOT PROJECT**

Figure 2.0-3. Aerial View of Project Site

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N

0 150 300

Feet

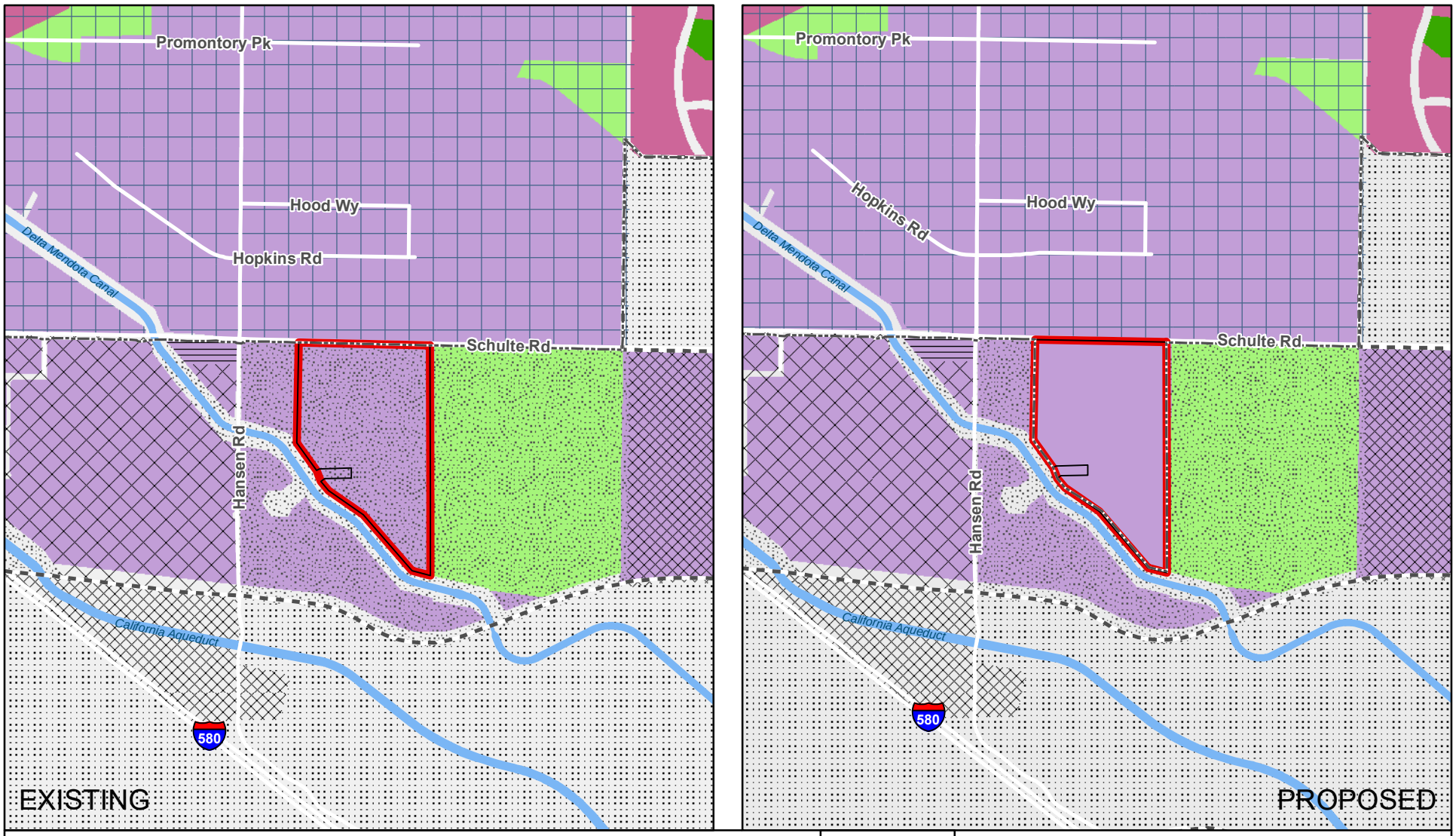
**TRACY COSTCO DEPOT PROJECT**

Figure 2.0-4.Site Plan

*Source: David Babcock + Associates, June 16, 2021. Map date: August 26, 2021.*

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**Legend**

- Project Site/ Annexation Area
- Development Area
- Tracy City Limits

**San Joaquin County Land Use**

- Agriculture/General
- Agriculture/Urban Reserve
- Industrial/General
- Industrial/Limited
- Public

**City of Tracy Land Use**

- Industrial
- Office
- Open Space
- Park
- Urban Reserve 6

N

0 500 1,000

Feet

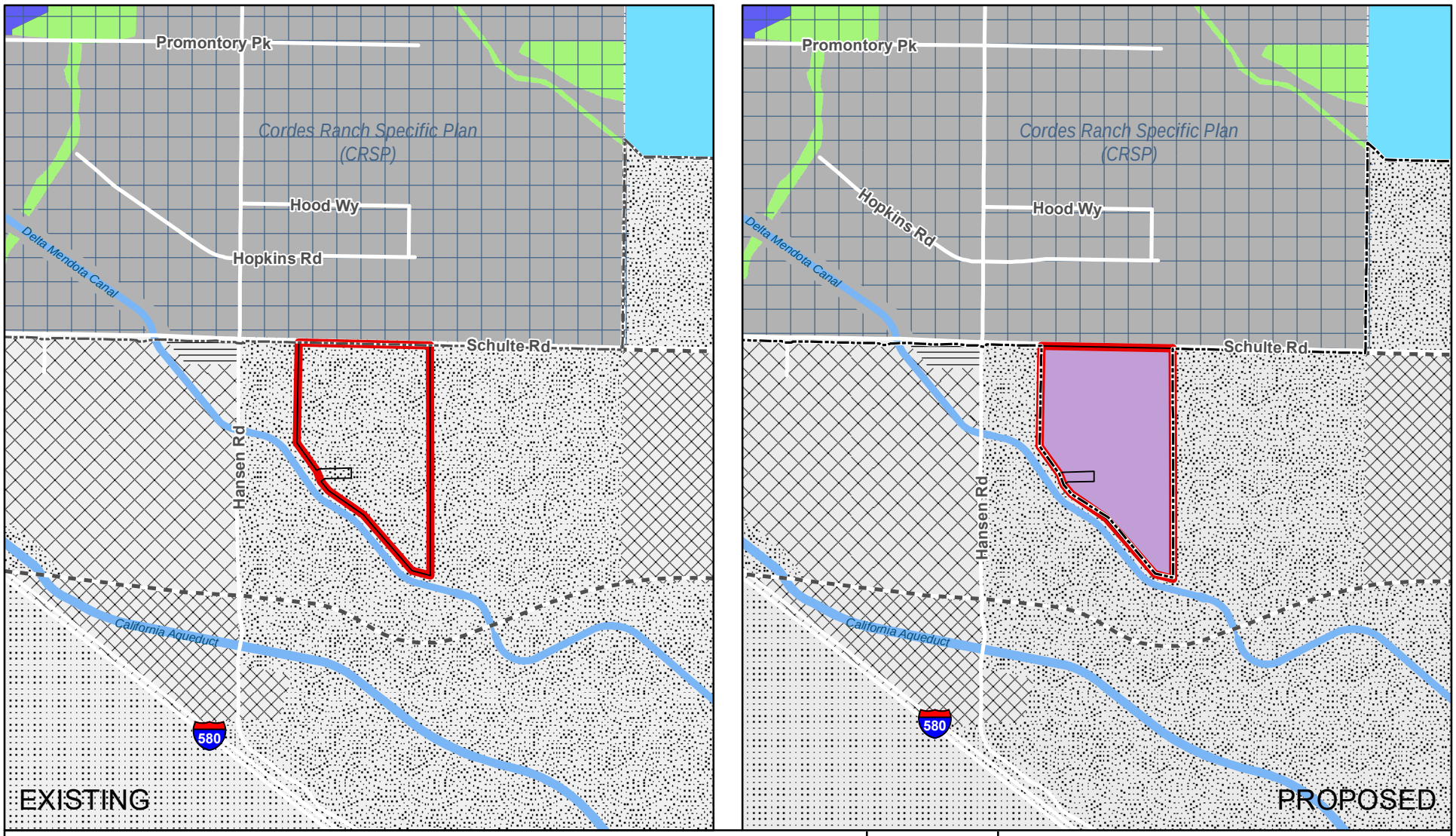
*Sources: San Joaquin County GIS; City of Tracy GIS. Map date: November 26, 2019. Revised: June 28, 2021.*

**TRACY COSTCO DEPOT PROJECT**

## Figure 2.0-5. Existing and Proposed Land Use Designations

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**Legend**

Project Site/Annexation Area | Development Area | Tracy City Limits | Sphere Of Influence

**City of Tracy Zoning**
- CRSP - Cordes Ranch Specific Plan
- PUD - Planned Urban Development
- M-1 - Light Manufacturing

**Cordes Ranch Specific Plan**
- Business Park Industrial
- General Office
- Park

**San Joaquin County Zoning**
- AG-160
- AG-40
- I-G
- I-L
- P-F

N

0 500 1,000
Feet

*Sources: San Joaquin County GIS; City of Tracy GIS. Map date: October 25, 2019. Revised: June 28, 2021.*

**TRACY COSTCO DEPOT PROJECT**

Figure 2.0-6. Existing and Proposed Zoning Designations

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This section provides an overview of the visual character, scenic resources, views, scenic highways, and sources of light and glare that are encountered on the Project site and the vicinity. This section concludes with an evaluation of impacts. Information in this section is derived primarily from the California Department of Transportation (Caltrans) Scenic Highways Program website (2019), San Joaquin County General Plan (2016), City of Tracy General Plan (2011), City of Tracy Municipal Code (June 4, 2019), and City of Tracy Standard Plans (2019).

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic. Full comments received are included in Appendix A.

## 3.1.1 ENVIRONMENTAL SETTING

### VISUAL AND SCENIC RESOURCES

Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

Most of Tracy's scenic vistas and corridors are associated with the open space and agricultural resources of the surrounding Sphere of Influence (SOI) and Planning Area, and are a valued local asset for the community. The surrounding farming and grazing lands, and grassy hillsides of the Diablo coastal range, serve to situate the City in its local environment and landscape, and provide a reminder of its agricultural heritage.

Scenic resources in the vicinity of the Project site include:

- Views of the Diablo Range. Rising from the Southwest portion of the Tracy Planning Area, this range extends from near sea level to 1,652 feet and provides a visual barrier between the Central Valley and the San Francisco Bay Area. Generally, the eastern slopes visible from Tracy have not been developed and contain sporadic tree groupings.

- Expansive Agricultural Lands. Agricultural lands that are used for row crops and grazing are found in the Project vicinity.

## SCENIC HIGHWAYS AND CORRIDORS

Scenic highways and corridors make major contributions to the quality of life enjoyed by the residents of a region. The development of community pride, the enhancement of property values, and the protection of aesthetically-pleasing open spaces reflecting a preference for the local lifestyle are all ways in which scenic corridors are valuable to residents.

Scenic highways and corridors can also strengthen the tourist industry. For many visitors, highway corridors will provide their only experience of the region. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive one and, consequently, provides support for the tourist-related activities of the region's economy.

### Scenic Highways

A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 580 (I-580) from Interstate 5 (I-5) to Interstate 205 (I-205). This route traverses the edge of the Coast Range to the west and Central Valley to the east. Portions of the western portion of the City of Tracy and portions of the Project site are visible from this roadway segment, which is located 0.65 miles southwest of the site.

### Scenic Corridors/Routes

A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

As identified in the Open Space Element of the San Joaquin County General Plan, designated scenic routes in the county include I-5 from the Sacramento County line south to Stockton. The City of Tracy is located southwest of Stockton, and neither the City nor the Project site is visible from this segment of I-5. The City of Tracy General Plan does not identify any scenic routes within or adjacent to the City.

## SCENIC WATER RESOURCES AND WILD AND SCENIC RIVERS

Water resources are important visual resources that draw tourists to the area for recreational opportunities.

### Wild and Scenic Rivers

Federal agencies have jurisdiction, under the Wild and Scenic Rivers Act, to designate rivers or river sections to "be preserved in free-flowing condition and…protected for the benefit and enjoyment of present and future generations."

The most visually significant water body in the region is the San Joaquin River, which is located approximately 11 miles northeast of the Project site. The San Joaquin River is not designated as a Wild and Scenic River under the Federal Wild and Scenic Rivers Act.

## PROJECT SITE

The Project site is located in the western portion of the City of Tracy's Sphere of Influence (SOI) 10-Year Planning Horizon, within the unincorporated area of San Joaquin County. The Project site is located northeast of I-580, approximately 4.75 miles southwest of Tracy City Hall, and directly south of the Cordes Ranch Specific Plan[1]. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

The Project site encompasses approximately 101.71 acres of undeveloped land previously used for agricultural purposes. The Project site is relatively flat and ranges in elevation from approximately 148 to 187 feet above sea level. As a result of site disturbance associated with the previous agricultural operations, limited natural scenic areas can be found within the Project site. There is little native vegetation or natural habitat located on the site, and the flat topography of the site renders the site essentially void of prominent natural visual features. There are no trees or light sources on-site.

There is no unique or distinguishing visual or aesthetic characteristic of the Project site, aside from the open space nature of the undeveloped land, which offers a vast expanse of grassland. The undeveloped grassland can provide visual relief to a passerby/viewer from common manmade structures and visual obstructions found in an urban environment. The Project site's aesthetic value can be attributed to its openness and undeveloped nature, which contrasts the industrial nature to the west, east, and north.

[1] The Cordes Ranch Specific Plan establishes land use, zoning, development standards and regulations for approximately 1,780 acres located in the northwest region of the City of Tracy. The vision for the Cordes Ranch Specific Plan is to create a commerce and business park, consisting of 55.1 acres of General Commercial uses, 152.2 acres of General Office uses, 1,476.9-acres of Business Park Industrial uses, and 96.3-acres of Park uses.

Throughout the year the land, previously used for agriculture, evolves from an environment that appears lush with vegetation (green grassland) to an environment that appears barren (dead grassland). Agricultural land in California's Great Central Valley is generally accepted as an important visual resource. The visual character is only occasionally interrupted by shrubbery and mature trees (primarily located near the agricultural residential property west of the site), or by telephone poles (located along West Schulte Road and Hansen Road).

### Surrounding Land Uses

The Project site is surrounded by a variety of undeveloped and developed land uses. The Project site is bordered on the north by West Schulte Road. The parcels to the north of the Project site (across West Schulte Road) are designated Industrial in the Tracy General Plan and are part of the Cordes Ranch Specific Plan, which plans for a variety of commerce and business park uses on approximately 1,780-acres of land. An existing industrial warehouse is located to the north/northwest of the Project site across West Schulte Road. The parcel to the west of the Project site is currently undeveloped agricultural land with a ranch-style house, detached garages, barns, and sheds in the southern portion of the parcel. A fenced utility substation is located along West Schulte Road, north of the ranch-style home and associated buildings. The South County Fire Authority Station 94/California Department of Fire Station 26 is located at the southwest corner of the intersection of West Schulte Road and Hansen Road (approximately 800 feet west of the Project site). The Delta Mendota Canal borders the Project site on the south and the parcels to the south across the canal are designated A/UR Urban Reserve Agriculture and A/G General Agriculture by the San Joaquin County General Plan. There is undeveloped agricultural land (designated A/UR Urban Reserve Agriculture by the San Joaquin County General Plan) bordering the site to the east, as well as a glassware manufacturer and the Tracy Biomass Plant (approximately 0.5-mile) to the east beyond the agricultural land. Existing lighting in the vicinity of the Project site is limited and primarily associated with the adjacent developments within the area.

## 3.1.2 REGULATORY SETTING

### STATE

### California Scenic Highway Program

The intent of the California Scenic Highway Program is "to protect and enhance California's natural scenic beauty and to protect the social and economic values provided by the State's scenic resources." Caltrans administers the program, which was established in 1963 and is governed by the California Streets and Highways Code §260 et seq. The goal of the program is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of the adjacent land. Caltrans has compiled a list of state highways that are designated as scenic and county highways that are officially designated or eligible for designation as scenic. Scenic highway designation can provide several types of benefits to the region. Scenic areas are protected from encroachment of inappropriate land uses, free of billboards, and are generally required to maintain existing contours and preserve important vegetative features. Only low-density

development is allowed on steep slopes and along ridgelines on scenic highways, and noise setbacks are required for residential development.

To obtain an official "Scenic Highway" designation, the State and Caltrans require a responsible local agency or Local Governing Body (LGB) to prepare a scenic corridor protection program. In the Tracy area, San Joaquin County is the LGB. Corridor protection programs are required to contain the following five elements, which have been included in the San Joaquin County's policies:

- Regulations of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising;
- Careful attention to and control of earthmoving and landscaping; and
- The design and appearance of structures and equipment. [2]

According to the Caltrans Scenic Highway Programs website, Caltrans monitors state-designated scenic routes in order to ensure each local jurisdiction's consistency with State guidelines. Specifically, Caltrans District Scenic Highway Coordinator (DSHC) will review a scenic highway for compliance every five years, but can recommend the revocation of scenic designation at any time. To enforce the program, the DSHC will contact the responsible local agency or LGB, in this case, San Joaquin County. The LGB must either respond by submitting its current Corridor Protection Program or a letter of intent to request a revocation of the scenic designation. The DSHC reviews the submittal and takes corrective action to resolve any issues of non-compliance, certifies compliance, or recommends revocation of scenic designation.

## LOCAL

The San Joaquin County General Plan and the City of Tracy General Plan identifies visual and scenic resources within the city and county and recommends measures to protect these resources.

### San Joaquin County General Plan

San Joaquin County is responsible for enforcing the protection of State-designated scenic routes within its borders. The County General Plan identifies I-580 and Interstate 5 as scenic routes near Tracy. Though the Project site is not traversed by or located adjacent to a scenic route, portions of the Project site are intermittently viewable from I-580 over 0.65 miles away.

### City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to an evaluation of the visual quality of the Project site. General Plan policies applicable to the Project are identified below:

[2] Scenic Highways Program website, Frequently Asked Questions, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2, accessed on November 25, 2019.

POLICY: OPEN SPACE AND CONSERVATION

- OSC-2.2-P1. Development projects shall have buffer zones, such as roads, setbacks and other physical boundaries, between agricultural uses and urban development. These buffer zones shall be of sufficient size to protect the agriculture operations from the impacts of incompatible development and shall be established based on the proposed land use, site conditions and anticipated agricultural practices. Buffers shall be located on the land where the use is being changed, and shall not become the maintenance responsibility of the City.

POLICIES: COMMUNITY CHARACTER

- CC-1.1-P3. All new development and redevelopment shall adhere to the basic principles of high-quality urban design, architecture and landscape architecture including, but not limited to, human-scaled design, pedestrian-orientation, interconnectivity of street layout, siting buildings to hold corners, entryways, focal points and landmarks.
- CC-1.1-P4. To the extent possible, site layout and building design should take into account Tracy's warm, dry climate, such as through the inclusion of trees and landscaping or other architectural elements to provide shade.
- CC-1.1-P5. Lighting on private and public property should be designed to provide safe and adequate lighting, while minimizing light spillage to adjacent properties.
- CC-1.2-P1. New development projects shall be approved only if they meet the design principles set forth in the Community Character Element and in detailed design guidelines approved by the City Council.
- CC-1.5-P1. New development shall locate and construct utilities underground.
- CC-11.1.-P1. Employment Areas should contain one or more Focal Points such as a retail use, park or plaza.
- CC-11.1.-P2. Focal Points in Employment Areas may be located on private or public property and are encouraged to be publicly accessible.
- CC-11.2-P.1. Development in Employment Areas should adhere to high-quality design standards.
- CC-11.2-P.4. Building setbacks for office buildings or office portions of industrial buildings should be minimized to ensure that buildings define the edges of the street.
- CC-11.2-P.6. Loading facilities in Employment Areas should be screened from view from public streets to the extent possible.
- CC-11.3-P.1. The impact of parking in Employment Areas on the pedestrian environment should be minimized with attractive landscaping.
- CC-11.3-P.2. Parking lots should be set back from the street with a landscaped buffer wherever possible.
- CC-11.3-P.3. Parking for alternative modes of transportation, such as preferential parking for carpool/vanpool, motorcycles or alternative fuel vehicles and bicycles, should be incorporated into parking plans for development projects in Employment Areas.

### City of Tracy Municipal Code

Tracy Municipal Code Section 10.08.3560, Landscaping Requirements for Parking Areas, contains standards and provisions related to landscaping design requirements that would apply to the proposed Project. The primary intent of Section 10.08.3560 is to require a variety of landscaping throughout the parking areas and to screen the parking areas from the public rights-of-ways.

Tracy Municipal Code Chapter 11.28, Article 8, Water Efficient Landscape Ordinance, establishes structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects by encouraging the use of a watershed approach. The ordinance promotes the benefits of consistent landscape ordinances with local and regional agencies, as well as promotes the values and benefits of landscaping that integrate and go beyond the conservation and efficient use of water.

The City's Municipal Code Chapter 7.08, Trees and Shrubbery, contains standards for tree planting and removal, as well as provisions that address tree maintenance of public and private property. The standards address issues of trees on private property and those on public easements through private property.

### City of Tracy Standard Plans

The City of Tracy Standard Plan #140 establishes standards for street lights, requiring high pressure sodium lamps. Standard Plan #154 establishes standards for lighting parking areas, requiring that illuminated parking facilities provide a minimum 1-foot candle.[3] The City's Standard Plan for streetscapes and parks (#D10.0) establishes that all lights shall be designed and oriented to shield neighboring residences to the extent possible.[4]

## 3.1.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on aesthetics if it will:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the

[3] City of Tracy, Standard Plans (Streets and Utilities), https://www.ci.tracy.ca.us/documents/Standard_Plans_Streets_Utilities.pdf, accessed on November 25, 2019.
[4] City of Tracy, Standard Plans (Parks and Streetscapes), https://www.ci.tracy.ca.us/documents/Standard_Plans_Parks_Streetscape.pdf , accessed on November 25, 2019.

project conflict with the applicable zoning and other regulations governing scenic quality; and/or

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas. (Significant and Unavoidable)

As described in Chapter 2.0, Project Description, the proposed Project includes the annexation of the 104.36-acre Project site into the City of Tracy city limits and subsequent development of the 103.0-acre Development Area. Development of the proposed Project would convert the 103.0-acre Development Area from its existing use as vacant land into an industrial warehouse use. The Project would include the construction and subsequent operation of two warehouse buildings (approximately 543,326 sf for Building 1 and 1,201,726 sf for Building 2) totaling approximately 1,745,052 sf on the 104.46-acre Project site. Building 1 is anticipated to serve as the annex by providing additional storage for high-turnover merchandise processed through the nearby Costco Depot, a pallet repair facility, and a return to vendor facility for large items returned to a Costco warehouse. Building 2 is anticipated to serve as a Direct Delivery Center (DDC), an ecommerce distribution center primarily for large and bulky items ordered online by Costco members for direct delivery through Market Delivery Operations (MDO) located in various smaller cities in the Northern California region. The entire Project Site would be annexed into the City.

The Project site is not designated as a scenic vista by the City of Tracy General Plan or the San Joaquin County General Plan, nor does it contain any unique or distinguishing features that would qualify the site for designation as a scenic vista. However, as noted previously, most of Tracy's scenic vistas and corridors are associated with the open space and agricultural resources of the surrounding Sphere of Influence (SOI) and Planning Area, and are a valued local asset for the community. The surrounding farming and grazing lands, and grassy hillsides of the Diablo coastal range, serve to situate the City in its local environment and landscape, and provide a reminder of its agricultural heritage.

Scenic resources in the vicinity of the Project site include:

- Views of the Diablo Range. Rising from the Southwest portion of the Tracy Planning Area, this range extends from near sea level to 1,652 feet and provides a visual barrier between the Central Valley and the San Francisco Bay Area. Generally, the eastern slopes visible from Tracy have not been developed and contain sporadic tree groupings.
- Expansive Agricultural Lands. Agricultural lands that are used for row crops and grazing are found in the Project vicinity.

The above-referenced public views are primarily available to motorists traveling along the major transportation corridors at highway speed. In addition, these public views of foothills and mountains are characteristic of San Joaquin County, and exist throughout the region. The Project

site is highly visible from Old Schulte Road and portions of the project site may be visible from I-580 (between I-205 and I-5).

Implementation of the proposed Project would change the existing visual character of the site from vacant agricultural land to industrial uses. Impacts related to a change in visual character are largely subjective and very difficult to quantify. People have different reactions to the visual quality of a project or a project feature, and what is considered "attractive" to one viewer may be considered "unattractive" to other viewers. The Project site currently consists primarily of vacant agricultural lands. Agricultural lands provide visual relief from urban and suburban developments, and help to define the character of a region.

As described above, Project implementation would introduce industrial uses, as well as supporting infrastructure on a site that is currently undeveloped. The proposed Project would include visual components that would assist in enhancing the appearance of the site following site development. The proposed warehouse design is contemporary and uses a variety of massing and materials for the scale of the building. The maximum height of the building components would be 46 feet (for the pewter cast vertical metal panels), while the majority of the warehouse would be 40 feet. Architectural metal with varied textures and horizontal and vertical orientations would be used, while varying parapet cap heights would break up the long elevations both horizontally and vertically in order to conceal rooftop-mounted mechanical equipment. The proposed color palette is composed of warm natural earth tones, which would relate to the adjacent Cordes Ranch Specific Plan development to the north of the project site. These techniques of breaking a long elevation into smaller elements with varied materials and colors would create architecturally interesting warehouse buildings while minimizing the visual impact of the large-scale structures.

As described in Chapter 2.0, Landscaping improvements, such as new street trees and other vegetation landscaping, would be provided throughout the Project site, including along the site boundary. The landscape design and plant palette would complement the existing street and building/development landscape character established by Prologis and the International Park of Commerce providing visual relief from the proposed improvements. Additionally, the proposed Project would also include landscaping buffer zones, pursuant to General Plan Policy OSC-2.2-P1, at the interface of urban development and farmland in order to minimize conflicts between the uses and provide a visual shield.

The proposed Project would result in the conversion of the vacant agricultural land, which would contribute to changes in the regional landscape and visual character of the area. In order to reduce visual impacts, development within the Project site is required to be consistent with the General Plan and the Tracy Zoning Ordinance which includes design standards in order to ensure quality and cohesive design of the Project site and ensure the public views from the transportation corridors would be of high quality. These standards include specifications for building height, massing, and orientation; exterior lighting standards and specifications; and landscaping standards. Implementation of the design standards would ensure quality design throughout the Project site, and result in a Project that would be internally cohesive while maintaining aesthetics similar to surrounding uses.

Nevertheless, the loss of the visual appearance of the existing agricultural land on the site would change the visual character of the Project site in perpetuity. Because the City's General Plan EIR considers public views of agricultural lands to be scenic resources and vistas to be local assets, and the proposed Project includes 104.46 acres of vacant agricultural land, this is considered a ***significant and unavoidable*** impact. There is no additional feasible mitigation available that would reduce this impact to a less than significant level.

## Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway. (Less than Significant)

As previously discussed, only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of I-580 from Interstate 5 to Interstate 205. This Designated Scenic Highway is located approximately 0.65 miles southwest of the Project site. The views from I-580 to the Project site are limited because of small hills, commercial buildings along I-580, and high speeds of travel. However, new development proposed by the Project in the viewsheds would have the potential to adversely affect a State-designated route.

The land in the southeastern corner of the Project site is the closest area that can be seen from I-580. However, the land between I-580 and the Project site is developed with several large single-story industrial/warehouse style buildings, located to the west of Hansen Road between the Delta Mendota Canal and the California Aqueduct, and smaller industrial/commercial buildings, located to the east and west of Hansen Road between the California Aqueduct and I-580. The proposed Project would result in development that is consistent in scale and type as compared to the existing and future uses (i.e., Cordes Ranch Specific Plan to the north) within the immediate area. As discussed in Impact 3.1-1, the City's General Plan EIR lists the City's scenic resources and vistas that are considered to be local assets, noting public views of the expansive agricultural lands resource within a State Scenic Highway. While the Project would permanently convert the agricultural land to urbanized use, potential views of the Project site are limited due to the topography and the existing urban development in the Project vicinity reducing potential views of the proposed development from the State Scenic Highway. Thus, implementation of the Project would not substantially damage scenic resources within a State Scenic Highway, as public views of the agricultural land from I-580 are limited; therefore, this is a ***less than significant*** impact.

## Impact 3.1-3: In an urbanized area, Project implementation would not conflict with the applicable zoning and other regulations governing scenic quality. (Less than Significant)

The CEQA definition for an "Urbanized area" means a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. In addition, to be considered an Urbanized area according to CEQA, projects must also be within the boundary of a map prepared by the U.S. Bureau of the Census which designates the area as urbanized area. According to the U.S. Bureau of the Census, the Project site is mapped and designated as urbanized area. In addition, the Project site is located within the City of Tracy, which has an estimated population of

approximately 94,538 people; meaning the Project site is within an urbanized area and subjected to applicable zoning or other regulation governing scenic quality. Future development of the Project site would convert the Project site from its existing state to industrial warehouse use.

The proposed Project would result in a land use consistent with the planned development of the Project area. More specifically, the Project proposes the construction of an industrial warehouse development, which would be aesthetically similar to industrial uses currently developed or anticipated within the immediate area. The proposed Project is located just south of the recently approved Cordes Ranch Specific Plan and Specific Plan EIR, which anticipates the development of approximately 1,780 acres of land with commercial, office, business park industrial, and park and recreational uses. Additionally, the 610-acre Patterson Park Business Park, located to the west of the Project site, just south of the Delta Mendota Canal, is currently developed with a number of similarly-scaled industrial and business park warehouse facilities. Both planned developments would limit public views of the Project site from motorists traveling along transportation corridors in the area, such as I-580 and I-205. Therefore, while the Project would result in a loss of rural agricultural land, it would result in the development of industrial warehouses consistent with the City's design guidelines in an area of Tracy currently planned for and developed with similarly scaled warehouses and industrial.

Overall, Project implementation would not conflict with the applicable zoning and other regulations governing scenic quality. This impact is ***less than significant***.

## Impact 3.1-4: Project implementation may result in light and glare impacts. (Less than Significant )

Implementation of the proposed Project would introduce new sources of light and glare into the vacant Project site. New sources of glare would occur primarily from the windshields of vehicles travelling to and from the Project site and from vehicles parked at the site. There is also the potential for reflective building materials and windows to result in increases in daytime glare. The main building structures of the Project would be pre-engineered systems that use 80 percent recycled steel materials with building exteriors consisting of pre-manufactured metal wall panels. Additionally, the roof materials would consist of 80 percent recycled standing seam metal panels, which would lessen heat gain. While the pre-manufactured metal and seam metal panels of the main structures would reduce building heat absorption and lower energy requirements, they would introduce reflective building materials to the Project site, thus increasing daytime glare. However, the landscaping on-site would include a variety of shade trees throughout the Project site and the perimeter of the site, including office break areas, would be landscaped with a variety of grasses and oak trees per the preliminary landscape plan. The proposed landscaping would assist in shielding glare resulting from the proposed building materials and glass windows.

According to the City's General Plan EIR, the City's Standard Plans do not have regulations limiting glare. Rather, the City addresses light and glare issues on a case-by-case basis during project approval, which typically involve the addition of requirements as a condition of project approval to shield and protect against light splashing from one development to adjacent properties. The proposed Project would be reviewed by the City during Project approval.

Proposed Project lighting includes street lighting, exterior lighting around the warehouses, and safety lighting throughout the Project site. As noted in Chapter 2.0, Project Description, lighting fixtures would be located approximately every 40 feet around the exterior of the warehouse buildings to provide safety and security. Additionally, employee vehicle parking lot and truck and trailer parking areas would be illuminated with standard downward pointing lights, each containing two LED fixtures affixed to a 38-foot light pole. The lighting fixtures would be of a "shoe-box" style designed to provide even light distribution and to reduce any light spillover onto neighboring rural properties, and utilize less energy compared to a greater number of fixtures at lower heights. However, the LED lamps provide a higher level of perceived brightness with less energy than other lamps.

The City of Tracy Standard Plan #140 establishes street light standards, and requirements for light illumination to assist in reducing light impacts. Additionally, City of Tracy Standard Plan #154 establishes standards for lighting parking areas, requiring that illuminated parking facilities provide a minimum 1-foot candle. Further, Section 10.08.400 of the Municipal Code specifies that the site plan and architectural review package includes an exterior lighting standards and devices review. It should be noted that the City addresses light and glare issues on a case-by-case basis during project approval and would require the Project to shield and protect against light spillover onto adjacent properties. Compliance with these existing City regulations would ensure that his impact is ***less than significant***.

This section provides an overview of the agricultural crops in San Joaquin County and the City of Tracy, agricultural capability of the soils on the Project site, and existing site conditions. This section concludes with an evaluation of the impacts related to agricultural resources and recommendations for mitigating impacts as needed. Information in this section is derived primarily from the California Important Farmlands Map (California Department of Conservation, 2016), the California Land Conservation (Williamson) Act Status Report (California Department of Conservation, 2010), the San Joaquin County Crop Report (San Joaquin County Agricultural Commissioner, 2018), and the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2016).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: the California Department of Conservation (September 10, 2020). Comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

As discussed in the Initial Study for the proposed Project, there are no forest resources located on the Project site or in the City of Tracy; thus, this CEQA topic is not relevant to the proposed Project, and ***no impact*** would occur. As such, forest resources will not be addressed further in this EIR. The Initial Study is included in Appendix A.

## 3.2.1 ENVIRONMENTAL SETTING

### SAN JOAQUIN COUNTY AGRICULTURE

San Joaquin County occupies a central location in California's vast agricultural heartland, the San Joaquin Valley. The County's Agricultural Commissioner's most recent published Crop Report (2020) contains the following information about agriculture in the County.

#### Agricultural Value

San Joaquin County has a total land area of 1,391 square miles. The total acreage of crop land in the county is approximately 784,800 acres. The gross value of agricultural production in San Joaquin County for 2020 was $3,031,279,000 which represents a 15.8 percent increase from 2019 when gross production value totaled $2,617,815,000. Table 3.2-1 lists the top eight crop commodities in San Joaquin County in 2019 and 2020.

***TABLE 3.2-1: SUMMARY COMPARISON OF CROP VALUES***

| *PRODUCT TYPE* | *2019 VALUE* | *2020 VALUE* |
|---|---|---|
| Field Crops | $204,057,000 | $235,304,000 |
| Vegetable Crops | $228,893,000 | $260,363,000 |
| Fruit and Nut Crops | $1,354,789,000 | $1,603,784,000 |
| Nursery Products | $115,542,000 | $132,255,000 |
| Livestock and Poultry | $121,085,000 | $124,305,000 |
| Livestock and Poultry Products | $540,204,000 | $622,507,000 |
| Seed Crops | $3,281,000 | $4,090,000 |
| Apiary Products | $37,853,000 | $48,671,000 |

*SOURCE: SAN JOAQUIN COUNTY AGRICULTURAL REPORT, 2020.*

## AGRICULTURAL CAPABILITY

The California Department of Conservation Farmland Mapping and Monitoring Program identifies lands that have agriculture value and maintains a statewide map of these lands called the Important Farmlands Inventory (IFI). IFI classifies land based upon the productive capabilities of the land, rather than the mere presence of ideal soil conditions.

The suitability of soils for agricultural use is just one factor for determining the productive capabilities of land. Suitability is determined based on many characteristics, including fertility, slope, texture, drainage, depth, and salt content. A variety of classification systems have been devised by the state to categorize soil capabilities. The two most widely used systems are the Capability Classification System and the Storie Index. The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating. The IFI is in part based upon both of these two classification systems.

### Soil Capability Classification System

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils that are unsuitable for agriculture. Generally, as the rating of the capability classification increases, yields and profits are more difficult to obtain. A general description of soil classifications, as defined by the NRCS is provided in Table 3.2-2 below.

***TABLE 3.2-2: SOIL CAPABILITY CLASSIFICATION***

| *CLASS* | *DEFINITION* |
|---|---|
| I | Soils have slight limitations that restrict their use. |
| II | Soils have moderate limitations that restrict choice plants or that require moderate conservation practices. |
| III | Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both. |
| IV | Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both. |
| V | Soils are not likely to erode but have other limitations; impractical to remove that limits their use largely to pasture or range, woodland, or wildlife habitat. |
| VI | Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat. |
| VII | Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat. |
| VIII | Soils and landforms have limitations that preclude their use for commercial plans and restrict their use to recreation, wildlife habitat, water supply, or aesthetic purposes. |

*SOURCE: USDA SOIL CONSERVATION SERVICE.*

### Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating) which have few or no limitations for agricultural production, to Grade 6 soils (less than 10) which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor

drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 3.2-3.

***TABLE 3.2-3: STORIE INDEX RATING SYSTEM***

| *GRADE* | *INDEX RATING* | *DEFINITION* |
|---|---|---|
| 1 | 80 – 100 | Few limitations that restrict their use for crops |
| 2 | 60 – 80 | Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs |
| 3 | 40 – 60 | Suited to a few crops or to special crops and require special management |
| 4 | 20 – 40 | If used for crops, severely limited and require special management |
| 5 | 10 – 20 | Not suited for cultivated crops, but can be used for pasture and range |
| 6 | Less than 10 | Soil and land types generally not suited to farming |

*SOURCE: USDA SOIL CONSERVATION SERVICE, SOIL SURVEY OF YOLO COUNTY, CALIFORNIA, 1972.*

In addition to soil suitability, other factors for determining the agricultural value of land include whether soils are irrigated, the depth of soil, water-holding capacity, and physical and chemical characteristics. Areas considered to have the greatest agricultural potential are designated as Prime Farmland or Farmland of Statewide Importance.

## Important Farmlands

The Farmland Mapping and Monitoring Program (FMMP) is a farmland classification system administered by the California Department of Conservation. Important farmland maps are based on the Land Inventory and Monitoring criteria, which classify a land's suitability for agricultural production based on both the physical and chemical characteristics of soils, and the actual land use. The system maps five categories of agricultural land, which include important farmlands (prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance) and grazing land, as well as three categories of non-agricultural land, which include urban and built-up land, other land, and water area.

### IMPORTANT FARMLANDS IN SAN JOAQUIN COUNTY

Data from the Department of Conservation indicates that approximately 1,245 acres of Prime Farmland in the County was developed for other uses between 2014 and 2016, resulting in an existing total of 381,634 acres of Prime Farmland (51 percent of agricultural land). The remaining agricultural land is comprised of Farmland of Statewide Importance (11 percent), Unique Farmland (11 percent), Farmland of Local Importance (9 percent), and Grazing Land (18 percent). The types and acreages of farmland in 2014 and 2016 are shown below in Table 3.2-4.

***TABLE 3.2-4: SAN JOAQUIN COUNTY FARMLANDS SUMMARY AND CHANGE BY LAND USE CATEGORY***

| *LAND USE CATEGORY* | *2014-2016 ACREAGE CHANGES* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *TOTAL ACREAGE INVENTORIED* | | | | *ACRES LOST* | *ACRES GAINED* | *TOTAL ACREAGE CHANGED* | *NET ACREAGE CHANGED* |
| | *2014* | | *2016* | | *(-)* | *(+)* | | |
| | *Acres* | *Percent* | *Acres* | *Percent* | | | | |
| Prime Farmland | 382, 879 | 42% | 381,634 | 42% | 4,338 | 3,093 | 7,431 | -1,245 |
| Farmland of Statewide Importance | 82,271 | 9% | 82,618 | 9% | 1,189 | 1,536 | 2,725 | 347 |
| Unique Farmland | 76,415 | 8% | 81,920 | 9% | 830 | 6,335 | 7,165 | 5,505 |
| Farmland of Local Importance | 73,429 | 8% | 68,903 | 7% | 9,150 | 4,624 | 13,774 | -4,526 |
| IMPORTANT FARMLAND SUBTOTAL | 614,994 | 67% | 615,075 | 67% | 15,507 | 15,588 | 31,095 | 81 |
| Grazing Land | 132,950 | 15% | 129,760 | 14% | 3,385 | 195 | 3,580 | -3,190 |
| AGRICULTURAL LAND SUBTOTAL | 747,944 | 82% | 744,835 | 81% | 18,892 | 15,783 | 34,675 | -3,109 |
| Urban and Built-up Land | 93,888 | 10% | 95,329 | 10% | 365 | 1,806 | 2,171 | 1,441 |
| Other Land | 59,004 | 6% | 60,602 | 7% | 1,482 | 3,080 | 4,562 | 1,598 |
| Water Area | 11,766 | 1% | 11,836 | 1% | 235 | 305 | 540 | 70 |
| TOTAL AREA INVENTORIED | 912,602 | 100% | 912,602 | 100% | 20,974 | 20,974 | 41,948 | 0 |

*SOURCE: CA DEPARTMENT OF CONSERVATION, DIVISION OF LAND RESOURCE PROTECTION TABLE A-30, 2016.*

## EXISTING SITE CONDITIONS

As described in Chapter 2.0, Project Description, the Project site includes two distinct planning boundaries, including the 104.36-acre Annexation Area (or Project site) and the 103-acre Development Area. The 104.36-acre Project site encompasses undeveloped land previously used for agricultural purposes. The agricultural land on the Project site is not under a Williamson Act contract or conservation easement.

### Surrounding Land Uses

The Project site is located immediately south of the intersection of West Schulte Road and Bud Lyons Way. The Project site is bounded on the north by West Schulte Road, on the east by undeveloped agricultural land, on the south by Delta Mendota Canal, and on the west by undeveloped agriculture land and a driveway serving the adjacent rural residential use.

The Project site is surrounded by a variety of undeveloped and developed land uses. Uses immediately adjacent to the east and south of the Project site include undeveloped agricultural land within unincorporated San Joaquin County. The parcel to the west of the Project site is currently undeveloped agricultural land with a ranch-style house, detached garages, barns, and sheds in the southern portion of the parcel. Existing and future industrial uses are also located to the northwest, north, and northeast of the Project site (within the Cordes Ranch Specific Plan Area, located in the City of Tracy). Other nearby uses include the South County Fire Authority Station 94/California Department of Fire Station 26 directly southwest of the intersection of West

Schulte Road and Hansen Road (approximately 800 feet west of the Project site) and the Tracy Biomass Facility (approximately ½ mile to the east past the undeveloped agricultural land).

## Project Site Farmland Characteristics

The State of California Department of Conservation FMMP and San Joaquin County GIS data were used to illustrate the farmland characteristics for the Project site. Farmlands on the Project site are identified in Figure 3.2-1. The farmland classifications for the site and surrounding area are described below.

### PRIME FARMLAND

Prime farmland is farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

There are 101.78 acres classified as Prime Farmland in the Project site. Prime Farmlands are also located northeast, south, west, and southwest of the Project site.

### FARMLAND OF STATEWIDE IMPORTANCE

Farmland of Statewide Importance is farmland with characteristics similar to those of prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

There is no Farmland of Statewide Importance within the Project site, or in the immediate vicinity.

### UNIQUE FARMLAND

Unique farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

There is no Unique Farmland within the Project site, or adjacent to the site. Unique Farmland is located southwest of the Project site, west of Interstate 580.

### FARMLAND OF LOCAL IMPORTANCE

Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.

There are 0.44 acres of Farmland of Local Importance within the Project site. Farmland of Local Importance is located adjacent to the Project site to the east and north. Farmland of Local

Importance is also located in the vicinity of the Project site to the southeast, southwest, northeast, and northwest.

### GRAZING LAND

Grazing Land includes land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

Grazing Land is located in the general vicinity of the Project site to the south (north and south of the California Aqueduct and Interstate 580).

### SEMI-AGRICULTURAL AND RURAL COMMERCIAL LAND

Semi-Agricultural and Rural Commercial Land includes farmsteads, agricultural storage and packing sheds, unpaved parking areas, composting facilities, equine facilities, firewood lots, and campgrounds.

There are 0.35 acres of Semi-Agricultural and Rural Commercial Land in the Project site. Semi-Agricultural and Rural Commercial Land is located in the general vicinity of the Project site to the west (north of the Delta Mendota Canal) and southwest (north and south of the California Aqueduct along Hansen Road).

### URBAN AND BUILT-UP LAND

Urban and Built-Up Land includes land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Urban and Built-up Land is located to the west of the Project site across Hansen Road, to the north of the Project site north of Hopkins Road, and to the east of the Project site at the Biomass Facility.

## Soils and Farmland Characteristics

A Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program. Table 3.2-5 identifies the soils found in the Project site. The NRCS Soils Map is provided on Figure 3.6-1 in Section 3.6, Geology and Soils.

***TABLE 3.2-5: PROJECT SITE SOILS***

| *UNIT SYMBOL* | *NAME* | *ACRES IN AOI* | *PERCENT OF AOI* | *CAPABILITY CLASSIFICATION** |
|---|---|---|---|---|
| 118 | Capay clay, 0 to 1 percent slopes | 95.85 | 93.4% | II-IV |
| 252 | Stomar clay loam, o to 2 percent slopes | 6.73 | 6.6% | II-IV |
| | **Totals** | 101.71 | 100.0% | -- |

** DEPICTS IRRIGATED VS NON IRRIGATED CAPABILITY RATING*

*SOURCE: NRCS CUSTOM WEB SOIL SURVEY, 2021; SAN JOAQUIN COUNTY SOIL SURVEY, 1992.*

**Capay clay.** The Capay series consists of very deep, moderately well and somewhat poorly drained soils that formed in fine textured alluvium derived from mostly sandstone and shale. Capay soils are on flood basins, alluvial fans, interfan basins and basin rims. They formed in fine textured alluvium derived from sandstone and shale or other mixed rock sources. Slopes are 0 to 15 percent. They have a moderately well and somewhat poor drainage and a slow to very slow permeability. Common uses for this series include: growing irrigated crops such as tomatoes, sugar beets, beans or grain sorghum, dry farmed to small grains, and irrigated and dryland pasture. Native vegetation is a dense stand of annual grasses and forbs.

As shown in Table 3.2-5, 93.4 percent of the site soils are Capay clay soils. This soil type is located throughout the entire Project site, except in the northeastern corner of the site.

**Stomar clay loam**. The Project site contains 6.73 acres of stomar soils. The Stomar series consists of very deep, well drained soils formed in alluvium from sedimentary rocks sources. Stomar soils are on dissected alluvial fans and terraces. The soils formed in material weathered from sandstone and shale. Slopes are 0 to 2 percent. The annual precipitation is about 9 inches and the annual temperature is about 62 degrees F. This series is well drained; negligible to high runoff; and has a slow permeability. Common uses for this series include: irrigated cropland including field crops, row crops and orchards. It is also used for dryland cropland such as grain. Some areas are used for urban land and there are small areas used for livestock grazing. Typical vegetation where not cultivated is annual grasses and forbs.

As shown in Table 3.2-5, 6.73 percent of the site soils are Stomar clay loam soils. This soil type is located in the northeastern corner of the Project site along the eastern site boundary.

## Williamson Act Contracts

The Williamson Act authorizes each County to establish an agricultural preserve. Land that is within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a 10-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. If the contract is cancelled the property owner is assessed a fee of up to 12.5 percent of the property value.

The Project site is not under a Williamson Act contract, nor are any of the parcels that are located adjacent to the Project site under a current contract. The nearest parcel (APN: 209-240-01) under a Williamson Act contract is approximately 0.5 miles to the southeast of the Project site.

## 3.2.2 REGULATORY SETTING

### FEDERAL

#### Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent practicable, federal programs are compatible with state and local units of government as well as private programs and policies to protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for crop production. In fact, the land can be forest land, pastureland, cropland, or other land but does not include water bodies or land developed for urban land uses (i.e., residential, commercial, or industrial uses).

The NRCS administers the Farmland Protection Program. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. The assessment is completed on form AD-1006, Farmland Conversion Impact Rating. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil related criteria such as the potential for impact on the local agricultural economy if the land is converted to non-farm use and compatibility with existing agricultural use.

The Project site and adjacent parcels will not be completed by a federal agency, or with assistance from a federal agency. Therefore, the Project will not be subject to the FPPA.

### STATE

#### Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, was established based on numerous State legislative findings regarding the importance of agricultural lands in an urbanizing society. Policies emanating from those findings include those that discourage premature and unnecessary conversion of agricultural land to urban uses and discourage discontinuous urban development patterns, which unnecessarily increase the costs of community services to community residents. As stated above, the Project site is not under a Williamson Act contract, nor are any of the parcels that are located adjacent to the Project site under a current contract.

### Farmland Security Zones

In 1998, the state legislature established the Farmland Security Zone (FSZ) program. FSZs are similar to Williamson Act contracts, in that the intention is to protect farmland from conversion. The main difference however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of prime farmland through FSZs. The non-renewal and cancellation procedures are similar to those for Williamson Act contracts.

The Project site and the adjacent parcels are not within the FSZ program.

### California Government Code Section 56064

This section of the Government Codes defines "Prime agricultural land" as follows:

- Prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:
    - Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
    - Land that qualifies for rating 80 through 100 Storie Index Rating.
    - Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
    - Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.
    - Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

## LOCAL

### Local Agency Formation Commission Boundary Controls

The San Joaquin Local Agency Formation Commission (LAFCo) is responsible for coordinating orderly amendments to local jurisdictional boundaries, including annexations. Annexation of the Project site into the City of Tracy would be subject to LAFCo approval, and LAFCo's decision is governed by state law (Gov't Code § 56001 et seq.) and the local LAFCo Policies and Procedures.

State law requires LAFCos to consider agricultural land and open space preservation in all decisions related to expansion of urban development. LAFCO's definition of Prime Agriculture land refers to California Government Code Section 56064, which is described above.

## City of Tracy General Plan

The City of Tracy General Plan designates the Project site as Industrial (I). The General Plan includes several policies relevant to agricultural resources. General Plan policies and implementation measures applicable to the Project are identified below:

POLICIES: LAND USE

- LU-6.1-P9. New industrial or mining uses shall be designed to not adversely impact adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources and biological resources.

POLICIES: OPEN SPACE AND CONSERVATION

- OSC-2.1-P1: The City shall support San Joaquin County's efforts to preserve agricultural uses in the Tracy Planning Area.
- OSC-2.1-P2: The City shall support San Joaquin County policies and zoning actions that maintain agricultural lands in viable farming units for those areas not currently designated for urban uses.
- OSC-2.1-P5: The City shall work cooperatively with non-profit organizations, such as land trusts, to preserve agricultural land in the Planning Area.
- OSC-2.2-P1. Development projects shall have buffer zones, such as roads, setbacks and other physical boundaries, between agricultural uses and urban development. These buffer zones shall be of sufficient size to protect the agriculture operations from the impacts of incompatible development and shall be established based on the proposed land use, site conditions and anticipated agricultural practices. Buffers shall be located on the land where the use is being changed, and shall not become the maintenance responsibility of the City.
- OSC-2.2-P2. Land uses allowed near agricultural operations should be limited to those not negatively impacted by dust, noise and odors.

## City of Tracy Agricultural Mitigation Fee Program

Tracy Municipal Code Chapter 13.28, establishes the City's Agricultural Mitigation Fee Program, which authorizes the collection of development impact fees to offset costs associated with the loss of productive agricultural lands converted for private urban uses (including residential, commercial, industrial, or other urban uses) within the City. Agricultural mitigation fees are collected by the City at the time that building permits are issued. Fees collected under Chapter 13.28 may be used as fair compensation for farmland conservation easements or farmland deed restrictions that conserve existing agricultural land.

### City of Tracy Right to Farm Ordinance

Tracy Municipal Code Chapter 10.24 establishes the City's "Right to Farm" ordinance, which is to declare farming operations not to be a nuisance and to recognize persons and/or entities right to farm. The ordinance establishes the City's policy to preserve, protect and encourage the use of viable agricultural land for the production of food and other agricultural products. Chapter 10.24 identifies that when nonagricultural land uses extend into or approach agricultural areas, conflicts may arise between such land uses and agricultural operations that often result in the involuntary curtailment or cessation of agricultural operations, and discourage investment in such operations.

Municipal Code Chapter 10.24 is intended to reduce the occurrence of such conflicts between nonagricultural and agricultural land uses within the City through requiring the transferor of any property in the City to provide a disclosure statement describing that the City permits agricultural operations, including those that utilize chemical fertilizers and pesticides. The disclosure statement notifies the purchaser that the property being purchased may be located close to agricultural lands and operations and that the purchaser may be subject to inconvenience or discomfort arising from the lawful and proper use of agricultural chemical and pesticides and from other agricultural activities, including without limitation, cultivation, plowing, spraying, irrigation, pruning, harvesting, burning of agricultural waste products, protection of crops and animals from depredation, and other activities which occasionally generate dust, smoke, noise and odor. In addition, prior to issuance of a city building permit for construction of a residential building, the owner of the property upon which the building is to be constructed is required to file a disclosure statement acknowledging the proximity of agricultural operations and the potential for inconvenience or nuisance associated with those uses.

### San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The San Joaquin County Multi-Specific Habitat Conservation and Open Space Plan (SJMSCP) provides comprehensive measures for compensation and avoidance of impacts on various biological resources, which includes ancillary benefits to agricultural resources. For instance, many of the habitat easements that are purchased or facilitated by the SJMSCP program are targeted for the protection of Swainson's hawk or other sensitive species habitat that are dependent on agricultural lands. The biological mitigation for these species through the SJMSCP includes the purchase of certain conservation easements for habitat purposes; however, the conservation easements are placed over agricultural land, such as alfalfa and row crops (not vines or orchards). As such, SJMSCP fees paid to San Joaquin Council of Governments (SJCOG) as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

## 3.2.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on agricultural resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.2-1: The proposed Project has the potential to result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses. (Significant and Unavoidable)

Development of the proposed Project would result in the permanent conversion of approximately 101.78 acres of Prime Farmland, as shown on Figure 3.2-1, to nonagricultural use. Farmland of Statewide Importance would not be converted as none is found on-site. The loss of Prime Farmland as classified under the FMMP is considered a potentially significant environmental impact.

As previously discussed, Tracy Municipal Code Chapter 13.28 establishes the City's Agricultural Mitigation Fee Program, which authorizes the collection of development impact fees to offset costs associated with the loss of productive agricultural lands converted for private urban uses. In addition to the City's agricultural mitigation fee program, the SJMSCP requires development to pay fees on a per-acre basis for impacts to agricultural lands that function as habitat for biological resources. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the Project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land. As such, the Project fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

The purchase of conservation easements and/or deed restrictions through the City's agricultural mitigation fee program and the SJMSCP allows landowners to retain ownership of land and continue agricultural operations, and preserves such lands in perpetuity.

The proposed conversion of the Project site from agricultural to industrial uses is consistent with the City's overall planning vision, as the Tracy General Plan designates the Project site as Industrial, and therefore assumes the site would be developed with Industrial uses. The General Plan EIR anticipated development of the Project site as part of the overall evaluation of the build out of the City. The General Plan EIR addressed the conversion and loss of agricultural land that would result from the build out of the General Plan (Amendments to the General Plan Draft EIR, pp. 67 through 71). The General Plan EIR provides a discussion of the various General Plan policies, such as Objective OSC-2.1-P2 and OSC-2.1-P3, and the agricultural conversion fees, including the City's

agricultural mitigation fee program and SJMSCP fee. The General Plan EIR concluded that although these policies and regulations would somewhat reduce impacts related to the conversion of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, the permanent loss of farmland would result in a significant and unavoidable impact to agricultural resources.

While the proposed Project would contribute fees toward the purchase of conservation easements on agricultural lands through the City's agricultural mitigation fee program and the SJMSCP (as required by Mitigation Measure 3.4-1 and existing City regulations), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. As such, the loss of Prime Farmland would be a ***significant and unavoidable*** impact relative to this topic.

## Impact 3.2-2: The proposed Project has the potential to conflict with existing zoning for agricultural use, or Williamson Act Contracts. (Less than Significant)

The Project site is not under a Williamson Act Contract. The San Joaquin County Zoning Ordinance currently designates the Project site for General Agriculture (AG-40) uses. The AG Zone is established to preserve agricultural lands for the continuation of commercial agriculture enterprises. The San Joaquin County LAFCo would require the Project site to be pre-zoned by the City of Tracy in conjunction with the proposed annexation. The City's pre-zoning would include the following zoning designation: Light Industrial (M-1). The pre-zoning would go into effect upon annexation into the City of Tracy.

Although the Project site is currently zoned for agricultural use by the County, the proposed Project includes pre-zoning consistent with the proposed industrial use and the City's Industrial land use designation for the site. Conversion of the Project site from agricultural to urban uses has been anticipated by the City since adoption of the General Plan and associated EIR. Therefore, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic and no mitigation is required.

## Impact 3.2-3: The proposed Project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands. (Less than Significant with Mitigation)

Neighboring agricultural land, including Prime Farmland and Farmland of Local Importance, are located to the north, south, and east the Project site as shown on Figure 3.2-1. Industrial warehouses would be developed on the 103-acre Development Area with implementation of the proposed Project.

The City's General Plan anticipates that agricultural lands to the north, east, south, and west of the Project site would develop with urban uses. Existing agricultural lands that are located adjacent to the Project site to the west may be impacted by the increased human presence on the Project site. It is noted that a development application to develop and annex the parcel west of the site has been submitted to the City. The City's Right-to-Farm Ordinance reduces the potential for conflict

between existing agricultural lands and adjacent uses. The notification procedures in the ordinance serves to inform landowners and developers of non-agricultural uses in the area and the expectations with regard to agricultural activities in order to reduce complaints.

The City of Tracy General Plan Amendment to the Draft EIR (2006) identifies that the location or nature of the General Plan could result in the conversion of farmland to non-agricultural use and identified General Plan policies (i.e., OSC-2.1-P2, OSC-2.1-P3, OSC-2.2-P1, CC-4.1-P2, and CC-4.1-P3) to support the continuation of working farmland and agricultural land to maintain agricultural use adjacent to non-agricultural uses. However, the EIR concluded that implementation of the General Plan would result in a significant and unavoidable impact due to the additional and incompatible urban development adjacent to agricultural uses (City of Tracy General Plan Amendment to the Draft EIR, 2006, pp. 72).

General Plan Policy OSC-2.2-P-1 requires buffer zones, such as roads, setbacks and other physical boundaries, at the interface of urban development and farmland in order to minimize conflicts between the uses. These buffer zones are required to be of sufficient size to protect the agriculture operations from the impacts of incompatible development and be established based on the proposed land use, site conditions and anticipated agricultural practices. Additionally, Policy OSC-2.2-P-2 requires that the land uses near agricultural operations be limited to those not negatively impacted by dust, noise, and odors.

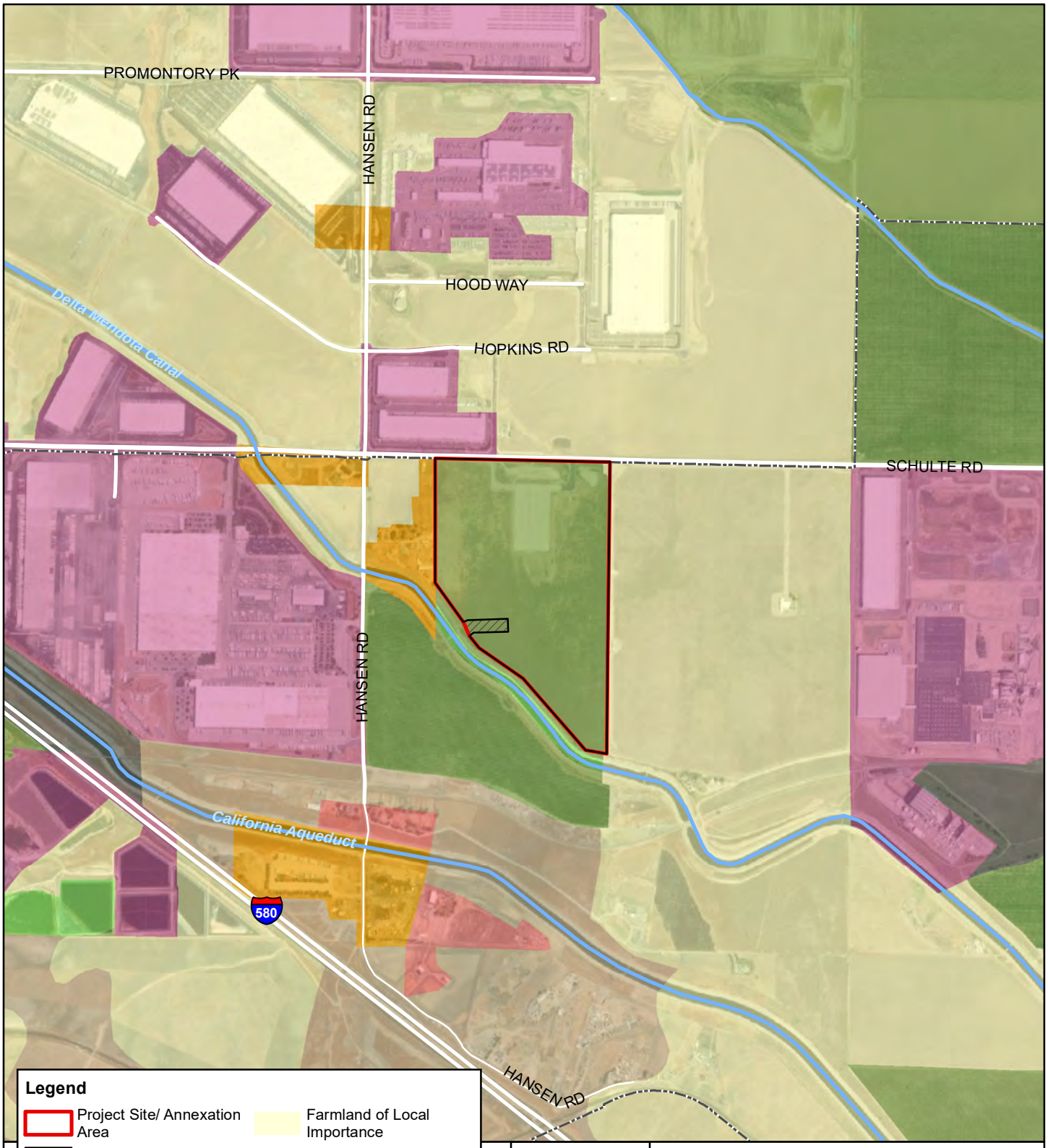
Neither the City's Right-to-Farm Ordinance nor its General Plan Policies define the width or specifics of desired buffer types for agricultural uses. Most of the proposed development would be buffered from existing agricultural operations by Old Schulte Road on the northern side of the Project site and by the Delta Mendota Canal on the southern side of the Project site. Additionally, the proposed Project includes parking areas, stormwater drainage areas, and and landscaping along the perimeter of the site. These areas would provide a buffer between agricultural uses and the Project site. Further, land opposite Old Schulte Road to the north of the Project site is within the recently approved Cordes Ranch Specific Plan, which plans for the development of a 1,780-acre commerce and business park, consisting of 55.1 acres of General Commercial uses, 152.2 acres of General Office uses, 1,476.9-acres of Business Park Industrial uses, and 96.3-acres of Park uses. However, the agricultural land to the west and east of the Project site would not be buffered from the proposed industrial development. As discussed previously, the City's Right to Farm Ordinance is intended to reduce the occurrence of such conflicts between nonagricultural and agricultural land uses within the City through requiring the transferor of any property in the City to provide a disclosure statement describing that the City permits agricultural operations, including those that utilize chemical fertilizers and pesticides. Compliance with the City's Right to Farm Ordinance would be ensured through Mitigation Measure 3.2-1. Implementation of Mitigation Measure 3.2-1 would ensure that the Project includes adequate measures to buffer Project uses from adjacent agricultural uses and would help to reduce adverse effects on neighboring agricultural uses. The proposed project is not anticipated to lead to the permanent indirect conversion of offsite agricultural lands to a non-agricultural use. The project would not extend infrastructure or roadway access to offsite agricultural lands. Implementation of Mitigation Measure 3.2-1 would ensure that the Project applicant complies with the County's right-to-farm

ordinance due to the potential conflicts between the proposed residences in the southern and western portions of the Plan Area and the existing agricultural operations to the south and west of the Plan Area. Implementation of this mitigation measure would ensure that impacts associated with the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands are ***less than significant***.

### MITIGATION MEASURE(S)

***Mitigation Measure 3.2-1:*** *Prior to approval of a grading permit for each phase of the Project, the Project applicant shall demonstrate that the Project site plans include adequate measures to buffer adjacent agricultural uses from urban uses on the Project site and to reduce adverse impacts to neighboring agricultural uses. Additionally, the Project applicant shall provide notifications to all operators of uses on the Project site that are adjacent or in the vicinity of existing agricultural land of the City's Right-to-Farm Ordinance.*

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*Sources: California Department of Conservation, Farmland Mapping and Monitoring Program, San Joaquin County 2018; San Joaquin County GIS; ArcGIS Online World Imagery Map Service. Map date: December 11, 2019. Revised: June 28, 2021. Revised: May 26, 2022.*

**TRACY COSTCO DEPOT PROJECT**

Figure 3.2-1. Important Farmlands

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from Project implementation. The analysis contained in this section is intended to be at a project-level, and covers impacts associated with the conversion of the entire site to urban uses. Following this discussion is an assessment of consistency of the proposed Project with applicable policies and local plans. The Greenhouse Gases, Climate Change, and Energy analysis is located in a separate section of this document (*see* Chapter 3.7 – Greenhouse Gases, Climate Change and Energy). This air quality section is based in part on the following technical studies: *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board [CARB], 2007), *Guide for Assessing and Mitigation Air Quality Impacts* (San Joaquin Valley Air Pollution Control District [SJAVPCD], 2002), *Guidance for Assessing and Mitigating Air Quality Impacts - 2015* (SJAVPCD, 2015), and CalEEMod *(v.2020.4.0)*.

One comment was received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the San Joaquin Valley Air Pollution Control District (October 29, 2021). The commenter pointed out that the SJVAPCD has the *Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)* (March 19, 2015) as a technical guidance for the review of air quality impacts from proposed projects within the boundaries of the District. This comment is addressed within this section. The full comment is included in Appendix A.

## 3.3.1 ENVIRONMENTAL SETTING

### SAN JOAQUIN VALLEY AIR BASIN

The City of Tracy (City) is in the northern portion of the San Joaquin Valley Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (San Joaquin Valley Air Pollution Control District (SJVAPCD), 2015).

#### Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015).

## Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas.[1] The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period.

[1] SJVAPCD. Frequently Asked Questions, http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley, accessed March 3, 2020.

## Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds) and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone at this time and also due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone formed, since reaction rates increase with temperature. However, extremely hot temperatures can "lift" or "break" the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD, 2015).

## Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of particulate matter (PM), including PM that have a diameter of less than 2.5 micrometers ($PM_{2.5}$) and 10 micrometers $PM_{10}$ (SJVAPCD, 2015).

## Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the

inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD, 2015).

## CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.3-1) are set to public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the Project are discussed below.

**Ozone ($O_3$)** is a photochemical oxidant and the major component of smog. While $O_3$ in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of $O_3$ at ground level are a major health and environmental concern. $O_3$ is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (ROG) and oxides of nitrogen ($NO_x$) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak $O_3$ levels occur typically during the warmer times of the year. Both ROGs and $NO_x$ are emitted by transportation and industrial sources. ROGs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents. Relatedly, reactive organic compounds (ROG) are defined as the subset of ROGs that are reactive enough to contribute substantially to atmospheric photochemistry.

The reactivity of $O_3$ causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of $O_3$ not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to $O_3$ for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. EPA, 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. EPA, 2019b). The average background level of ozone in the California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. $O_3$ can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

**Carbon monoxide (CO)** is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (CARB, 2019a).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

**Nitrogen oxides ($NO_x$)** is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased $NO_2$ is the increased likelihood of respiratory problems. Under ambient conditions, $NO_2$ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone ($O_3$) and acid rain and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of $NO_2$ may contribute to the development of asthma and potentially increase

susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of $NO_2$.

The major mechanism for the formation of $NO_2$ in the atmosphere is the oxidation of the primary air pollutant nitric oxide ($NO_x$). $NO_x$ plays a major role, together with ROGs, in the atmospheric reactions that produce $O_3$. $NO_x$ forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

**Sulfur dioxide ($SO_2$)** is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of $SO_2$ emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. $SO_2$ is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

$SO_2$ affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. $SO_2$ is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient $SO_2$ results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Short-term exposure to ambient $SO_2$ has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient $SO_2$ and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, $SO_2$ reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient $SO_2$ levels would lead to increased risk of such effects.

$SO_2$ emissions that lead to high concentrations of $SO_2$ in the air generally also lead to the formation of other sulfur oxides (SOx). SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

**Particulate matter (PM)** includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as $SO_2$ and ROGs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: $PM_{10}$ is particulate matter 10

micrometers or less in diameter (known as respirable particulate matter), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of $SO_2$) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution causes health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

Respirable particulate matter ($PM_{10}$) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. $PM_{10}$ causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

$PM_{2.5}$ consists of fine particles that are less than 2.5 microns in size. Similar to $PM_{10}$, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with $PM_{10}$, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also impacts soils and damages materials and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lunch function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high PM levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both $PM_{10}$ and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. EPA, 2019c).

**Lead (Pb)** exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely

affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2019d). Based on this reduction of lead in the air over this period, and since most new developments to not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board (CARB).

## AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.3-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes were aimed at avoiding health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and $PM_{10}$. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, which was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The existing $PM_{10}$ standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

***TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS***

| *POLLUTANT* | *AVERAGING TIME* | *FEDERAL PRIMARY STANDARD* | *STATE STANDARD* |
|---|---|---|---|
| Ozone | 1-Hour | -- | 0.09 ppm |
| | 8-Hour | 0.070 ppm | 0.070 ppm |
| Carbon Monoxide | 8-Hour | 9.0 ppm | 9.0 ppm |
| | 1-Hour | 35.0 ppm | 20.0 ppm |
| Nitrogen Dioxide | Annual | 0.053 ppm | 0.03 ppm |
| | 1-Hour | 0.100 ppm | 0.18 ppm |
| Sulfur Dioxide | Annual | 0.03 ppm | -- |
| | 24-Hour | 0.14 ppm | 0.04 ppm |
| | 1-Hour | 0.075 ppm | 0.25 ppm |
| $PM_{10}$ | Annual | -- | 20 $ug/m^3$ |
| | 24-Hour | 150 $ug/m^3$ | 50 $ug/m^3$ |
| $PM_{2.5}$ | Annual | 12 $ug/m^3$ | 12 $ug/m^3$ |
| | 24-Hour | 35 $ug/m^3$ | -- |
| Lead | 30-Day Avg. | -- | 1.5 $ug/m^3$ |
| | 3-Month Avg. | 0.15 $ug/m^3$ | -- |

*NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER*

*SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019A.*

Existing air quality concerns within San Joaquin County and the entire air basin are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles, which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke emitted from fireplaces, wood-burning stoves, and agricultural burning.

## Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide, areas are designated as "does not meet the primary standards," "does not meet the

secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

San Joaquin County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, $PM_{10}$ and $PM_{2.5}$. San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.3-2 presents the state and nation attainment status for San Joaquin County.

***TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS IN SAN JOAQUIN COUNTY***

| *CRITERIA POLLUTANTS* | *STATE DESIGNATIONS* | *NATIONAL DESIGNATIONS* |
|---|---|---|
| Ozone ($O_3$) | Nonattainment | Nonattainment |
| $PM_{10}$ | Nonattainment | Attainment |
| $PM_{2.5}$ | Nonattainment | Nonattainment |
| Carbon Monoxide (CO) | Attainment | Unclassified/Attainment |
| Nitrogen Dioxide ($NO_2$) | Attainment | Unclassified/Attainment |
| Sulfur Dioxide ($SO_2$) | Attainment | Unclassified/Attainment |
| Sulfates | Attainment | |
| Lead | Attainment | Unclassified/Attainment |
| Hydrogen Sulfide | Unclassified | |
| Visibility Reducing Particles | Unclassified | |

*SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2022.*

## San Joaquin County Air Quality Monitoring

The San Joaquin Valley Air Pollution District (SJVAPCD) and the CARB maintain air quality monitoring sites throughout San Joaquin County that collect data for ozone and $PM_{2.5}$. In addition, air quality monitoring sites for $PM_{10}$ are located throughout the San Joaquin Valley (though not in San Joaquin County). The closest air quality monitoring station to the Project site is the Tracy-Airport location. It is important to note that while the State retains the one-hour ozone standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal standards. Best available data obtained from the monitoring sites between 2017 and 2020 (latest year of data available) is shown in Table 3.3-3, Table 3.3-4, and Table 3.3-5.

***TABLE 3.3-3 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (TRACY-AIRPORT)* - OZONE***

| *YEAR* | *DAYS > STANDARD* | | | | *1-HOUR OBSERVATIONS* | | | *8-HOUR AVERAGES* | | | | *YEAR COVERAGE* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *STATE* | | *NATIONAL* | | | *STATE* | *NAT'L* | *STATE* | | *NATIONAL* | | | |
| | *1-HR* | *8-HR* | *1-HR* | *8-HR* | *MAX.* | *D.V.[1]* | *D.V.[2]* | *MAX.* | *D.V.[1]* | *MAX.* | *D.V.[2]* | *MIN* | *MAX* |
| 2020 | 0 | 3 | 0 | 3 | 0.086 | 0.09 | 0.092 | 0.078 | 0.082 | 0.078 | 0.070 | 95 | 96 |
| 2019 | 1 | 3 | 0 | 3 | 0.095 | 0.09 | 0.092 | 0.080 | 0.082 | 0.079 | 0.073 | 97 | 99 |
| 2018 | 1 | 8 | 0 | 8 | 0.099 | 0.10 | 0.099 | 0.082 | 0.085 | 0.081 | 0.076 | 98 | 99 |
| 2017 | 0 | 7 | 0 | 5 | 0.093 | 0.10 | 0.105 | 0.082 | 0.086 | 0.082 | 0.077 | 93 | 95 |

*NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. [1] = STATE DESIGNATION VALUE. D.V. [2] = NATIONAL DESIGN VALUE. *TRACY-AIRPORT REPRESENTS THE CLOSEST MONITORING STATION TO THE PROJECT SITE.*

*SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.*

***TABLE 3.3-4: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN VALLEY)* – $PM_{10}$***

| YEAR | EST. DAYS > STD. | | ANNUAL AVERAGE | | HIGH 24-HR AVERAGE | | YEAR COVERAGE |
|---|---|---|---|---|---|---|---|
| | NAT'L | STATE | NAT'L | STATE | NAT'L | STATE | |
| 2020 | 38.7 | 157.0 | 64.5 | 60.5 | 517.2 | 359.0 | 0 - 100 |
| 2019 | 16.2 | 129.7 | 55.6 | 55.6 | 652.2 | 664.2 | 0 – 100 |
| 2018 | 9.6 | 164.4 | 54.5 | 53.0 | 250.2 | 250.4 | 0 – 100 |
| 2017 | 7.7 | 145.5 | 55.3 | 48.4 | 298.4 | 210.0 | 0 – 100 |

*NOTES: THE NATIONAL ANNUAL AVERAGE $PM_{10}$ STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. *THIS DATA REPRESENTS THE HIGHEST VALUES IDENTIFIED WITHIN SAN JOAQUIN VALLEY AS A WHOLE. DATA FOR THE NEAREST MONITORING SITE (TRACY-AIRPORT), AS WELL AS FOR SAN JOAQUIN COUNTY, HAD INSUFFICIENT DATA.*

*SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR iADAM) AIR POLLUTION SUMMARIES.*

***TABLE 3.3-5 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN COUNTY)* - $PM_{2.5}$***

| YEAR | EST. DAYS > NAT'L '06 STD. | ANNUAL AVERAGE | | NAT'L ANN. STD. D.V.[1] | STATE ANNUAL D.V.[2] | NAT'L '06 STD. 98TH PERCENTILE | NAT'L '06 24-HR STD. D.V.[1] | HIGH 24-HOUR AVERAGE | | YEAR COVERAGE | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NAT'L | STATE | | | | | NAT'L | STATE | MIN | MAX |
| 2020 | 24.0 | 14.8 | 14.8 | 13.8 | 17 | 91.6 | 72 | 140.0 | 140.0 | 98 | 99 |
| 2019 | 6.4 | 9.3 | 6.2 | 13.0 | 17 | 32.9 | 56 | 50.1 | 50.1 | 77 | 95 |
| 2018 | 25.0 | 17.6 | 17.4 | 13.8 | 17 | 96.9 | 56 | 188.0 | 257.5 | 96 | 100 |
| 2017 | 16.9 | 12.1 | 11.0 | 12.2 | 13 | 44.2 | 39 | 53.7 | 53.7 | 94 | 99 |

*NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. D.V. [1] = STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE. *THIS DATA REPRESENTS THE HIGHEST VALUES IDENTIFIED WITHIN SAN JOAQUIN COUNTY AS A WHOLE. DATA FOR THE NEAREST MONITORING SITE (TRACY-AIRPORT) HAS INSUFFICIENT DATA.*

*SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR iADAM) AIR POLLUTION SUMMARIES.*

## ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

### SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, and schools. The closest sensitive receptors to the Project are located as follows:

- A cluster of farmhouses/residences is located along the western portion of the Project site, adjacent to the Project site;
- A cluster of residences is located approximately 2,000 feet to the southwest of the Project site;
- Additional scattered residences are located approximately 2,200 to 3,000 feet to the south and southwest of the Project site;
- Residences are located approximately 900 feet to the southeast of the Project site; and
- An additional residence is located approximately 2,650 feet to the southeast of the Project site.

## 3.3.2 REGULATORY SETTING

### LOCAL

#### City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to air quality. General Plan policies applicable to the Project are identified below:

POLICIES: AIR QUALITY ELEMENT

- AQ-1.1-P1. The City shall promote land use patterns that reduce the number and length of motor vehicle trips.
- AQ-1.1-P2. To the extent feasible, the City shall maintain a balance and match between jobs and housing.
- AQ-1.1-P4. Employment areas should include a mix of support services to minimize the number of trips.
- AQ-1.2-P1. The City shall assess air quality impacts using the latest version of the CEQA Guidelines and guidelines prepared by the San Joaquin Valley Air Pollution Control District.
- AQ-1.2-P2. The City shall assess through the CEQA process any air quality impacts of development projects that may be insignificant by themselves, but cumulatively significant.
- AQ-1.2-P3. Developers shall implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.
- AQ-1.2-P4. New development projects should incorporate energy efficient design features for HVAC, lighting systems and insulation that exceed Title 24.
- AQ-1.2-P5. Use of solar water and pool heaters is encouraged.
- AQ-1.2-P6. Installation of solar voltaic panels on new homes and businesses shall be encouraged.
- AQ-1.2-P7. Trees should be planted on the south- and west-facing sides of new buildings or buildings undergoing substantial renovation in order to reduce energy usage.
- AQ-1.2-P9. New developments shall follow the current requirements of the SJVAPCD with respect to wood burning fireplaces and heaters.
- AQ-1.2-P10. Stationary air pollutant emission sources (e.g. factories) shall be located an appropriate distance away and down-wind from residential areas and other sensitive receptors.
- AQ-1.2-P12. New sources of toxic air pollutants shall prepare a Health Risk Assessment as required under the Air Toxics “Hot Spots” Act and, based on the results of the Assessment, establish appropriate land use buffer zones around those areas posing substantial health risks.
- AQ-1.2-P13. Dust control measures consistent with San Joaquin Valley Air Pollution Control District rules shall be required as a condition of approval for subdivision maps, site plans, and all grading permits.
- AQ-1.2-P14. Developments that significantly impact air quality shall only be approved if all feasible mitigation measures to avoid, minimize or offset the impact are implemented.
- AQ-1.2-P15. Encourage businesses to electrify loading docks or implement idling-reduction systems so that trucks transporting refrigerated goods can continue to power cab cooling elements during loading, layovers, and rest periods.
- AQ-1.2-P16. Encourage the use of Best Management Practices in agriculture and animal operations.
- AQ-1.3-P1. The City shall continue to work with the San Joaquin Council of Governments on regional transportation solutions.

- AQ-1.3-P3. The City shall encourage employers to establish Transportation Demand Management programs.
- AQ-1.3-P5. The City shall require direct pedestrian and bicycle linkages from residential areas to parks, schools, retail areas, high-frequency transit facilities and major employment areas.

## San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

### AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the SIP. In October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for $PM_{10}$ in the SJVAB (for California CAA compliance). The following describes the air plans prepared by the SJVAPCD.

### 8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by U.S. EPA in 1997. The CARB approved the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[2,3] More recently, a new ozone attainment plan is under development. Specifically, the 2022 Ozone Plan for the Attainment of the 2015 Federal 8-hour Ozone Standard is anticipated to be submitted in August 2022 to the U.S. EPA.

[2] SJVAPCD. Ozone Plans. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm, accessed March 3, 2020.

[3] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed March 3, 2020.

### $PM_{10}$ PLAN

Based on $PM_{10}$ measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal $PM_{10}$ standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 $PM_{10}$ Maintenance Plan and Request for Redesignation. This plan demonstrated that the valley would continue to meet the $PM_{10}$ standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

### PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018.[4] This plan addresses the U.S. EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2020).

All of the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

### SJVAPCD RULES AND REGULATIONS

#### *SJVAPCD Indirect Source Review*

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., ROG and NOx) and $PM_{10}$ emissions from new land use development projects. Specifically, Rule 9510 targets the indirect emissions from vehicles and construction equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to the proposed Project since it proposes more than 25,000 square feet of light industrial uses.

This rule requires the applicants of certain development projects which equal or exceed established applicability thresholds to apply to the SJVAPCD when applying for the development's last discretionary approval. Projects subject to the rule are required to quantify indirect emissions (mobile source emissions), area source emissions and construction exhaust emissions and to mitigate a portion of these emissions. The Indirect Source Rule was adopted December 2005 and last amended December 2017. Rule 9510 was adopted to reduce the impacts of growth in emissions from all new development in the San Joaquin Valley. Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases through on-site measures or pay off-site mitigation fees. One hundred percent of all off-site mitigation fees are used by the SJVAPCD to fund emission reduction projects through its Incentive Programs, achieving

[4] SJVAPCD. Particulate Matter Plans. http://valleyair.org/Air_Quality_Plans/PM_Plans.htm, accessed March 9, 2020.

emission reductions on behalf of the project. The emission reduction expected from the rule allow the SJVAPCD to achieve attainment of the federal air quality standards for ozone by 2031.

The rule requires all subject, nonexempt projects to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Off-site emissions reduction fees (off-site fees) are required for projects that do not achieve the required emissions reductions through on-site emission reduction measures. Phased projects can defer payment of fees in accordance with an Off-site Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: on-site exhaust emissions from construction activities and operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources). Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on its air quality management plans, to reach attainment for ozone and particulate matter:

**Construction Equipment Emissions**

The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NOx emissions
- 45 percent of the total $PM_{10}$ exhaust emissions

AIA mitigation strategies may include those that reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer, lower emitting equipment.

**Operational Emissions**

- NOx Emissions. Applicants shall reduce 33.3 percent of the project's operational baseline NOx emissions over a period of 10 years as quantified in the approved AIA.
- $PM_{10}$ Emissions. Applicants shall reduce 50 percent of the project's operational baseline $PM_{10}$ emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of on-site emissions reduction measures. In the event that a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable off-site fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

### *Fugitive $PM_{10}$ Prohibitions*

SJVAPCD controls fugitive $PM_{10}$ through Regulation VIII, Fugitive $PM_{10}$ Prohibitions. The purpose of this regulation is to reduce ambient concentrations of $PM_{10}$ and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measures to be implemented before, during, and after any dust-generating activity.

### *Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations*

If asphalt paving will be used, then paving operations of the proposed Project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

### *Nuisance Odors*

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, "a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property."

### *Employer Based Trip Reduction Program*

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter ($PM_{10}$ and $PM_{2.5}$). The rule applies to

employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to their employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

#### *Visible Emissions*

SJVAPCD controls visible emissions through Rule 4101, Visible Emissions. The purpose of this regulation is to prohibit visible air contaminants in the atmosphere. This rule requires that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

- As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.
- Of such opacity as to obscure an observer's view to a degree equal to or greater than the smoke described in Section 5.1 of this rule.

#### *Architectural Coatings*

The purpose of SJVAPCD Rule 4601 is to limit VOC emissions from architectural coatings. This rule specifies architectural coatings storage, cleanup, and labeling requirements. This rule is applicable to any person who supplies, markets, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends or repackages any architectural coating for use within the District.

## FEDERAL

### Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several air pollutants based on human health and welfare criteria. Two types of NAAQS were

established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing.

## Federal Hazards Air Pollutants Program

The 1977 CAA Amendments required the USEPA to identify National Emissions Standards for Hazardous Air Pollutants (NESHAPs) to protect the public health and welfare. Hazardous air pollutants include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA Amendments, which expanded the control program for hazardous air pollutants, 189 substances and chemical families were identified as hazardous air pollutants.

## Federal Heavy-duty Engines and Vehicles Fuel Efficiency Standards

In 2010, President Obama issued a memorandum directing federal agencies to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and National Highway Traffic Safety Administration (NHTSA) proposed stringent, coordinated federal GHG and fuel economy standards for model year 2017–2025 light-duty vehicles. The proposed standards are projected to achieve 163 grams/mile of $CO_2$ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for $CO_2$ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles.

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021

through 2027 for semi-trucks, large pickup trucks, vans and all types of sizes of buses and work trucks. The final standards are expected to lower carbon dioxide emissions by approximately 1.1 billion metric tons (MT) and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.[5]

In August 2017, the USEPA asked for additional information and data relevant to assessing whether the GHG emissions standards for model years 2022-2025 remain appropriate. In early 2018, the USEPA Administrator announced that the midterm evaluation for the GHG emissions standards for cars and light-duty trucks for model years 2022-2025 was completed and stated his determination that the current standards should be revised in light of recent data. Subsequently, in April 2018, the USEPA and NHTSA proposed to amend certain existing Corporate Average Fuel Economy (CAFE) standards for passenger cars and light trucks and establish new standards, covering model years 2022-2025. Compared to maintaining the post-2020 standards now in place, the pending proposal would increase U.S. fuel consumption.[6] California and other states have announced their intent to challenge federal actions that would delay or eliminate GHG reductions. In April 2020, NHTSA and EPA amended the CAFE and GHG emissions standards for passenger cars and light trucks and established new less stringent standards, covering model years 2021 through 2026.

On September 27, 2019, the USEPA and NHTSA published the SAFE Rule (Part One).[7] The SAFE Rule (Part One) went into effect in November 2019, and revoked California's authority to set its own GHGs standards and set zero emission vehicle mandates in California. The SAFE Rule (Part One) freezes new zero emission vehicles (ZEV) sales at model year 2020 levels for year 2021 and beyond, and will likely result in a lower number of future ZEVs and a corresponding greater number of future gasoline internal combustion engine vehicles. In response to the USEPA's adoption of the SAFE Rule (Part One), CARB has issued guidance regarding the adjustment of vehicle emissions factors to account for the rule's implications on criteria air pollutant and greenhouse gas emissions.[8,9] The

[5] USEPA and NHTSA. 2016. Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles – Phase 2. Available at: https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf. Accessed: February 2022.

[6] NHTSA. 2018. Federal Register, Vol. 83, No. 72, Rules & Regulations, Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light Duty Vehicles. April 13. Available at: https://www.federalregister.gov/documents/2018/04/13/2018-07364/mid-term-evaluation-of-greenhouse-gas-emissions-standards-for-model-year-2022-2025-light-duty. Accessed: February 2022.

[7] USEPA and NHTSA. 2019. Federal Register, Vol. 84, No. 188, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. September 27. Available at: https://www.govinfo.gov/content/pkg/FR-2019-09-27/pdf/2019-20672.pdf. Accessed: February 2022.

[8] CARB. 2019. EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One. November 20. Available at: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf. Accessed: February 2022.

[9] CARB. 2020. EMFAC Off-Model Adjustment Factors for Carbon Dioxide Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule. June 26. Available at: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf. Accessed: February 2022.

SAFE Rule is subject to ongoing litigation and on February 8, 2021 the D.C. Circuit Court of Appeals granted the Biden Administration's motion to stay litigation over Part 1 of the SAFE Rule. On April 22 and April 28, 2021, respectively, NHTSA and USEPA formally announced their intent to reconsider the Safe Rule (Part One).[10] In August 2021, USEPA proposed to revise existing national greenhouse gas (GHG) emissions standards for passenger cars and light trucks for Model Years 2023- 2026 to make the standards more stringent. On August 5, 2021, USEPA announced plans to reduce greenhouse gas (GHG) emissions and other harmful air pollutants from heavy-duty trucks through a series of rulemakings over the next three years. The first rulemaking, to be finalized in 2022, will apply to heavy-duty vehicles starting in model year 2027, and will set new standards for criteria pollutants for the entire sector as well as targeted updates to the current GHG emissions standards.[11]

## STATE

### California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation and required additional actions beyond the federal mandates. The CARB administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 State air pollutants are the six pollutants subject to federal standards listed above as well as visibility reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The U.S. EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA. Generally, the planning requirements of the federal CAA are less stringent than the CCAA; therefore, consistency with the CCAA will also demonstrate consistency with the federal CAA.

### CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations that require auto manufacturers to phase in less-polluting vehicles.

[10] USEPA. 2021. Federal Register, Vol. 86, No. 80, California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a previous Withdrawal of a Waiver of Preemption; Opportunity for Public Hearing and Public Comment. April 28. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/notice-reconsideration-previous-withdrawal-waiver. Accessed: February 2022.

[11] USEPA. 2021. Clean Trucks Plan. https://www.epa.gov/regulations-emissions-vehicles-and-engines/clean-trucks-plan. Accessed: February 2022.

## California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-1.

## Tanner Air Toxics Act (TACs)

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA's list of Hazardous Air Pollutants (HAPs) as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

## Toxic Air Contaminants Health Effects

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the 10 TACs that pose the most substantial health risk in California based on available data. The 10 TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The CARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the CARB emissions inventory's $PM_{10}$ database, ambient $PM_{10}$ monitoring data, and the results from several studies to estimate concentrations of DPM.

## Transportation Control Measures

The State Implementation Plan (SIP) describes the infrastructure (authorities, resources, and programs) California has in place to implement, maintain, and enforce the NAAQS. One particular aspect of the development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

## Omnibus Low-NOx Rule

CARB approved the Omnibus Low-NOx Rule on August 28, 2020, which will require engine NOx emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty trucks and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NOx Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved that require manufacturers to convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

## Low Emission Vehicle Program

The CARB first adopted Low Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan (SIP). In 2012, the CARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more

stringent emission standards for model years 2017 through 2025 for both criteria pollutants and greenhouse gas (GHG) emissions for new passenger vehicles.

On September 23, 2020, Governor Gavin Newsom issued Executive Order N-79-20 establishing a goal that 100 percent of new passenger cars and trucks sold in California shall be zero-emission by 2035. The Executive Order also sets a goal that, where feasible, all operations include zero-emission medium- and heavy-duty trucks by 2045, and drayage trucks by 2035. Off-road vehicles have a goal to transition to 100 percent zero-emission vehicles by 2035, where feasible.

## On-Road Heavy-Duty Vehicle Program

The CARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures. The CARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.

## California Air Resources Board Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the CARB adopted a regulation to reduce DPM and NOx emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The CARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NOx emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014, for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

The latest amendments became effective on December 31, 2014. The amended regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter (PM) filter requirements beginning January 1, 2012. Lighter and older heavier trucks were required to be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating

low use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.[12]

### Diesel Risk Reduction Plan

The CARB's Diesel Risk Reduction Plan has led to the adoption of new State regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020.[13]

## 3.3.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

### APPROACH TO ANALYSIS

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, the SJVAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project would exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable SJVAPCD thresholds and methodologies are contained under each impact statement below, as the City, in its discretion, has determined to utilize these thresholds and methodologies, which are based on scientific and factual data.

[12] California Air Resources Board (CARB). 2021. Truck and Bus Regulation. Website: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed February 16, 2021.

[13] California Air Resources Board (CARB). 2021. Diesel Risk Reduction Plan. Website: https://ww2.arb.ca.gov/our-work/programs/diesel-risk-reduction-plan. Accessed February 16, 2021.

This analysis was performed consistent with the guidance and methodologies provided by the SJVAPCD's GAMAQI.[14] Based on the SJVAPCD New Source Review (NSR) offset requirements for stationary sources, the SJVAPCD has established thresholds of significance for criteria pollutant emissions, shown in Table 3.3-6. These thresholds apply to the project because these air pollutants would be generated during project construction and operation and constitute criteria pollutants or precursor emissions for criteria pollutants, which are regulated by the federal and State Clean Air Acts.

***TABLE 3.3-6: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT SIGNIFICANCE THRESHOLDS***

| *POLLUTANT* | *CONSTRUCTION THRESHOLDS (TPY)* | *OPERATIONAL THRESHOLDS (TPY)* |
|---|---|---|
| ROG | 10 | 10 |
| NOx | 10 | 10 |
| CO | 100 | 100 |
| SOx | 27 | 27 |
| $PM_{10}$ | 15 | 15 |
| $PM_{2.5}$ | 15 | 15 |

*SOURCES: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD). 2015. GUIDANCE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACT. WEBSITE: HTTPS://WWW.VALLEYAIR.ORG/TRANSPORTATION/CEQA%20RULES/GAMAQI%20JAN%202002%20REV.PDF ACCESSED JUNE 8, 2022.*

The SJVAPCD has also established significance thresholds to assess the impacts of project-related construction and operational emissions on regional and local ambient air quality. Table 3.3-7 shows the daily mass emissions screening criteria for construction and operation as adopted by the SJVAPCD for CAP and TAC emissions. The analysis summarized in this report estimates project-related construction and operational mass emissions and compares the emissions to these significance thresholds.

***TABLE 3.3-7: SJVAPCD DAILY MASS EMISSIONS SCREENING CRITERIA***

| *POLLUTANT* | *CONSTRUCTION THRESHOLDS (POUNDS PER DAY)* | *OPERATIONAL THRESHOLDS (POUNDS PER DAY)* |
|---|---|---|
| ROG | 100 | 100 |
| NOx | 100 | 100 |
| CO | 100 | 100 |
| SOx | 100 | 100 |
| $PM_{10}$ | 100 | 100 |
| $PM_{2.5}$ | 100 | 100 |

*SOURCES: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD). 2015. GUIDANCE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACT. WEBSITE: HTTPS://WWW.VALLEYAIR.ORG/TRANSPORTATION/CEQA%20RULES/GAMAQI%20JAN%202002%20REV.PDF ACCESSED*

[14] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impact. Website: https://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf Accessed June 8, 2022.

*JUNE 8, 2022.*

The daily mass emissions screening criteria provided in Table 3.3-7 represent screening-level thresholds that can be used to evaluate whether project-related emissions would cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. In the event that emissions exceed those thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels.

## CRITERIA POLLUTANT EMISSIONS MODELING

California Emission Estimator Model (CalEEMod)™ (v.2040.4.0), developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with California air districts, was used to estimate emissions for the proposed Project. Project construction was assumed to be completed in late 2024.

The assumptions for the modeling are: Unrefrigerated Warehouse – No Rail (543,330 square feet); Unrefrigerated Warehouse – No Rail (1,201,730 square feet); Other Asphalt Surfaces (60.19 acres). Vehicle trips and fleet mix estimated in the modeling are consistent with those as provided by Kimley Horn in its traffic analysis (see Appendix F for further detail). The construction phase includes site preparation, grading, building construction, paving, and architectural coating phases. See Appendix B.1 for further detail.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.3-1: Project operation would conflict or obstruct implementation of the District's air quality plan. (Significant and Unavoidable)

The CEQA Guidelines indicate that a significant impact would occur if the proposed Project would conflict with or obstruct implementation of the applicable Air Quality Attainment Plan (AQAP). The CARB has developed a three-step approach to determine project conformity with the applicable Air Quality Attainment Plan (AQAP):

- *Determination that an AQAP is being implemented in the area where the project is being proposed.*
- *The proposed project must be consistent with the growth assumptions of the applicable AQAP.*
- *The project must contain in its design all reasonably available and feasible air quality control measures.*

The proposed Project is in conformance with the AQAP, based on these criteria, as follows:

- *Determination that an AQAP is being implemented in the area where the project is being proposed.*

The SJVAPCD has implemented the current, modified 2016 8-hour AQAP as approved by CARB and approved by USEPA for the 2008 8-hour $O_3$ standard.

- *The proposed project must be consistent with the growth assumptions of the applicable AQAP.*

The SJCOG RTP/SCS growth projections provide for future employment/population factors. The development of the SJVAPCD AQAP is based in part on the land use general plan projections of the various cities and counties that constitute the Air Basin. The City of Tracy General Plan Land Use Element designates the Project site as Industrial, which is intended to accommodate flex/office space, manufacturing, warehousing and distribution, and ancillary uses for workers' needs. Therefore, the proposed Project, which involves the development of light industrial, warehouse and distribution and related uses, is considered consistent with the site's General Plan land use designation and its traffic would be included in volumes projected for analysis of the General Plan. The SJVAPCD AQP is based on the growth assumptions of the City of Tracy General Plan and SJCOG RTP/SCS. Since the Project is consistent with the SJCOG RTP/SCS, and SJCOG RTP/SCS projections are incorporated into the SIP, the Project is also consistent with the SIP.

- *The project must contain in its design all reasonably available and feasible air quality control measures.*

The Project incorporates various policy and rule-required implementation measures that would reduce related emissions, including all of the current Air District rules and regulations.[15] For example, the proposed Project would be required to implement Air District Rule 9510, which ensures that the Project would fulfill the Air District's emissions reduction commitments in the relevant $PM_{10}$ and Ozone Attainment plans. In addition, the Project would comply with all applicable stationary source permitting rules implemented by SJVAPCD, which further confirms the Project would not cause or contribute to any ambient air quality standard exceedances.

Nevertheless, for the sake of a conservative assessment, the proposed Project's potential impact is to this environmental topic is considered ***significant and unavoidable.*** Therefore, the proposed Project would be required to implement Mitigation Measure 3.3-1, as provided below.

### MITIGATION MEASURE(S)

***Mitigation Measure 3.3-1:*** *During Project operation, operators of heavy-duty trucks that travel to and from the Project site are required to use trucks that have 2010 model year or newer engines that meet the CARB's 2010 engine emission standards of 0.01 g/bhp-hr for particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions, or newer, cleaner trucks and equipment.*

[15] See here for further detail: https://www.valleyair.org/rules/1ruleslist.htm

## Impact 3.3-2: The proposed Project would result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard. (Significant and Unavoidable)

If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically exceeded the ambient air quality standard. It follows that if a Project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact.

The Air Basin is in nonattainment for $PM_{10}$, $PM_{2.5}$, and ozone. Therefore, if the proposed Project exceeds the regional thresholds for $PM_{10}$, or $PM_{2.5}$, then it would contribute to a cumulatively considerable impact for those pollutants. If the proposed Project exceeds the regional threshold for NOx or ROG (which are precursors to ozone), then it follows that the proposed Project would result in a cumulatively considerable contribution and thus result in a significant cumulative impact for ozone.

Regional emissions include those generated from all on-site and off-site activities. Regional significance thresholds have been established by the SJVAPCD because emissions from projects in the Air Basin can potentially contribute to the existing emission burden and possibly affect the attainment and maintenance of ambient air quality standards. Projects within the Air Basin with regional emissions that exceed any of the thresholds presented previously are considered to have a significant regional air quality impact.

### CONSTRUCTION EMISSIONS

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Construction-related activities would result in Project-generated emissions from site preparation, grading, paving, building construction, and architectural coatings. CalEEMod™ (v.2020.4.0) was used to estimate construction emissions for the proposed Project. Table 3.3-8, below, provides the construction criteria pollutant emissions and thresholds associated with implementation of the proposed Project. It should be noted that the SJVAPCD recommends the same criteria pollutant thresholds for both construction and operational emissions, as provided within the *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts* (2015).

***TABLE 3.3-8: CONSTRUCTION PROJECT GENERATED EMISSIONS (TONS PER YEAR)***

| ***POLLUTANT*** | *CO* | *NOX* | *ROG* | *SOX* | *$PM_{10}$* | *$PM_{2.5}$* |
|---|---|---|---|---|---|---|
| ***THRESHOLD*** | 100 | 10 | 10 | 27 | 15 | 15 |
| ***YEAR 2023*** | 5.6 | 4.8 | 0.7 | <0.1 | 2.6 | 1.1 |
| ***YEAR 2024*** | 4.1 | 2.1 | 5.1 | <0.1 | 1.3 | 0.4 |
| ***MAXIMUM EMISSIONS*** | 5.6 | 4.8 | 5.1 | 0.1 | 1.5 | 0.6 |
| ***EXCEEDS THRESHOLD?*** | **N** | **N** | **N** | **N** | **N** | **N** |

*SOURCES: CALEEMOD (V.2020.4.0)*

Additionally, the SJVAPCD has also developed daily mass emissions screening criteria for ROG, $NO_X$, CO, $SO_X$, $PM_{10}$, and $PM_{2.5}$ to determine whether project emissions would result in a violation of an AAQS. Because the NAAQS and CAAQS are concentration-based standards presented hourly, daily mass emissions are a more suitable estimate to determine whether a project would contribute to a violation of an AAQS. These screening criteria are 100 pounds per day for any pollutant. The following table (Table 3.3-9) provides the proposed Project's unmitigated construction emissions in pounds per day in comparison to this screening thresholds.

***TABLE 3.3-9: CONSTRUCTION PROJECT GENERATED EMISSIONS (POUNDS PER DAY)***

| ***POLLUTANT*** | *CO* | *NOX* | *ROG* | *SOX* | *$PM_{10}$* | *$PM_{2.5}$* |
|---|---|---|---|---|---|---|
| ***THRESHOLD (POUNDS/DAY)*** | 100 | 100 | 100 | 100 | 100 | 100 |
| ***YEAR 2023*** | 30.7 | 26.5 | 3.6 | 0.1 | 14.2 | 5.9 |
| ***YEAR 2024*** | 22.4 | 11.5 | 28.1 | 0.1 | 7.2 | 2.1 |
| ***MAXIMUM EMISSIONS*** | 30.7 | 26.5 | 28.1 | 0.1 | 14.2 | 5.9 |
| ***EXCEEDS THRESHOLD?*** | **N** | **N** | **N** | **N** | **N** | **N** |

*SOURCES: CALEEMOD (V.2020.4.0)*

If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for construction-generated emissions, the proposed Project would have a significant impact on air quality. As shown in Table 3.3-8, the proposed Project, without mitigation, would not exceed the SJVAPCD thresholds of significance for construction criteria pollutants. Additionally, as shown in Table 3.3-9, the proposed Project would not exceed the daily mass screening criteria thresholds during Project construction. Therefore, the Project's construction-related criteria pollutant emissions would be considered to have a ***less than significant*** impact, and no mitigation for construction-related criteria pollutant emissions is warranted.

### OPERATIONAL EMISSIONS

The SJVAPCD is tasked with implementing programs and regulations required by the Federal Clean Air Act and the California Clean Air Act. In that capacity, the SJVAPCD has prepared plans to attain Federal and State ambient air quality standards. To achieve attainment with the standards, the SJVAPCD has established thresholds of significance for criteria pollutant emissions in its *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts* (2015). Projects with emissions below the thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan", and also to not have a cumulatively considerable net increase of a criteria pollutant for which the project region is in non-attainment. If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation measures are required to be implemented to reduce emissions to below the threshold of significance, to the extent feasible.

A main source of pollution generated by the proposed Project would be due to the generation of mobile source emissions by vehicles traveling to and from the Project site. According to Kimley Horn

(as provided by the Traffic Analysis prepared for the proposed Project), the proposed Project is anticipated to generate approximately 2,576 passenger vehicle trips and 1,224 heavy-duty truck trips per day.

CalEEMod™ (v.2020.4.0) was used to model operational emissions of the proposed Project. The SJVAPCD provides a list of applicable air quality emissions thresholds. Table 3.3-10 shows proposed Project emissions as provided by CalEEMod. As shown in Table 3.3-10 below, unmitigated operational emissions would exceed the SJVACPD thresholds of significance for NOx.

***TABLE 3.3-10: OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR) - UNMITIGATED***

| ***POLLUTANT*** | *CO* | *NOX* | *ROG* | *SOX* | *$PM_{10}$* | *$PM_{2.5}$* |
|---|---|---|---|---|---|---|
| ***THRESHOLD*** | 100 | 10 | 10 | 27 | 15 | 15 |
| ***EMISSIONS*** | 12.5 | 17.4 | 8.3 | 0.1 | 5.9 | 1.7 |
| ***EXCEEDS THRESHOLD?*** | **N** | **Y** | **N** | **N** | **N** | **N** |

*SOURCES: CALEEMOD (V.2020.4.0)*

Additionally, the SJVAPCD has also developed daily mass emissions screening criteria for ROG, $NO_X$, CO, $SO_X$, $PM_{10}$, and $PM_{2.5}$ to determine whether project emissions would result in a violation of an AAQS. Because the NAAQS and CAAQS are concentration-based standards presented hourly, daily mass emissions are a more suitable estimate to determine whether a project would contribute to a violation of an AAQS. These screening criteria are 100 pounds per day for any pollutant. The following table (Table 3.3-11) provides the proposed Project's unmitigated operational emissions in pounds per day in comparison to this screening thresholds. As shown in Table 3.3-11, under the unmitigated scenario, the proposed Project's operational emissions would not exceed any of the daily mass screening criteria thresholds.

***TABLE 3.3-11: OPERATIONAL PROJECT GENERATED EMISSIONS (POUNDS PER DAY) - UNMITIGATED***

| ***POLLUTANT*** | *CO* | *NOX* | *ROG* | *SOX* | *$PM_{10}$* | *$PM_{2.5}$* |
|---|---|---|---|---|---|---|
| ***THRESHOLD (POUNDS/DAY)*** | 100 | 100 | 100 | 100 | 100 | 100 |
| ***EMISSIONS*** | 68.5 | 95.4 | 45.6 | 0.5 | 32.2 | 9.4 |
| ***EXCEEDS THRESHOLD?*** | **N** | **N** | **N** | **N** | **N** | **N** |

*SOURCES: CALEEMOD (V.2020.4.0)*

Proposed Project mitigated operational emissions are shown in Table 3.3-12 based on implementation of SJVAPCD Rule 9510. While compliance with SJVAPCD Rule 9510 is regulatorily required, the rule itself is an indirect source rule designed to achieve emission reductions from development projects. Thus, it is included here to represent the SJVAPCD regulatory requirement to mitigate the operational emissions.[16] The proposed Project would also be required to implement Mitigation Measure 3.3-1, as provided under Impact 3.3-1. However, due to the difficulty in modeling the emissions (i.e. NOx emissions) reductions that would occur due to implementation of

[16] The NOx emissions were adjusted to reflect the 33.3% reduction required, per compliance with Air District Rule 9510.

Mitigation Measure 3.3-1, and for the sake of a conservative analysis, the emissions reductions associated with Mitigation Measure 3.3-1 were not modeled. There are no further mitigation measures identified and thus Table 3.3-12 provides a conservative estimate of the operational emissions results for the proposed Project.

***TABLE 3.3-12: OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR) - MITIGATED***

| ***POLLUTANT*** | *CO* | *NOX* | *ROG* | *SOX* | *$PM_{10}$* | *$PM_{2.5}$* |
|---|---|---|---|---|---|---|
| ***THRESHOLD*** | 100 | 10 | 10 | 27 | 15 | 15 |
| ***EMISSIONS*** | 12.5 | 11.6 | 8.3 | 0.1 | 5.9 | 1.7 |
| ***EXCEEDS THRESHOLD?*** | **N** | **Y** | **N** | **N** | **N** | **N** |

*SOURCES: CALEEMOD (V.2020.4.0)*

The emission estimates provided in Table 3.3-12 demonstrate a reasonable worst-case scenario for Project operation. Because the operational emissions shown therein would exceed the SJVAPCD's significance thresholds for NOx, this impact would remain ***significant and unavoidable***.

### PROJECT DESIGN FEATURE (REGULATORY COMPLIANCE)

In accordance with SJVAPCD Rule 9510, an Air Impact Assessment (AIA) shall be prepared based on the applicability and exemption criteria of the rule.[17] The rule includes general mitigation requirements for construction and/or operational emissions. Per the general mitigation requirements of Rule 9510, the Project shall reduce the project's operational baseline NOx emissions 33.3% over a period of ten years as quantified in the approved AIA. The project shall pay any off-site fees in full by the invoice due date or prior to generating the emissions associated with the Project or any phase thereof, whichever occurs first.

### CONCLUSION

Criteria pollutant emissions generated by the proposed Project during operation would exceed applicable thresholds after compliance with all rules and regulations, even after implementation of Mitigation Measure 3.3-1. Therefore, this impact would be ***significant and unavoidable***.

### MITIGATION MEASURE(S)

*Implement Mitigation Measure 3.3-1.*

## Impact 3.3-3: The proposed Project would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

### TOXIC AIR CONTAMINANTS

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or

[17] Available at: https://www.valleyair.org/rules/currntrules/r9510-a.pdf. Accessed: September 2022.

cardiovascular illness. The SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. There are no traditional sensitive receptors such as residences, convalescent facilities, or schools that are proposed as part of the proposed Project. The closest sensitive receptors to the Project are located as follows:

- A cluster of farmhouses/residences is located along the western portion of the Project site, adjacent to the Project site;
- A cluster of residences is located approximately 2,000 feet to the southwest of the Project site;
- Additional scattered residences are located approximately 2,200 to 3,000 feet to the south and southwest of the Project site;
- Residences are located approximately 900 feet to the southeast of the Project site; and
- An additional residence is located approximately 2,650 feet to the southeast of the Project site.

Heavy-duty trucks are a common source of Diesel Particulate Matter (DPM), in contrast to passenger vehicles (such as light-duty cars and trucks). The inhalation of DPM generates cancer and non-cancer health risks, especially where concentrations are chronically elevated for long periods of time, and for younger sensitive receptors. Additionally, Truck Refrigeration Units (TRUs) are expected to be in use on approximately 15% of the heavy-duty trucks that travel to and from the Project site for building 2 (the warehouse for high turnover merchandise sold at warehouse stores and as a pallet repair and a Return to Vendor (RTV) facility), and no trucks for building 1 (the regional ecommerce fulfillment distribution center primarily for large and bulky items).

The SJVAPCD's GAMAQI (SJVAPCD, 2015) includes procedures for evaluating hazardous air pollutants. Based on the guidance provided in the GAMAQI, an air toxics health impact analysis has been prepared for the proposed Project to analyze the Project's anticipated impacts from the heavy-duty diesel trucks generated by the Project. Specifically, the source of TACs for this type of Project can be attributed to diesel exhaust from the trucks (including from truck refrigeration units, or TRUs).

An air toxics health risk assessment was conducted utilizing Lakes Environmental Software AERMOD and the CARB's Hotspots Analysis Reporting Program Version 2 (HARP 2) Air Dispersion, Modelling, and Risk Tool (ADMRT) for the DPM associated with the heavy-duty trucks (including from the truck TRUs). Truck idling, truck on-site mobile, and TRU DPM emissions were calculated. The maximum residential (70-year exposure) cancer, workplace (40-year exposure) cancer, chronic (non-cancer), and acute (non-cancer) risks were assessed and compared to SVJAPCD thresholds. See Appendix B.3 for full model inputs. Table 3.3-10 summarizes the results of the analysis.

***TABLE 3.3-10: SUMMARY OF MAXIMUM HEALTH RISKS***

| *RISK METRIC* | *MAXIMUM RISK* | *SIGNIFICANCE THRESHOLD* | *IS THRESHOLD EXCEEDED?* |
|---|---|---|---|
| Residential Cancer Risk (70-year exposure) | 0.52 | 20 per million | No |
| Workplace Cancer Risk (40-year exposure) | 0.72 | 20 per million | No |
| Chronic (non-cancer) | <0.01 | Hazard Index ≥1 | No |
| Acute (non-cancer) [1] | 0 | Hazard Index ≥1 | No |

*SOURCES: AERMOD (LAKES ENVIRONMENTAL SOFTWARE, 2022); AND HARP-2 AIR DISPERSION AND RISK TOOL.*

The maximum residential cancer risk would occur at a residence located on Hansen Road, to the west of the Project site. As shown in Table 3.3-10 above, the proposed Project, in and of itself, would not result in a significant increased exposure of receptors to localized concentrations of TACs. Risk of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SJVAPCD TAC thresholds. Therefore, implementation of the proposed Project would cause a ***less than significant*** impact relative to this topic since it is under the threshold established by the SJVAPCD.

### VALLEY FEVER

Valley Fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, Coccidioides immitis (C. immitis). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley Fever. By geographic region, hospitalizations for Valley Fever in the San Joaquin Valley increased from 230 (6.9 per 100,000 population) in 2000 to 701 (17.7 per 100,000 population) in 2007. Within the region, Kern County reported the highest hospitalization rates, increasing from 121 (18.2 per 100,000 population) in 2000 to 285 (34.9 per 100,000 population) in 2007, and peaking in 2005 at 353 hospitalizations (45.8 per 100,000 population). The Centers for Disease Control and Prevention indicates that 752 of the 8,657 persons (8.7 percent) hospitalized in California between 2000 and 2007 for Valley Fever died.[18]

The distribution of C. immitis within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for C. immitis growth. Avoidance, when feasible, of sites favorable for the occurrence of

[18] The Centers for Disease Control and Prevent (CDC). 2009. Increase in Coccidioidomycosis – California, 2000-2007. February 13. Website: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5805a1.htm. Accessed June 8, 2022.

C. immitis is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of C. immitis:[19]

1. Rodent burrows (often a favorable site for C. immitis, perhaps because temperatures are more moderate and humidity higher than on the ground surface).
2. Prehistoric Indian campsites near fire pits.
3. Areas with sparse vegetation and alkaline soils.
4. Areas with high salinity soils.
5. Areas adjacent to arroyos (where residual moisture may be available).
6. Packrat middens.
7. Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils.
8. Sandy well aerated soil with relatively high-water holding capacities.

Sites within endemic areas less favorable for the occurrence of C. immitis include:

1. Cultivated fields
2. Heavily vegetated areas (e.g., grassy lawns)
3. Higher elevations (above 7,000 feet)
4. Areas where commercial fertilizers (e.g., ammonium sulfate) have been applied
5. Areas that are continually wet
6. Paved (asphalt or concrete) or oiled areas
7. Soils containing abundant microorganisms
8. Heavily urbanized areas where there is little undisturbed virgin soil

The Project site is relatively undeveloped and is surround by undeveloped, agricultural, industrial, and residential land uses which are semi-rural to urban in character. Because the majority of the Project site and the immediately surrounding vicinity consists of urbanized development or cultivated fields, the Project site is an area that would lead to a low probability of having C. immitis growth sites and exposure from disturbed soil.

Construction activities would generate fugitive dust that could contain C. immitis spores. The proposed Project would be required to minimize the generation of fugitive dust during construction activities by complying with the SJVAPCD's District Rule 8021. District Rule 8021 requires limitation of fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities, by implementing control measures such as pre-watering the Project site, phasing construction work to reduce the amount of disturbed surface at any one time, and applying water or other suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas. Therefore, this regulation would ensure that Valley Fever impacts during construction are less than significant.

[19] United States Geological Survey (USGS). 2000. Operational Guidelines (Version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever). Website: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.486.1526&rep=rep1&type=pdf. Accessed June 8, 2022.

During operations, dust emissions are anticipated to be negligible, because the Project site would be occupied by buildings, pavement, and landscaped areas after construction is complete. Therefore, Project operations would not occur on undeveloped sites and dust emissions typically associated with activity on unpaved surfaces would be negligible. This condition would preclude the possibility of the proposed Project from generating significant fugitive dust that may contribute to Valley Fever exposure. Impacts would be ***less than significant***.

ASBESTOS AND LEAD-BASED PAINT EXPOSURE

According to a map of areas where naturally occurring asbestos in California are likely to occur, there are no such areas in the vicinity of the Project site.[20] Therefore, development of the proposed Project is not anticipated to expose receptors to naturally occurring asbestos. This impact would be ***less than significant***.

## Impact 3.3-4: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people. (Less than Significant)

The following text addresses odors. Other emissions (including criteria pollutants and TACs) are addressed in Impacts 3.3-1 through 3.3-4.

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. The general nuisance rule (Health and Safety Code §41700) is the basis for the threshold.

Examples of facilities that are known producers of odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant.

If a project proposes to locate receptors and known odor sources in proximity to each other, further analysis may be warranted. However, if a project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted. The proposed Project does not include new industrial uses that are not already present in the vicinity of the Project site. There is a residence located near to the Project site to the west; however, it is proposed to be removed. Moreover, since the proposed Project would not be a source of offensive odors, sensitive receptors located near to the Project site would not be exposed by the Project to significant odors that would affect a substantial number of people. Air district Rule 402 prohibits any mobile or stationary source generating an objectionable odor, with the exception of odors emanating from certain agricultural operations. The California Health and Safety Code §41700 and Air District Rule

[20] United States Geological Survey (USGS). 2011. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. Website: https://pubs.usgs.gov/of/2011/1188/. Accessed June 8, 2022.

402 prohibit emissions of air contaminants from any source that cause nuisance or annoyance to a considerable number of people or that present a threat to public health or cause property damage. Compliance with these rules would preclude land uses proposed under the proposed Project from emitting objectionable odors.

### CONCLUSION

The proposed Project does not propose uses that would create new odors that would adversely affect a substantial number of people. The proposed Project also does not introduce any new sensitive receptors. Therefore, operation of the proposed Project would not result in significant objectionable odors. Impacts associated with exposure to odors would be ***less than significant.***

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This section describes the regulatory setting, regional biological resources, and impacts that are likely to result from Project implementation. The analysis contained in this section is intended to be at a Project-level, and covers impacts associated with the conversion of the entire site to an urban use. This section is based in part on the following technical studies: *San Joaquin County General Plan* (San Joaquin County, 2016), *City of Tracy General Plan* (City of Tracy, 2011), *City of Tracy General Plan EIR* (City of Tracy, 2011), the *Costco E-Commerce Facility Phase I Environmental Site Assessment (ESA)* (Kleinfelder, April 2018), as well as a site-specific survey (2020) and analysis.

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

## KEY TERMS

The following key terms are used throughout this section to describe biological resources and the framework that regulates them:

**Hydric Soils.** One of the three wetland identification parameters, according to the Federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

**Hydrophytic Vegetation.** Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails, bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

**Sensitive Natural Community.** A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or Federal agencies. The California Environmental Quality Act (CEQA) identifies the elimination or substantial degradation of such communities as a significant impact. The California Department of Fish and Wildlife (CDFW) tracks sensitive natural communities in the California Natural Diversity Database (CNDDB).

**Special-Status Species.** Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by Federal, State, or other agencies. Some of these species receive specific protection that is defined by Federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term “special status” includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);

- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed for listing under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the USFWS or the CDFW as a species of concern (USFWS), rare (CDFW), or of special concern (CDFW);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

**Waters of the U.S.** The Federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the U.S. Army Corps of Engineers (USACE) as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

**Wetlands.** Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The Federal government defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to waters of the U.S.

## METHODS

### Pre-Field Investigation

Prior to the field investigation, numerous maps, databases, and reports were reviewed including:

- U.S. Geological Survey (USGS) 7.5-minute Quadrangle
- USGS National Hydrography Data Set
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps
- National Resource Conservation Service (NRCS) Soil Survey
- California Wildlife Habitat Relationships (CWHR) maps
- California Natural Diversity Database (CNDDB)
- California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants
- U.S. Fish and Wildlife Service’s (USFWS) IPac
- U.S. Fish and Wildlife Service’s (USFWS) Official List

### Field Survey

The Project site was subject to a field survey by Principal Biologist Steve McMurtry on April 16, 2020. The site reconnaissance survey served several purposes. First, it served as reconnaissance of the site to establish the existing conditions of the site and to verify information gathered in the pre-field investigation. This included identification of the habitat types, hydrologic features, topography, soil characteristics, and vegetation. The field investigations followed the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009). Habitat was recorded. Visibility during each survey was excellent.

## 3.4.1 ENVIRONMENTAL SETTING

### GEOMORPHIC PROVINCES/BIOREGION

The City of Tracy is located in the western portion of the Great Valley Geomorphic Province of California. The Great Valley Geomorphic Province is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The San Joaquin River is located just south and west of the City. This major river drains the Great Valley Province into the San Joaquin Delta to the north, ultimately discharging into the San Francisco Bay to the northwest.

The City of Tracy is located within the San Joaquin Valley Bioregion, which is comprised of Kings County, most of Fresno, Kern, Merced, and Stanislaus counties, and portions of Madera, San Luis Obispo, and Tulare counties. The San Joaquin Valley Bioregion is the third most populous out of ten bioregions in the state, with an estimated 2 million people. The largest cities within this Bioregion are Fresno, Bakersfield, Modesto, and Stockton. Interstate 5 and State Route 99 are the major north-south roads that run the entire length of the bioregion.

The bioregion is bordered on the west by the coastal mountain ranges. Its eastern boundary joins the southern two-thirds of the Sierra bioregion, which features Yosemite, Kings Canyon, and Sequoia National Parks. At its northern end, the San Joaquin Valley bioregion borders the southern end of the Sacramento Valley bioregion. To the west, south, and east, the bioregion extends to the edges of the valley floor.

Habitat in the bioregion includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannah. Historically, millions of acres of wetlands flourished in the bioregion, but stream diversions for irrigation dried all but about five percent. Remnants of the wetland habitats are protected in this bioregion in publicly owned parks, reserves, and wildlife areas. The bioregion is considered the state's top agricultural producing region with the abundance of fertile soil.

### LOCAL SETTING

The Project site is located in the western portion of the City of Tracy's Sphere of Influence (SOI) 10-Year Planning Horizon, within the unincorporated area of San Joaquin County. The Project site is located northwest of I-580, approximately 4.75 miles southwest of Tracy City Hall, and directly south of the Cordes Ranch Specific Plan. The Project site is relatively flat and ranges in elevation from approximately 148 to 187 feet above sea level.

The Project site encompasses approximately 104.36 acres of undeveloped land previously used for agricultural purposes. As a result of site disturbance associated with the previous agricultural operations, there is little native vegetation or naturalized habitat located on the site, and the flat topography of the site renders the site essentially void of prominent natural features. There are no trees or light sources on-site. Additionally, there are no rivers, streams, or other aquatic habitats located on the Project site.

The Project site is surrounded by a variety of undeveloped and existing developed land uses. The parcel to the west of the Project site is currently undeveloped agricultural land with a ranch-style house, detached garages, barns, and sheds in the southern portion of the parcel. A fenced utility substation is located along West Schulte Road, north of the ranch-style homes and associated buildings. The Delta Mendota Canal borders the Project site on the south and the parcels to the south across the canal are designated for agricultural uses by the San Joaquin County General Plan. There is additional undeveloped agricultural land bordering the site to the east, as well as a glassware manufacturer and the Tracy Biomass Plant (approximately ½ mile) to the east past the agricultural land. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

The Project site was historically used as an orchard from 1937 to 1982, and from 1993 to 2012, the Project site appeared to be used instead for low-lying crops (Kleinfelder, April 2018). Agricultural areas, including the Project site, are generally flat and well drained, and as a result are well suited for many crops. Alfalfa fields, hay, row crops, orchards, annual grasslands, cattle pasture, and dairies dominate the agricultural areas in the region. Agricultural fields commonly have irrigation canals, ditches, and stock ponds that serve as a water source or drainage for the fields and habitat for a limited variety of plants and animals. The San Luis & Delta-Mendota Water Authority (SLDMWA) provided water supply for the agricultural uses from the Delta Mendota Canal, which generally runs conterminous with the Project site. The SLDMWA maintains an easement for underground pipelines and there are irrigation valves noted near the southeastern portion of the Project site (Kleinfelder, April 2018).

## CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

The California Wildlife Habitat Relationship (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.

The Project site is considered to have low biological diversity due to the conversion of the native habitat of the site for historical agricultural production. According to the California Wildlife Habitat Relationship System there are five cover types (wildlife habitat classifications) in the Project site out of 59 found in the State. The majority of the Project site is labeled deciduous orchard and dryland grain crops with only small portions of the site labeled pasture, irrigated row and field crops, and evergreen orchard. It is noted that there are no orchards currently on the project site, although

orchards were historically planted on the project site. Figure 3.4-1 illustrates the land cover type map for the Project site and below is a brief description of these CWHR habitats.

**Deciduous Orchard** are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 ft, but may be 10 ft or less depending on the species. Crowns usually touch, and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Deciduous orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. Though some deciduous orchards are non-irrigated, most are irrigated. Some flat soils are flood irrigated, but many deciduous orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most deciduous orchards are in valley or foothill areas, with a few, such as, apples and pears, up to 3,000 feet elevation.

**Dryland Drain Crop** habitats are often located on flat to gently rolling terrain. When flat terrain is put into crop production, it usually is leveled to facilitate irrigation. Rolling terrain is either dry farmed or irrigated by sprinklers. Vegetation in the dryland (nonirrigated) grain and seed crops habitat includes seed producing grasses, primarily barley, cereal rye, oats, and wheat. These seed and grain crops are annuals. They are usually planted by drilling in rows which produce solid stands, forming 100 percent canopy at maturity in good stands. They are normally planted in fall and harvested in spring. However, they may be planted in rotation with other irrigated crops and winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in late spring.

**Pastures** are planted on flat and gently rolling terrain. Flat terrain is irrigated by the border and check method of irrigation, except on sandy soils or where water supplies are limited. Pastures established on sandy soils or hills are sprinklered. Hilly lands also use wild flooding; that is, ditches that follow the grade along ridges and hillsides, where water is released at selected points along the ditch. Climate influences the length of the growing season. For example, pastures at higher elevations or in the north have a shorter growing season.

**Irrigated Row and Field Crops** include a variety of sizes, shapes and growing patterns. Cotton and asparagus can be three or four feet tall while others may be a foot or less high. Most irrigated row and field crops are grown in rows. Some may form 100 percent canopy while others may have significant bare areas between rows. Most are annuals, while others, such as asparagus and strawberries are perennial. The annuals are usually planted in spring and harvested in summer or fall. However, they may be planted in rotation with other irrigated crops and sometimes winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in the late spring. In some areas of southern California three crops may be grown in a year**.**

**Evergreen Orchard** are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate

harvest. Trees range in height at maturity for many species from 15 to 30 ft, but may be 10 ft or less depending on the species. Crowns often do not touch, and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Evergreen orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Some flat soils are flood irrigated, but most evergreen orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most evergreen orchards are in valley or foothill areas. Except for olive, most evergreen orchard trees are not very frost tolerant.

## SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service's (USFWS) records of listed endangered and threatened species from the IPAC database. The background search was regional in scope and focused on the documented occurrences within 10 miles (9 quad) of the Project site. Table 3.4-1 provides a list of special-status plants and Table 3.4-2 provides a list of special-status animals. Figure 3.4-2 presents the documented occurrences within 10 miles (9 quad) of the Project site. The presence determinations were made by principal biologist, Steve McMurtry (De Novo Planning Group, 2020) and are based on the site survey, review of on-site habitat conditions, and the CNDDB results.

***TABLE 3.4-1: SPECIAL-STATUS PLANT SPECIES WHICH MAY OCCUR IN PROJECT AREA***

| *SPECIES* | *STATUS (FED./CA/ CNPS/SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT AND BLOOMING PERIOD* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| Sharsmith's onion *Allium sharsmithiae* | --/--/1B.3/No | Native to California found in Alameda, San Joaquin, Stanislaus, and Santa Clara Counties within the Coast Ranges | Foothill woodland. March – May. | Not expected to occur; no suitable habitat. |
| Large-flowered fiddleneck *Amsinckia grandiflora* | E/E/1B.1/Yes | Native to California found in Contra Costa, Alameda, and San Joaquin Counties | Found in grasslands; it grows on sedimentary loam in mesic areas of its range. April - May | Low potential to occur; marginal habitat present along less disturbed field edges; No CNDDB records within 3 miles of the site. |
| Contra Costa manzanita *Arctostaphylos manzanita ssp. laevigata* | --/--/1B.2/No | Native to California found in San Joaquin, Contra Costa, Santa Rosa, Mendocino, and Yolo Counties. | Chaparral. 490 to 590 m January - March | Not expected to occur; outside elevation range. |
| Alkali milk-vetch *Astragalus tener var. tener* | --/--/1B.2/Yes | Eastern San Francisco Bay region, the Delta, and western San Joaquin Valley south to the lower Salinas and San Benito valleys | Grassy alkaline flats and vernally moist meadows at elevations below 500 ft. March-June | Not expected to occur; no suitable habitat and no CNDDB records within 3 miles of the site. |
| Heartscale *Atriplex cordulata var. cordulata* | --/--/1B.2/Yes | Central Valley and interior valleys of the Coast Range from Butte to Kern counties. | Saline or alkaline sandy soils in grassland or saltbush scrub. March-October | Not expected to occur; no suitable habitat. |
| Brittlescale *Atriplex depressa* | --/--/1B.2/Yes | Western and eastern Central Valley and adjacent foothills on west side of Central Valley | Alkaline clay soils in chenopod scrub, playa, valley and foothill grasslands; below 320 m. May-October | Not expected to occur; no suitable habitat and no CNDDB records within 3 miles of the site. |
| Lesser saltscale *Atriplex minuscula* | --/--/1B.1/No | Scattered locations in the Central Valley in Alameda, Butte, Fresno, Kings, Kern, Madera, Merced, Stanislaus, Tulare counties | Alkaline, sandy soils. Chenopod scrub, playas, valley and foothill grassland. May-October | Not expected to occur; no CNDDB occurrences in San Joaquin County. |
| Big-scale balsam root *Balsamorhiza macrolepis* | --/--/1B.2/No | Native to California. Scattered locations in Northern California, including the San Francisco Bay area, Coastal Ranges, Sierra foothills, and Sacramento Valley. | Valley Grassland, Foothill Woodland. 350 to 1710 m. March – June. | Not expected to occur; outside elevation range. |
| Big tarplant *Blepharizonia plumosa* | --/--/1B.1/No | San Francisco Bay area with occurrences in Alameda, Contra Costa, San Joaquin, Stanislaus, and Solano Counties | Valley and foothill grassland; 30-505 m. July-Oct. | Low potential to occur; marginal habitat present along less disturbed field edges; CNDDB records within 1 mile of the site. |

| *SPECIES* | *STATUS (FED./CA/ CNPS/SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT AND BLOOMING PERIOD* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| Mt. Diablo fairy-lantern *Calochortus pulchellus* | --/--/1B.2/No | San Francisco Bay area with occurrences in Alameda, Contra Costa, San Joaquin, Santa Clara, and Solano Counties. | Chaparral, Valley Grassland, Foothill Woodland. 140 to 790 m. April - June | Not expected to occur; outside elevation range. |
| Chaparral harebell *Campanula exigua* | --/--/1B.2/No | Native to California, Southeast San Francisco Bay area and Coastal Ranges from Contra Costa County southeast to Fresno County. | Chaparral. 260 to 1370 m. May – June. | Not expected to occur; no suitable habitat and outside elevation range. |
| Lemmon's jewelflower *Caulanthus lemmonii* | --/--/1B.2/No | Southeast San Francisco Bay area, south through the south Coast Ranges and adjacent San Joaquin Valley | Dry exposed slopes in grasslands and pinyon-juniper woodland; 80-1,220 m. March-May | Not expected to occur; outside elevation range. |
| Congdon's tarplant *Centromadia parryi ssp. congdonii* | --/--/1B.1/ | Inner Coast Ranges, east and south San Francisco Bay: Alameda, Contra Costa, Santa Clara, San Joaquin, Solano, Santa Cruz, Monterey County, and San Luis Obispo Counties | Occurs in wetlands and non-wetland valley grassland. May – October | Low potential to occur; marginal habitat present along less disturbed field edges; No CNDDB records within 3 mile of the site. |
| Dwarf soaproot *Chlorogalum pomeridianum var. minus* | --/--/1B.2/No | Scattered along the foothills of the Coastal Ranges and Mendocino National Forest, with occurrences in Tehama, Glenn, Colusa, Napa, Lake, Santa Clara, San Joaquin, and Santa Clara Counties | Chaparral. Serpentine. 120-1220 m. May – August. | Not expected to occur; no suitable habitat and outside elevation range. |
| Hispid salty bird's-beak *Chloropyron molle ssp. hispidum* | --/--/1B.1/No | Scattered locations throughout the Central and Sacramento Valley | Alkali sink, Valley Grassland, wetland-riparian habitats. 0 to 30 m. June – September | Not expected to occur; no suitable habitat and only one CNDDB record in the 9-quad region of the Project site over 15 miles from the site. |
| Palmate-bracted bird's-beak *Chloropyron palmatum* | E/E/1B.1/No | Scattered locations in Fresno and Madera counties in the San Joaquin Valley, San Joaquin, Yolo, and Colusa counties in the Sacramento Valley, and the Livermore Valley area of Alameda County | Saline-alkaline soils in seasonally-flooded lowland plains and basins at elevations of less than 500 feet. May-October | Not expected to occur; no suitable habitat and no CNDDB records within 3 miles of the site. |
| Mt. Hamilton thistle *Cirsium fontinale var. campylon* | --/--/1B.2/No | Native to California, southeast San Francisco Bay area and Coastal Ranges with occurrences in Contra Costa, Alameda, San Joaquin, Stanislaus, Santa Clara, and San Benito Counties. | Chaparral, Valley Grassland, Foothill Woodland, wetland-riparian habitats. 130 to 880 m. April – October. | Not expected to occur; outside elevation range. |
| Santa Clara red ribbons *Clarkia concinna ssp. automixa* | --/--/4.3/No | Native to California. San Francisco Bay area and Coastal Ranges with occurrences in Contra Costa, Alameda, Santa Clara, San Mateo, Santa Cruz, and San Joaquin Counties | Foothill Woodland habitat. 220 to 1240 m. May – June | Not expected to occur; no suitable habitat and outside elevation range. |

| *SPECIES* | *STATUS (FED./CA/ CNPS/SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT AND BLOOMING PERIOD* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| Livermore tarplant *Deinandra bacigalupii* | --/E/1B.1/No | Only three known occurrences within 90 acres of the Livermore Valley in Alameda County. | Sensitive alkali meadows and grasslands. June – October | Not expected to occur; no suitable habitat. |
| Hospital Canyon larkspur *Delphinium californicum ssp. interius* | --/--/1B.2/Yes | Inner Coast Ranges, east San Francisco Bay: Alameda, Contra Costa, Merced, San Benito, Santa Clara, San Joaquin, and San Luis Obispo Counties | Openings in chaparral, cismontane woodland on moist slopes and ravines; 230-1,100 m. April-June | Not expected to occur; outside elevation range. |
| Recurved larkspur *Delphinium recurvatum* | --/--/1B.2/Yes | Central Valley from Colusa to Kern Counties | Alkaline soils in saltbush scrub, cismontane woodland, valley and foothill grassland; 3-750 m. Blooming Period March – May | Low potential to occur; marginal habitat present on-site; No CNDDB records within 3 miles of the site. |
| Tracy's eriastrum *Eriastrum tracyi* | --/R/3.2/No | Scattered occurrences in Colusa, Fresno, Glenn, Kern, Lake, Santa Clara, Shasta, Stanislaus, Tehama, Trinity, and Tulare Counties. | Chaparral, Cismontane Woodland, Valley and Foothill Grassland. 315 to 1780 m. June – July | Not expected to occur; no suitable habitat. |
| Spiny-sepaled button-celery *Eryngium spinosepalum* | --/--/1B.2/No | Contra Costa, Fresno, Kern, Madera, Merced, San Luis Obispo, Stanislaus, Tulare, and Tuolumne Counties. | Valley and foothill grassland, Vernal pools. 80 to 975 meters. Apr – June. | Not expected to occur; no suitable habitat. |
| diamond-petaled California poppy *Eschscholzia rhombipetala* | --/--/1B.1/Yes | Interior foothills of south Coast Ranges from Contra Costa to Stanislaus Counties, Carrizo Plain in San Luis Obispo County | Grassland, chenopod scrub, on clay soils where grass cover is sparse enough to allow growth of low annuals; below 975 m. March-April | Low potential to occur; marginal habitat present along less disturbed field edges; No CNDDB records within 3 miles of the site. |
| San Joaquin spearscale *Extriplex joaquinana* | --/--/1B.2/No | Delta region, central valley and central coast | Alkaline. Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland. April-October | Low potential to occur; marginal habitat present along less disturbed field edges; No CNDDB records within 5 miles of the site. |
| Stinkbells *Fritillaria agrestis* | --/--/4.2/No | Occurrences throughout California, including Alameda, Contra Costa, Fresno, Kern, Mendocino, Merced, Monterey, Mariposa, Placer, Sacramento, Santa Barbara, San Benito, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo, Stanislaus, Tuolumne, Ventura, and Yuba Counties. | Chaparral, Cismontane woodland, Pinyon and juniper woodland, valley and foothill grassland. 10 to 1555 m. March – June. | Low potential to occur; marginal habitat present along less disturbed field edges; No CNDDB records within 10 miles of the site. |

| *SPECIES* | *STATUS (FED./CA/ CNPS/SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT AND BLOOMING PERIOD* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| Talus fritillary *Fritillaria falcata* | --/--/1B.2/No | southeast San Francisco Bay area and Coastal Ranges with occurrences in Alameda, Monterey, San Benito, Santa Clara, Stanislaus Counties. | Serpentinite, often talus. Chaparral, cismontane woodland, lower montane coniferous forest. 300 to 1525 m. Mar to May. | Not expected to occur; outside elevation range. |
| Diablo helianthella *Helianthella castanea* | --/--/1B.2/No | San Francisco Bay area: Alameda, Contra Costa, Marin, San Francisco, and San Mateo counties. | Usually rocky, axonal soils. Often in partial shade. Broadleafed upland forest, chaparral, cismontane woodland coastal scrub, riparian woodland, valley and foothill grassland. 60 to 1300 m. March – June. | Not expected to occur; no suitable habitat and outside elevation range. |
| Brewer's western flax *Hesperolinon breweri* | --/--/1B.2/No | Eastern San Francisco Bay region (i.e., Alameda and Contra Costa Counties), as well as Napa and Solano Counties. | Usually serpentinite. Chaparral, cismontane woodland, valley and foothill grassland. 30 to 945 m. May – July. | Not expected to occur; no suitable habitat. |
| Woolly rose-mallow *Hibiscus lasiocarpos var. occidentalis* | --/--/1B.2/Yes | Central Valley of California, as well as populations in eastern North America | All along the waterways of the Delta. June-September | Not expected to occur; no suitable habitat. |
| Loma Prieta hoita *Hoita strobilina* | --/--/1B.1/No | South and East San Francisco Bay region, including Alameda, Contra Costa, Santa Clara, and Santa Cruz Counties. | Usually serpentinite, mesic. Chaparral, cismontane woodland, riparian woodland. 30 to 860 m. May – July (August- October) | Not expected to occur; no suitable habitat. |
| Legenere *Legenere limosa* | --/--/1B.1/Yes | Central Valley or primarily located in the lower Sacramento Valley, also from north Coast Ranges, San Joaquin Valley, and the Santa Cruz Mountains | Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and riverbanks; below 150 m. April-June | Not expected to occur; no suitable habitat. |
| Mt. Hamilton coreopsis *Coreopsis hamiltonii* | --/--/1B.2/Yes | Diablo Range, Mt. Hamilton Range in Alameda, Santa Clara, and Stanislaus Counties | Steep shale talus slopes in cismontane woodland; 550-1300 m. March-May | Not expected to occur; outside elevation range. |
| Mason's lilaeopsis *Lilaeopsis masonii* | --/R/1B.1/Yes | Sacramento-San Joaquin River Delta and nearby shores of San Francisco Bay. | Marshes and swamps, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. In brackish or freshwater. 0-10 m. Apr-Nov. | Not expected to occur; no suitable habitat. |

| *SPECIES* | *STATUS (FED./CA/ CNPS/SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT AND BLOOMING PERIOD* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| Delta mudwort *Limosella australis* | --/--/2B.1/Yes | Found in Contra Costa County, Sacramento County, San Joaquin County, and Solano County. | Riparian scrub, marshes and swamps. Usually on mud banks of the Delta in marshy or scrubby riparian associations; often with Lilaeopsis masonii. 0-5 m. May-Aug. | Not expected to occur; no suitable habitat. |
| Showy golden madia *Madia radiata* | --/--/1B.1/Yes | It is endemic to California, where it is known mostly from the Central Coast Ranges and adjacent edges of the San Francisco Bay Area and Central Valley. | Valley and foothill grassland, cismontane woodland. Mostly on adobe clay in grassland or among shrubs. 75-1220 m. Mar-May. | Not expected to occur; outside elevation range. |
| Hall's bush-mallow *Malacothamnus hallii* | --/--/1B.2/No | Portions of the San Francisco Bay and Central Valley: Contra Costa, Santa Clara, San Mateo, Merced, and Stanislaus Counties. | Chaparral, coastal scrub. 10 to 760 meters. (April) May – September (October) | Not expected to occur; no suitable habitat. |
| Shining navarretia *Navarretia nigelliformis ssp. radians* | --/--/1B.2/No | Central Valley, Central Coast Ranges, and adjacent edges of the San Francisco Bay Area. | Sometimes clay, cismontane woodland, valley and foothill woodland, vernal pools. 65 to 1000 m. April – June. | Not expected to occur; outside elevation range. |
| Mt. Diablo phacelia *Phacelia phacelioides* | --/--/1B.2/No | Central Coastal Ranges, including Contra Costa, San Benito, Santa Clara, and Stanislaus Counties. | Rocky, chaparral, cismontane woodland. 500 to 1370 m. April – May | Not expected to occur; outside elevation range. |
| Hairless popcornflower *Plagiobothrys glaber* | --/--/1A/No | San Francisco Bay area, including Marin, Alameda, San Benito, and Santa Clara Counties. | Alkaline meadows and seeps, coastal salt marshes and swamps. 15 to 180 m. March – May. | Not expected to occur; no suitable habitat. |
| California alkali grass *Puccinellia simplex* | --/--/1B.2/No | Located throughout California, Oregon, and Utah. Occurrences in Alameda, Butte, Contra Costa, Fresno, Glenn, Kings, Kern, Lake, Los Angeles, Madera, Merced, Napa, San Bernardino, Santa Clara, Santa Cruz, San Luis Obispo, Solano, Stanislaus, Tulare, and Yolo Counties. | Alkaline, vernally mesic; sinks, flats, and lake margins. Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools. 2 – 930 m. March – May. | Not expected to occur; no suitable habitat. |
| Chaparral ragwort *Senecio aphanactis* | --/--/2B.2/No | Generally located along the coast with a few occurrences in the Central Valley. As far north as the San Francisco Bay Area and south into Baja California. | Sometimes alkaline. Chaparral, cismontane woodland, coastal scrub. 15 to 800 m. January – April. | Not expected to occur; no suitable habitat. |

| *SPECIES* | *STATUS (FED./CA/ CNPS/SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT AND BLOOMING PERIOD* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| Long-styled sand-spurrey *Spergularia macrotheca var. longistyla* | --/--/1B.2/No | Eastern and Northern San Francisco Bay region and western San Joaquin Valley. | Alkaline. Meadows and seeps, Marshes and swamps. 0 to 255 m. February – May. | Not expected to occur; no suitable habitat. |
| Saline clover *Trifolium hydrophilum* | --/--/1B.2/No | Eastern and Northern San Francisco Bay region, the Delta, western San Joaquin Valley, southern San Jose | Marshes and swamps, Valley and foothill grassland (mesic, alkaline), and Vernal pools. April-June | Not expected to occur; no suitable habitat. |
| Caper-fruited tropidocarpum *Tropidocarpum capparideum* | --/--/1B.1/Yes | Historically known from the northwest San Joaquin Valley and adjacent Coast Range foothills; currently known from Fresno, Monterey, and San Luis Obispo Counties | Alkaline hills in valley and foothill grassland; below 455 m. March-April. | Low potential to occur; marginal habitat present along less disturbed field edges; CNDDB records within 1 mile of the site. |

*NOTES: THE PRESENCE DETERMINATIONS WERE MADE BY PRINCIPAL BIOLOGIST, STEVE MCMURTRY (DE NOVO PLANNING GROUP, 2020) AND ARE BASED ON THE SITE SURVEY, REVIEW OF ON-SITE HABITAT CONDITIONS, AND THE CNDDB RESULTS CNPS = CALIFORNIA NATIVE PLANT SOCIETY*

*SJMSCP = SAN JOAQUIN MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN*

***FEDERAL***

*E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.*

*T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.*

***STATE***

*E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.*

*T = THREATENED UNDER THE FEDERAL CALIFORNIA ENDANGERED SPECIES ACT.*

*R = RARE UNDER THE CALIFORNIA ENDANGERED SPECIES ACT*

***CALIFORNIA NATIVE PLANT SOCIETY***

*1B = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA AND ELSEWHERE.*

*2 = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA, BUT MORE COMMON ELSEWHERE.*

*3 = A REVIEW LIST – PLANTS ABOUT WHICH MORE INFORMATION IS NEEDED.*

*4 = PLANTS OF LIMITED DISTRIBUTION – A WATCH LIST*

*.1 = SERIOUSLY ENDANGERED IN CALIFORNIA (OVER 80% OF OCCURRENCES THREATENED-HIGH DEGREE AND IMMEDIACY OF THREAT).*

*.2 = FAIRLY ENDANGERED IN CALIFORNIA (20-80% OCCURRENCES THREATENED).*

*.3 = NOT VERY ENDANGERED IN CALIFORNIA (<20% OF OCCURRENCES THREATENED).*

***TABLE 3.4-2: SPECIAL-STATUS WILDLIFE AND FISH SPECIES WHICH MAY OCCUR IN PROJECT AREA***

| *SPECIES* | *STATUS (FED/CA/ SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT REQUIREMENTS* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| *INVERTEBRATES* | | | | |
| Longhorn fairy shrimp *Branchinecta longiantenna* | E/--/Yes | Eastern margin of central Coast Ranges from Contra Costa County to San Luis Obispo County; disjunct population in Madera County | Small, clear pools in sandstone rock outcrops of clear to moderately turbid clay- or grass-bottomed pools. | No potential to occur. Habitat not present. |
| Vernal pool fairy shrimp *Branchinecta lynchi* | T/--/Yes | Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County | Common in vernal pools; they are also found in sandstone rock outcrop pools. | No potential to occur. Habitat not present. |
| Midvalley fairy shrimp *Branchinecta mesovallensis* | --/--/Yes | Have been found in Sacramento, Solano, Yolo, Contra Costa, San Joaquin, Madera, Merced and Fresno counties. The increase of known locations lends additional support to the idea that the range and distribution of midvalley fairy shrimp is greater than the distribution of known occurrences. | Shallow ephemeral pools, vernal swales, and various artificial ephemeral wetland habitats. | No potential to occur. Habitat not present. |
| California linderiella *Linderiella occidentalis* | --/--/No | Ranges from near Redding in the north to as far south as Fresno County, mainly to the east of the Sacramento and San Joaquin Rivers | Natural, and artificial, seasonally ponded habitat types including: vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities | No potential to occur. Habitat not present. |
| Crotch bumble bee *Bombus crotchii* | --/C/No | Central California south to Baja California del Norte, Mexico, and includes coastal areas east to the edges of the deserts and the Central Valley | Open grassland and scrub | Low potential; No known CNDDB occurrences within 3-miles of Project site. Potential habitat limited, to non-existent within Project area. |
| Western bumble bee *Bombus occidentalis* | --/C/No | Western North America, ranging from the tundra region in Alaska and Yukon south along the west coast to southern British Columbia to central California, Arizona and New Mexico and east into southern Saskatchewan and northwestern Great Plains | Open coniferous, deciduous and mixed-wood forests, wet and dry meadows, montane meadows and prairie grasslands, meadows bordering riparian zones, and along roadsides in taiga adjacent to wooded areas, urban parks, gardens and agricultural areas, subalpine habitats and more isolated natural areas | Low potential; No known CNDDB occurrences within 3-miles of Project site. Potential habitat limited, to non-existent within Project area. |

| *SPECIES* | *STATUS (FED/CA/ SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT REQUIREMENTS* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| Valley elderberry longhorn beetle *Desmocerus californicus dimorphus* | T/--/Yes | Stream side habitats below 3,000 feet throughout the Central Valley | Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant. | No potential to occur. Habitat not present. |
| *AMPHIBIANS* | | | | |
| California tiger salamander *Ambystoma californiense (A. tigrinum c.)* | T/SSC/Yes | Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County. | Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy. | Low potential; No known CNDDB occurrences within 3-miles of Project site. Appropriate breeding habitat not present. Estivation habitat limited by active agricultural activities in the vicinity and regular weed abatement on-site. |
| Foothill yellow-legged frog *Rana boylii* | --/C (SSC)/Yes | Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet | Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby. | No potential to occur. Habitat not present. |
| California red-legged frog *Rana aurora draytoni* | T/SSC/Yes | Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County | Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods. | No potential to occur. Habitat not present. Multiple CNDDB occurrences within 3-miles of the site along the base of the Mountains to the south and west, but separated by the Delta Mendota. |
| Western spadefoot *Spea hammondii* | T/SSC/Yes | Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County | Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods. | No potential to occur. Habitat not present. |
| *BIRDS* | | | | |
| Cooper's hawk *Accipiter cooperii* | --/SSC/Yes | Throughout California except high altitudes in the Sierra Nevada. Winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range | Nests in a wide variety of habitat types, from riparian woodlands and digger pine-oak woodlands through mixed conifer forests | Low potential; uncommon winter and rare summer visitor in project area. No known CNDDB occurrences within 3 miles of the site. Nesting opportunities |

| *SPECIES* | *STATUS (FED/CA/ SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT REQUIREMENTS* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| | | | | are absent. Highly mobile species could pass through. |
| Tricolored blackbird *Agelaius tricolor* | BCC/C (SSC)/Yes | Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties | Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony | Moderate potential; potential nesting and foraging habitat present within region, but not within the Project site. CNDDB occurrences within 1.5 miles of the site. Nesting opportunities are absent. Highly mobile species could pass through. |
| Grasshopper sparrow *Ammodramus savannarum* | --/SSC/No | Foot hills and mountains throughout California including Mendocino, Trinity, and Tehama counties south, west of the Cascade–Sierra Nevada axis and southeastern deserts, to San Diego County. Also found in the lowlands such as the Central Valley. | Grassland, hayfields, prairies, especially those with fairly tall grass and weeds and a few scattered shrubs. | Moderate potential to occur. Suitable foraging habitat present. There are no CNDDB record within 5 miles of the site. Highly mobile species could pass through. |
| Golden eagle *Aquila chrysaetos* | BCC/FP/Yes | Foothills and mountains throughout California. Uncommon non-breeding visitor to lowlands such as the Central Valley | Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals | Low potential; potential foraging habitat present within project area. There are no CNDDB record within 5 miles of the site. Nesting opportunities are absent. Highly mobile species could pass through. |
| Short-eared owl *Asio flammeus* | BCC/SSC/Yes | Permanent resident along the coast from Del Norte County to Monterey County although very rare in summer north of San Francisco Bay, in the Sierra Nevada north of Nevada County, in the plains east of the Cascades, and in Mono County; small, isolated populations | Freshwater and salt marshes, lowland meadows, and irrigated alfalfa fields; needs dense tules or tall grass for nesting and daytime roosts. | Low potential; potential foraging habitat present within project area. There are no CNDDB record within 5 miles of the site. Nesting opportunities are absent. Highly mobile species could pass through. |
| Burrowing owl *Athene cunicularia* | BCC/SSC/Yes | Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast | Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows | High potential to occur. Suitable nesting and foraging habitat present on-site. Nearest CNDDB record on adjacent property to the east. No active nesting observed. Highly mobile species could pass through and could establish nests in future years. |
| Ferruginous hawk *Buteo regalis* | --/--/Yes | Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, east-ward to the Sierra Nevada foothills | Open terrain in plains and foothills where ground squirrels and other prey are available | Low potential to occur. Suitable foraging habitat present on-site. There are no CNDDB record within 5 miles of the site. |

| *SPECIES* | *STATUS (FED/CA/ SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT REQUIREMENTS* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| | | and south-eastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County | | Nesting opportunities are absent. Highly mobile species could pass through. |
| Swainson's hawk *Buteo swainsoni* | BCC/T/Yes | Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County | Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields | High potential to occur. Suitable foraging habitat present on-site. Nearest CNDDB record 1.2-miles east of site. Nesting opportunities are absent. Highly mobile species could pass through. |
| Northern harrier *Circus hudsonius* | --/SSC/Yes | Occurs throughout lowland California. Has been recorded in fall at high elevations | Grasslands, meadows, marshes, and seasonal and agricultural wetlands | Low potential to occur. Marginal habitat present on-site. There are no CNDDB record within 5 miles of the site. No active nesting observed. Highly mobile species could pass through and could establish nests in future years. |
| White-tailed kite *Elanus leucurus* | --/--/Yes | Gulf Coast in Texas and Mexico and in the valley and coastal regions of central and southern California | Grasslands, marshes, row crops and alfalfa, where they hover while foraging for rodents and insects. | Low potential to occur. Suitable habitat present on-site. There are no CNDDB record within 5 miles of the site. Nesting opportunities are absent. Highly mobile species could pass through. |
| California horned lark *Eremophila alpestris actia* | --/--/Yes | Central Valley and coastal valleys and foothills. | Forage in large groups in open grasslands, nesting in hollows on the ground, and are also regularly found breeding on the Valley floor in suitable habitat | Low potential to occur. Suitable habitat present on-site. There are no CNDDB record within 5 miles of the site. No active nesting observed. Highly mobile species could pass through and could establish nests in future years. |
| Prairie falcon *Falco mexicanus* | --/--/Yes | Permanent resident in the south Coast, Transverse, Peninsular, and northern Cascade Ranges, the southeastern deserts, Inyo-White Mountains, foothills surrounding the Central Valley, and in the Sierra Nevada in Modoc, Lassen, and Plumas Counties. Winters in the Central Valley, along the coast from Santa Barbara County to San Diego County, and in Marin, Sonoma, Humboldt, Del Norte, and Inyo Counties | Nests on cliffs or escarpments, usually overlooking dry, open terrain or uplands | Low potential to occur. Marginal habitat present on-site. There are no CNDDB record within 5 miles of the site. Nesting opportunities are absent. Highly mobile species could pass through. |

| *SPECIES* | *STATUS (FED/CA/ SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT REQUIREMENTS* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| Bald eagle *Haliaeetus leucocephalus* | D/E/No | Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County | In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean | No potential to occur. Habitat not present. Nesting opportunities are absent. Highly mobile species could pass through. |
| Loggerhead shrike *Lanius ludovicianus* | BCC/SSC/Yes | Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter | Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches | Low potential to occur. Marginal habitat present on-site. There are no CNDDB record within 5 miles of the site. Nesting opportunities are absent. Highly mobile species could pass through. |
| song sparrow ("Modesto" population) *Melospiza melodia* | BCC/SSC/Yes | Restricted to California, where it is locally numerous in the Sacramento Valley, Sacramento–San Joaquin River Delta, and northern San Joaquin Valley. Exact boundaries of range uncertain. | Found in emergent freshwater marshes dominated by tules (*Scirpus* spp.) and cattails (*Typha* spp.) as well as riparian willow (*Salix* spp.) thickets. They also nest in riparian forests of Valley Oak (*Quercus lobata*) with a sufficient understory of blackberry (*Rubus* spp.), along vegetated irrigation canals and levees, and in recently planted Valley Oak restoration sites. | Low potential to occur. Marginal habitat present on-site. There are no CNDDB record within 5 miles of the site. Nesting opportunities are absent. Highly mobile species could pass through. |
| least Bell's vireo *Vireo bellii pusillus* | E/E/No | Central Valley of California and other low-elevation river valleys. | Dense brush, mesquite, willow-cottonwood forest, streamside thickets, and scrub oak. | No potential to occur. Habitat not present. Nesting opportunities are absent. Highly mobile species could pass through. |
| *FISH* | | | | |
| Delta smelt *Hypomesus transpacificus* | T/T/Yes | Primarily in the Sacramento–San Joaquin Estuary but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay. | Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand. | No potential to occur. Habitat not present. |
| Central Valley steelhead | T/--/No | Sacramento River and tributary Central Valley rivers. | Occurs in well-oxygenated, cool, riverine habitat with water temperatures from | No potential to occur. Habitat not present. |

| *SPECIES* | *STATUS (FED/CA/ SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT REQUIREMENTS* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| *Oncorhynchus mykiss* | | | 7.8°C to 18°C. Habitat types are riffles, runs, and pools. | |
| Longfin smelt *Spirinchus thaleichthys* | --/SSC/Yes | Occurs in estuaries along the California coast. Adults concentrated in Suisun, San Pablo, and North San Francisco Bays. | Prior to spawning, these fish aggregate in deepwater habitats available in the northern Delta, including, primarily, the channel habitats of Suisun Bay and the Sacramento River. Spawning occurs in fresh water on the San Joaquin River below Medford Island and on the Sacramento River below Rio Vista. | No potential to occur. Habitat not present. |
| *MAMMALS* | | | | |
| Pallid bat *Antrozous pallidus* | --/SSC/No | Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations | Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts | Low potential to occur. No roosting habitat present on-site. There are no CNDDB record within approximately 15 miles of the site. |
| Pale big-eared bat *Corynorhinus townsendii* | --/SSC/Yes | Coastal regions from Del Norte County south to Santa Barbara County | Roosts in caves, tunnels, mines, and dark attics of abandoned buildings. Very sensitive to disturbances and may abandon a roost after one onsite visit | Low potential to occur. No roosting habitat present on-site. There are no CNDDB record within 5 miles of the site. |
| Berkeley kangaroo rat *Dipodomys heermanni berkeleyensis* | --/--/Yes | Occurs in Alameda and Contra Costa Counties. | Open grassy hilltops & open spaces in chaparral & blue oak/digger pine woodlands. Needs fine, deep well-drained soil for burrowing | No potential to occur. Appropriate habitat not present in the Project area. Nearest CNDDB record over 16 miles from the site. |
| Western mastiff bat *Eumops perotis californicus* | --/SSC/Yes | Occurs along the western Sierra primarily at low to mid elevations and widely distributed throughout the southern coast ranges. Recent surveys have detected the species north to the Oregon border | Found in a wide variety of habitats from desert scrub to montane conifer. Roosts and breeds in deep, narrow rock crevices, but may also use crevices in trees, buildings, and tunnels | Low potential to occur. No roosting habitat present on-site. There are no CNDDB record within 5 miles of the site. |
| hoary bat *Lasiurus cinereus* | --/--/No | The hoary bat is the most widespread North American bat. May be found at any location in California, although distribution patchy in southeastern deserts. This common, solitary | Can be found in foothills, deserts, mountains, lowland, and coastal valleys. | Low potential to occur. No roosting habitat present on-site. There are no CNDDB record within 5 miles of the site. |

| *SPECIES* | *STATUS (FED/CA/ SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT REQUIREMENTS* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| | | species winters along the coast and in southern California, breeding inland and north of the winter range. | | |
| San Joaquin Pocket Mouse *Perognathus inornatus* | --/--/Yes | Occurs throughout the San Joaquin Valley and in the Salinas Valley | Favors grasslands and scrub habitats with fine textured soils | Moderate potential to occur. Agricultural land use likely precludes this species from maintaining long-term populations on the site. During fallow periods, the habitat improves for this species. One CNDDB record located approximately 4 miles southeast of the site. |
| Riparian brush rabbit *Sylvilagus bachmani riparius* | E/E/Yes | Limited to San Joaquin County at Caswell State Park near the confluence of the Stanislaus and San Joaquin Rivers and Paradise Cut area on Union Pacific right-of-way lands | Native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees | No potential to occur. Habitat not present. |
| American badger *Taxidea taxus* | --/SSC/Yes | In California, badgers occur throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties | Badgers occur in a wide variety of open, arid habitats but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub; the principal habitat requirements for the species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground | Moderate potential to occur. Suitable foraging habitat on-site; and highly mobile species. Agricultural land use likely precludes this species from maintaining burrows on the site. There are two CNDDB within 5 miles of the site. |
| San Joaquin kit fox *Vulpes macrotis mutica* | E/T/Yes | Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County | Saltbush scrub, grassland, oak, savanna, and freshwater scrub | Moderate potential to occur. No dens present, but highly mobile species that could forage on the site. Agricultural land use likely precludes this species from maintaining dens on the site. Multiple CNDDB occurrences within 3-miles of the site. |
| *REPTILES* | | | | |
| Northern California legless lizard | --/SSC/No | This lizard is common in suitable habitats in the Coast Ranges from Contra Costa County south to the Mexican border, but only has a spotty occurrence throughout the rest of its range, | Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content. | Low potential to occur. Limited, to no habitat present in the Project area. There are no CNDDB record within 5 miles of the site. |

| *SPECIES* | *STATUS (FED/CA/ SJMSCP)* | *GEOGRAPHIC DISTRIBUTION* | *HABITAT REQUIREMENTS* | *PRESENCE DETERMINATION* |
|---|---|---|---|---|
| *Anniella pulchra* | | which includes the San Joaquin Valley to the west slope of the southern Sierra, the Tehachapi Mountains west of the desert and in the mountains of southern California. | | |
| California glossy snake *Arizona elegans occidentalis* | --/SSC/No | Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. | Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils | Moderate potential to occur. Marginal habitat present in the Project area. Multiple CNDDB records within 5 miles of the site. |
| Western pond turtle Emys marmorata | --/SSC/Yes | Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada | Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests | Low potential to occur. Limited aquatic habitat present in the Project area mostly associated with the Delta Mendota Canal. There are no CNDDB record within 5 miles of the site. |
| San Joaquin coachwhip *Masticophis flagellum ruddocki* | --/SSC/Yes | From Colusa County in the Sacramento Valley southward to the grapevine in the San Joaquin Valley and westward into the inner coast ranges. An isolated population occurs at Sutter Buttes. Known elevational range from 20 to 900 meters | Occurs in open, dry, vegetative associations with little or no tree cover. It occurs in valley grassland and saltbush scrub associations. Often occurs in association with mammal burrows. | Moderate potential to occur. Marginal habitat present in the Project area. One CNDDB records/occurrences within 3 miles of the site. |
| Alameda whipsnake *Masticophis lateralis euryxanthus* | T/T/No | Found in the inner coast range of California – most of them in Contra Costa and Alameda counties. Some have been found in San Joaquin and Santa Clara counties. | Found in chaparral – northern coastal sage scrub and coastal sage. Rock outcrops, rock crevices and mammal burrows are important features of their habitat. | Low potential to occur. Appropriate habitat not present in the Project area. There are no CNDDB record within 5 miles of the site. |
| Coast horned lizard *Phrynosoma blainvillii* | --/SSC/No | Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California | Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging. | Moderate potential to occur. Habitat present in the Project area. Three CNDDB records within 5 miles of the site. Not an uncommon species in the region even in the absence of records. |

*NOTES: THE PRESENCE DETERMINATIONS WERE MADE BY PRINCIPAL BIOLOGIST, STEVE MCMURTRY (DE NOVO PLANNING GROUP, 2020) AND ARE BASED ON THE SITE SURVEY, REVIEW OF ON-SITE HABITAT CONDITIONS, AND THE CNDDB RESULTSFP*

*STATUS EXPLANATIONS:*

***FEDERAL***

*E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.*

*T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.*

*C = CANDIDATE SPECIES FOR LISTING UNDER THE FEDERAL ENDANGERED SPECIES ACT.*

*D = DELISTED FROM FEDERAL LISTING STATUS.*

*BCC = BIRD OF CONSERVATION CONCERN*

***STATE***

*E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.*

*T = THREATENED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.*
*C = CANDIDATE SPECIES FOR LISTING UNDER THE STATE ENDANGERED SPECIES ACT.*
*FP = FULLY PROTECTED UNDER THE CALIFORNIA FISH AND GAME CODE.*
*SSC = SPECIES OF SPECIAL CONCERN IN CALIFORNIA.*

## 3.4.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the state and nation including the California Department of Fish and Wildlife (CDFW), USFWS, U.S. Army Corps of Engineers (USACE), and the Central Valley Regional Water Quality Control Board (CVRWQCB). These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, state and local regulations that are applicable to the proposed Project.

### FEDERAL

#### Federal Endangered Species Act

The Federal Endangered Species Act (FESA), passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed it is fully protected from a "take" unless a take permit is issued by the USFWS. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

#### Migratory Bird Treaty Act

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., § 703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

#### Federal Bald and Golden Eagle Protection Act

The Federal Bald and Golden Eagle Protection Act provide regulations to protect bald and golden eagles as well as their nests and eggs from willful damage or injury.

#### Clean Water Act (CWA) – Section 404

Section 404 of the CWA regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. § 328.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or

saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. § 328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. § 328.3(e)].

The USACE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

### Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the CVRWQCB. To obtain the water quality certification, the CVRWQCB must indicate that the proposed fill would be consistent with the standards set forth by the state.

### Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

## STATE

### Fish and Game Code § 2050-2097 – California Endangered Species Act

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

### Fish and Game Code § 1900-1913 – California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate

native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

## Fish and Game Code §§ 3503, 3503.5, 3800 – Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called “raptors,” are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

## Fish and Game Code §§ 1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a “Streambed Alteration Agreement” from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

## Public Resources Code § 21000 – California Environmental Quality Act

CEQA identifies that a species that is not listed on the federal or state endangered species list may be considered rare or endangered if the species meets certain criteria. (CEQA Guidelines § 15380) Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e. candidate, or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of “Species of Special Concern,” developed by the CDFW. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low populations, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere.

## California Wetlands Conservation Policy

In August 1993, the California Governor announced the "California Wetlands Conservation Policy.” The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

### Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to regulate state water quality and protect beneficial uses.

### Water Quality Control Plan for the Sacramento-San Joaquin River Basins

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan), adopted by the CVRWQCB in 1998, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and SJR basins, including the Delta.

State and federal laws mandate the protection of designated "beneficial uses" of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Additional protected beneficial uses of the SJR include groundwater recharge and fresh water replenishment.

## LOCAL

### San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the FESA. An approved HCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under FESA during development activities.

A Natural Community Conservation Plan (NCCP) is a state planning document administered by CDFW. An approved NCCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under CESA during growth and development activities.

## BACKGROUND

The key purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), is to provide a strategy for balancing the need to conserve Open Space and the need to Convert Open Space to non-Open Space uses while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); providing and maintaining multiple-use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to Project Proponents and society at large.

San Joaquin County's past and future (2001-2051) growth has affected and will continue to affect 97 special status plant, fish and wildlife species in 52 vegetative communities scattered throughout San Joaquin County's 1,400+ square miles and 900,000+ acres, which include 43% of the Sacramento-San Joaquin Delta's Primary Zone. The SJMSCP, in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan, hereinafter referred to as "SJMSCP Covered Species". In addition, the SJMSCP provides some compensation to offset the impacts of open space land conversions on non-wildlife related resources such as recreation, agriculture, scenic values and other beneficial Open Space uses.

The SJMSCP compensates for Conversions of Open Space for the following activities: urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring outside of urban boundaries, levee maintenance undertaken by the San Joaquin Area Flood Control Agency, transportation projects, school expansions, non-federal flood control projects, new parks and trails, maintenance of existing facilities for non-federal irrigation district projects, utility installation, maintenance activities, managing Preserves, and similar public agency projects. These activities will be undertaken by both public and private individuals and agencies throughout San Joaquin County and within the County's incorporated cities of Escalon, Manteca, Lodi, Manteca, Ripon, Stockton and Tracy. Public agencies including Caltrans (for transportation projects), and the San Joaquin Council of Governments (for transportation projects) also will undertake activities which will be covered by the SJMSCP. In addition, 5,340 acres is allocated for anticipated projects (e.g., annexations, general plan amendments)

The 97 SJMSCP Covered Species include 25 state and/or federally listed species. The SJMSCP Covered Species include 27 plants (6 listed), 4 fish (2 listed), 4 amphibians (1 listed), 4 reptiles (1 listed), 33 birds (7 listed), 15 mammals (3 listed) and 10 invertebrates (5 listed).

## IMPLEMENTATION

The SJMSCP is administered by a Joint Powers Authority (the San Joaquin County Joint Powers Authority) consisting of members of the San Joaquin County Council of Governments (SJCOG), the CDFW, and the USFWS. Development project applicants are given the option of participating in the

SJMSCP as a way to streamline compliance with required local, State and federal laws regarding biological resources, and typically avoid having to approach each agency independently. According to the SJMSCP, adoption and implementation by local planning jurisdictions provides full compensation and mitigation for impacts to plants, fish and wildlife. Adoption and implementation of the SJMSCP also secures compliance pursuant to the state and federal laws such as CEQA, the National Environmental Policy Act (NEPA), the Planning and Zoning Law, the State Subdivision Map Act, the Porter-Cologne Act and the Cortese-Knox Act in regard to species covered under the SJMSCP.

Applicants pay mitigation fees on a per-acre basis, as established by the Joint Powers Authority according to the measures needed to mitigate impacts to the various habitat and biological resources. Different types of land require different levels of mitigation; i.e., one category requires that one acre of a similar land type be preserved for each acre developed, while another type requires that two acres be preserved for each acre developed. The entire County is mapped according to these categories so that land owners, project proponents and project reviewers are easily aware of the applicable SJMSCP fees for the proposed development.

The appropriate fees are collected by the City and remitted to SJCOG for administration. SJCOG uses the funds to preserve open space land of comparable types throughout the County, often coordinating with other private or public land trusts to purchase conservation easements or buy land outright for preservation. Development occurring on land that has been classified under the SJMSCP as "no-pay" would not be required to pay a fee. This category usually refers to already urbanized land and infill development areas. Although the fees are automatically adjusted on an annual basis, based on the construction cost index, they often cannot keep pace with the rapidly rising land prices in the Central Valley.

## City of Tracy General Plan

The Tracy General Plan includes a number of policies relevant to biological resources and the conservation of sensitive environmental resources.

### POLICIES: OPEN SPACE AND CONSERVATION ELEMENT

- OSC-1.1-P-1. New development shall meet all federal, State and regional regulations for habitat and species protection.
- OSC-1.1-P-2. The City shall continue to participate with the SJCOG and other agencies to implement and enforce the SJMSCP.
- OSC-1.1-P-3. New development should incorporate native, drought tolerant vegetation into landscape plans and reduce the use of invasive, non-native plant species.
- OSC-5.1-P-2. The City shall encourage the establishment and maintenance of trees on public and private property to create an urban forest.

## City of Tracy Municipal Code

Chapter 7.08 of the City of Tracy Municipal Code pertains to alteration or removal of street trees. Section 7.08.050 of the Municipal Code prohibits cutting, pruning, removing, injuring, or

interference with any tree, shrub, or plant upon or in any street tree area or other public place in the City without prior approval from the Public Work director. The City is authorized to grant such permission at their discretion and where necessary, as outlined in Section 7.08.040.

## 3.4.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### IMPACTS AND MITIGATION

#### Impact 3.4-1: The proposed Project implementation may result in direct or indirect effects on special-status invertebrate species. (Less than Significant with Mitigation)

Special-status invertebrates that occur within the 9-quad region (which includes the following USGS quadrangles: Byron Hot Springs, Clifton Court Forebay, Union Island, Altamont, Midway, Tracy, Mendenhall Springs, Cedar Mountain, and Lone Tree Creek) for the Project site include: Longhorn fairy shrimp (*Branchinecta longiantenna*), Vernal pool fairy shrimp (*Branchinecta lynchi*), Midvalley fairy shrimp (*Branchinecta mesovallensis*), California linderiella (*Linderiella occidentalis*), Crotch bumble bee (*Bombus crotchii*), Western bumble bee (*Bombus occidentalis*), and Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). As noted in Table 3.4-2, Longhorn fairy shrimp (*Branchinecta longiantenna*), Vernal pool fairy shrimp (*Branchinecta lynchi*), Midvalley fairy shrimp (*Branchinecta mesovallensis*), and Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) are covered species under the SJMSCP.

**Vernal Pool Branchiopods:** The record search lists several occurrences of the federally endangered longhorn fairy shrimp (*Branchinecta longiantenna*), the threatened vernal pool fairy shrimp (*Branchinecta lynchi*), and the non-listed California linderiella (*Linderiella occidentalis*) and midvalley fairy shrimp (*Branchinecta mesovallensis*) as occurring within the 9-quad region for the project site. These species exclusively inhabit vernal pools or other seasonally ponded wetlands that sustain inundation during the winter before drying in the late spring. The project site does not provide suitable habitat for this species.

**Valley Elderberry Longhorn Beetle:** The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federally threatened insect that is dependent upon the elderberry plant (*Sambucus* sp.) as a primary host species. Elderberry shrubs are a common component of riparian areas throughout the Sacramento Valley region. Given that no riparian habitat exists on-site and no elderberry plants were observed during the field survey, valley elderberry longhorn beetle is not anticipated to be directly affected by any individual phase or component of the proposed Project

**Other Insects:** There are two other insects that are not formally listed, special-status species, but are included in the CNDDB search results. These include Crotch bumble bee (*Bombus crotchii*) and western bumble bee (*Bombus occidentalis*). While these species are documented within the 9-quad region for the Project site, they are not documented on the Project site. The habitat present on the project site is not ideal natural habitat for these species and none are believed to be present.

**Conclusion:** The Project site is located within the jurisdiction of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan ("Plan" or "SJMSCP") and is located within the Central/Southwest Transition Zone of the SJMSCP. Within the Southwest Transition Zone, the Project site is located in the Category C/Pay Zone B. The Category C/Pay Zone B includes parcels containing habitat types classified as Agricultural Habitat Lands which are not otherwise exempt. Applicants pay mitigation fees on a per-acre basis, as established by the JPA, according to the measures needed to mitigate impacts to the various habitat and biological resources. The project applicant would be required to seek coverage under the SJMSCP and would be subject to the Category C/Pay Zone B fees in order to mitigate for any habitat impacts. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. The valley elderberry longhorn beetle, longhorn fairy shrimp, vernal pool fairy shrimp, and midvalley fairy shrimp are covered species under the SJMCP.

The Project site is currently undeveloped and has been historically used for agricultural uses (orchards). There are five documented special-status invertebrates located within the 9-quad region for the project site. According to the CNDDB records search, there are no documented or observed special-status invertebrate species on the Project site. Additionally, appropriate habitat for these special-status invertebrates were not observed within the Project site or offsite improvement corridors during the field survey and none are expected to be affected by the proposed Project. While there are no special status invertebrate species that are anticipated to be affected by the

proposed project, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. Mitigation Measure 3.4-1 will ensure coverage under the SJMSCP. Therefore, the proposed project would have a ***less than significant*** impact on special status invertebrate species.

MITIGATION MEASURE(S)

***Mitigation Measure 3.4-1****: Prior to commencement of any grading activities, the Project proponent shall obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization Measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.*

## Impact 3.4-2: The proposed Project has the potential to have direct or indirect effects on special-status amphibian and reptile species. (Less than Significant with Mitigation)

Special-status amphibians and reptiles that occur within the 9-quad region for the Project site according to the CNDDB include: California tiger salamander (*Ambystoma californiense*), Foothill yellow-legged frog (*Rana boylii*), California red-legged frog (*Rana aurora draytoni*), Western spadefoot (*Spea hammondii*), Northern California legless lizard (*Anniella pulchra)*, California glossy snake (*Arizona elegans occidentalis*), Western pond turtle (*Emys marmorata*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), Alameda whipsnake (*Masticophis ladteralis euryxanthus*), and Coast horned lizard (*Phrynosoma blainvilii*). As noted in Table 3.4-2, California tiger salamander (*Ambystoma californiense*), Foothill yellow-legged frog (*Rana boylii*), California red-legged frog (*Rana aurora draytoni*), Western spadefoot (*Spea hammondii*), Western pond turtle (*Emys marmorata*), and San Joaquin coachwhip (*Masticophis flagellum ruddocki*) are covered species under the SJMSCP.

**California Tiger Salamander:** The federally and State-listed Threatened California tiger salamander (CTS) is a large terrestrial salamander. It occurs in central California from the Sacramento Valley to the south-central San Joaquin Valley, and in the surrounding foothills of both the Coast Ranges and the Sierra Nevada Mountains. CTS are also recorded from the San Francisco Bay region, Sonoma County, the Monterey Bay region, and the valleys and foothills of San Luis Obispo and Santa Barbara counties.

CTS breed in temporary wetland pools, such as vernal pools, and other seasonal wetland bodies where ponded water is present for a minimum of three to four months, extending into the early spring. Such ponds and temporary wetlands provide necessary breeding and larval-stage habitat for the species. Adults spend most of the year in aestivation, underground in the burrows of small mammals, such as the California ground squirrel and/or Botta's pocket gopher, or within other

suitable subterranean retreats. They emerge at night during winter rain events for brief periods to breed (Trenham et al. 2001). Aquatic juveniles (larvae) are mostly herbivorous (Stebbins 1985). CTS normally begin to reproduce after three to five years.

There are no CNDDB records or mapped occurrences of CTS within 3 miles of the Project site. According to the CNDDB, the nearest occurrence of CTS is approximately 4.3 miles northwest of the Project site along the Altamont Pass Road from Greenville Road east to Midway Road in ditches and creeks adjacent to the roadways. In 2011 and 2012, CTS larvae and eggs were found. It is anticipated that CTS adults will disperse at night up to 1.3 miles to refuge sites. Because the Project site is over four miles away, it is unlikely that the CTS observed in this area would travel to the Project site. There are no other known CTS breeding sites in the vicinity.

While there is a low potential for CTS to occur within the Project site, the Project applicant will be required to obtain coverage under the SJMSCP. The CTS is a covered species under the SJMCP; therefore, it is anticipated that any impacts to CTS would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**Foothill Yellow Legged Frog:** The Foothill yellow-legged frog (FYLF) is a State candidate for listing as Threatened. They occur in partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. They need at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis. Adults often bask on exposed rock surfaces near streams. When disturbed, they dive into the water and take refuge under submerged rocks or sediments. During periods of inactivity, especially during cold weather, individuals seek cover under rocks in the streams or on shore within a few meters of water. Egg clusters are attached to gravel or rocks in moving water near stream margins. Unlike most other ranid frogs in California, this species is rarely encountered (even on rainy nights) far from permanent water. Tadpoles require water for at least three or four months while completing their aquatic development. Significant seasonal movements or migrations from breeding areas have not been reported. Normal home ranges are probably less than 10 m (33 ft) in the longest dimension. Occasional long-distance movements (up to 50 m) (165 ft) may occur during periods with high water conditions. Breeding and egg laying usually await the end of spring flooding and may commence any time from mid-March to May, depending on local water conditions. The breeding season at any locality is usually about two weeks for most populations. Females deposit eggs in clusters of 200 to 300 (range 100 to 1000). They hatch in about five days. Tadpoles reach maximum sizes of 50 to 55 mm (2.2 in) and transform in three to four months.

FYLF is known to occur in aquatic habitats, such as creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. They are usually found near riffles with rocks and sunny banks nearby. The FYLF is not documented in the immediate vicinity of the Project site. Additionally, the Project site does not provide the necessary habitat for FYLF. The FYLF is a covered species under the SJMSCP; therefore, it is anticipated that any impacts to FYLF would be ***less than significant*** through compliance with

Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**California Red-Legged Frog:** The federally-listed Threatened and California Species of Special Concern California red-legged frog (CRLF) occurs in lowlands and foothills primarily in perennial or ephemeral ponds, pools, and streams where water remains long enough (14 to 28 weeks) for breeding and metamorphosis of tadpoles. Specific breeding sites include streams, creeks, ponds, marshes, sag ponds, deep pools, backwater areas, dune ponds, lagoons, and estuaries. Habitats with the highest densities of CRLF often contain dense emergent or shoreline riparian vegetation closely associated with fairly shallow (< 0.5 meter) to deep (> 0.5 meter), still or slow-moving water (USFWS 2002). CRLF may disperse from their aquatic breeding habitats to upland habitats during the dry season. They prefer upland habitats that provide moisture to prevent desiccation and protection from predators including downed logs, woody vegetation, boulders, moist leaf litter, or other refugia during the dry season. When there is sufficient water at their breeding location, they may remain in aquatic habitats year-round instead of moving to adjacent uplands. During wet seasons, frogs can move long distances between habitats, traversing upland areas or ephemeral drainages. Dispersal distances are typically less than 0.5 km (0.3 mile), with a few individuals moving 2.0 to 3.6 kilometers (1.2 to 2.2 miles). Seeps and springs in open grasslands can function as foraging habitat or refugia for wandering frogs (Jennings and Hayes 1994).

The CNDDB notes two occurrences for CRLF within 2-miles of the Project site. The first occurrence was in March 2001 where one adult female CRLF was collected at night from Patterson Road, located approximately 1.8 miles southwest of the project site near the intersection of Patterson Road and Via Nicole Road. The second occurrence was approximately 1.8 miles northwest of the Project site along the California Aqueduct, where sediment was removed from a concrete apron structure creating a breeding habitat where none had previously existed. In July 2004, two CRLF tadpoles were captured for ID purposes while many more were observed, and by October 2004, 39 juvenile CRLFs were observed.

The farmland fringe areas, as well as the fallow conditions in the Project site and vicinity area provide some very limited upland habitat. The Delta Mendota Canal along the southern boundary of the Project site would provide marginal habitat for CRLF, however, this aquatic feature has large populations of predatory fish species that inhibit CRLF populations. Because the closest documented occurrences within the Project vicinity are almost outside of the dispersal range of CRLF and the Project site has marginal habitat, there is a low potential for CRLF to occur on-site. This species is not documented on and has not been observed on the Project site. The CRLF is a covered species under the SJMSCP; therefore, it is anticipated that any impacts to CRLF would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**Western Spadefoot:** The California Species of Special Concern western spadefoot occurs primarily in grassland habitats, but can also be found in valley-foothill hardwood woodlands. The western spadefoot requires shallow, temporary pools or streams during breeding season and egg-laying. Where natural vernal pools are absent, western spadefoots may make use of artificial ponds and stock tanks. Most of the year, western spade foots reside in burrows at depths of up to 3 feet. Adult

western spadefoot movement is limited to rainy or humid nights during the breeding season; adults are rarely found on the surface at other times of the year. This species feeds mainly on invertebrates such as insects and worms.

There are no CNDDB records of this species within five miles of the Project site. Additionally, appropriate habitat for this species is limited within the project site, and this species has a low potential to occur on-site. However, limited habitat is present along the Delta Mendota Canal along the southern boundary of the project site. The western spadefoot is a covered species under the SJMSCP; therefore, it is anticipated that any impacts to western spadefoot would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**Western Pond Turtle:** The western pond turtle (*Emys marmorata*) is a California Species of Special Concern. Its favored habitats include streams, large rivers and canals with slow-moving water, aquatic vegetation, and open basking sites. Although the turtles must live near water, they can tolerate drought by burrowing into the muddy beds of dried drainages. This species feeds mainly on invertebrates such as insects and worms, but will also consume small fish, frogs, mammals and some plants. Western pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. This species breeds from mid to late spring in adjacent open grasslands or sandy banks.

The necessary habitat for this species is not present within the project site, and this species has a low potential to occur on-site. However, marginal habitat (i.e., habitat which supports only a few species or individuals because of the limiting environmental conditions) is present along the Delta Mendota Canal along the southern boundary of the project site. The Project site could provide some upland habitat, including nesting opportunities during fallow periods, however, active agricultural activities in the immediate vicinity, as well as regular disking for weed abatement on-site, largely inhibit upland nesting for this species. The western pond turtle is a covered species under the SJMSCP; therefore, it is anticipated that any impacts to western pond turtle would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**San Joaquin Coachwhip:** The San Joaquin coachwhip is a California Species of Special Concern due to extensive habitat loss and fragmentation in its restricted range, including conversion of large areas of suitable habitat to agricultural use in the San Joaquin Valley and urban development in areas of the inner Coast Ranges. The San Joaquin coachwhip occurs generally in dry, desert-like habitats as well as grasslands, chaparral and pastures with little or no cover, and avoids dense vegetation where it cannot move quickly, including mixed oak chaparral woodland.

According to the CNDDB records search, there are no documented or observed San Joaquin coachwhips within the Project site. The CNDDB notes one occurrence within 3-miles of the Project site, located approximately 2.8 miles west of the site along Midway Road north of its junction with Patterson Pass Road. Additionally, there are two other occurrences within 5-miles of the Project site

located along Corral Hollow Road and located north of Corral Hollow Road between Livermore and Tracy.

The Project site is currently undeveloped and has been previously used for agricultural uses. Previous disking on-site for agriculture likely eliminated the snake's food base and the mammal burrows it uses for refuge; therefore, this species has a low potential to occur. The San Joaquin coachwhip is a covered species under the SJMSCP; therefore, it is anticipated that any impacts to the San Joaquin coachwhip would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**Alameda Whipsnake:** The federally and State-listed Threatened Alameda whipsnake is typically restricted to valley-foothill hardwood habitat on south-facing slopes with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses. The CNDDB records shows that there are no Alameda whipsnake occurrences within 5 miles of the Project site. This species was not observed during the reconnaissance level survey of the site. Given the flat topography and agricultural nature of the Project site and surrounding area, there is a low potential for this species to occur on-site. Therefore, the proposed project would have a ***less than significant*** impact on the Alameda whipsnake species.

**Northern California Legless Lizard:** The Northern California legless lizard is a California Species of Special Concern and favors sandy or loose loamy soils under sparse vegetation typically found in chaparral, coastal dunes, and coastal scrub habitats. Their adaptation for burrowing, which requires soils with a high sand fraction, makes legless lizards vulnerable to ground disturbing activities such as agriculture. As shown in Table 3.6-1 in Section 3.6, 93.4 percent of the site soils are Capay clay soils. This soil type is located throughout the entire Project site, except in the northeastern corner of the site. Additionally, 6.73 percent of the site soils are Stomar clay loam soils. This soil type is located in the northeastern corner of the Project site along the eastern site boundary. The majority of the site does not contain sandy or loose loamy soils. Limited to no habitat is present in the Project area. Therefore, the site is unsuitable for silvery legless lizards. Additionally, the CNDDB records shows that there are no Northern California legless lizard occurrences within 5 miles of the Project site. Therefore, the proposed project would have a ***less than significant*** impact on the Northern California legless lizard species.

**California Glossy Snake:** The California glossy snake is a California Species of Special Concern and is most common in desert habitats but also occur in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grass at elevations from below sea level to 1830 m. This species prefers open sandy areas with scattered brush, as well as rocky areas. Primarily nocturnal, glossy snakes spend periods of inactivity during the day and during winter in mammal burrows and rock outcrops, and to a lesser extent under surface objects such as flat rocks and vegetation residue.

According to the CNDDB, all nearby occurrences of the California glossy snake occur in the more mountainy/higher elevations west and southwest of Interstate 580 located along either Patterson Run Road (approximately 3.5 to 4.7 miles southwest of the Project site) or Corral Hollow Creek Road (approximately 4.1 to 6.3 miles south of the Project site) where the land cover is more appropriate

for this species. The Project site does not contain open sandy areas with scattered brush or rocky areas. As shown in Figure 3.4-1, the Project site does not contain any shrub/scrub land cover. Regular disking and mowing on-site for agriculture and weed/vegetation abatement is a regular disturbance to refuge and foraging habitat. There is a low potential for this species to occur on-site and the California glossy snake is presumed absent from the site. Therefore, the proposed project would have a ***less than significant*** impact on the California glossy snake species.

**Coast Horned Lizard:** The coast horned lizard is a California Species of Special Concern that is not an uncommon species in the region even in the absence of records. This species requires loose sandy soil in which it can rapidly dig in order to avoid predators. The soils of the Project site are generally too heavy in clays for this type of digging by horned lizards. In addition, farming practices have disturbed the majority of the topsoil. Therefore, this species is presumed absent from the Project site, even though they are fairly common in the region. There are three CNDDB records within 5 miles of the site. No coast horned lizards were observed within the Project site or offsite improvement corridors during the field survey and none are expected to be affected by the proposed project based on the absence of habitat. Therefore, the proposed project would have a ***less than significant*** impact on the coast horned lizard species.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.4-1**.*

## Impact 3.4-3: The proposed Project has the potential to have direct or indirect effects on special-status bird species. (Less than Significant with Mitigation)

Special-status birds that are documented in the CNDDB within a ten-mile radius of the Project site include: Cooper's hawk (*Accipiter cooperii*), tricolored blackbird (*Agelaius tricolor*), grasshopper sparrow (*Ammodramus savannarum*), golden eagle (*Aquila chrysaetos*), short-eared owl (*Asio flammeus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), prairie falcon (*Falco mexicanus*), bald eagle (*Haliaeetus leucocephalus*), loggerhead shrike (*Lanius ludovicianus*), song sparrow ("Modesto" population) (*Melospiza melodia*), and least Bell's vireo (*Vireo bellii pusillus*). Least Bell's vireo is not covered by the SJMSCP; the remaining bird species are covered by the SJMSCP.

The Project site may provide suitable foraging habitat for a variety of potentially occurring special-status birds, including those listed above. Potential nesting habitat is present in a variety of trees located within in the Project vicinity. There is also the potential for other special-status birds that do not nest in this region and represent migrants or winter visitants to forage on the Project site.

**Year-Round Birds:** Special-status birds that can be present in the region throughout the year include: bald eagle (*Haliaeetus leucocephalus*), grasshopper sparrow (*Ammodramus savannarum*), burrowing owl (*Athene cunicularia*), loggerhead shrike *(Lanius ludovicianus*), song sparrow

(Modesto population) (*Melospiza melodia*), tricolored blackbird *(Agelaius tricolor*), among others. Some of these species are migratory, but also reside year-round in California.

**Summering Birds:** Special-status birds that are only present in the region in the spring and summer months include: Aleutian goose (*Branta canadensis leucopareia*), least bittern (*Ixobrychus exilis*), Swainson's hawk (*Buteo swainsoni*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), least Bell's vireo (*Vireo bellii pusillus*), and yellow-billed magpie (*Pica nuttalli*).

**Overwintering Birds:** Special-status birds that are only present in the region in the fall and winter months include: fox sparrow (*Passerella iliaca*), lesser yellowlegs (*Tringa flavipes*), Lewis's woodpecker (*Melanerpes lewis*), long-billed curlew (*Numenius americanus*), marbeled godwit (*Limosa fedoa*), merlin *(Falco columbarius*), mountain plover (*Charadrius montanus*), peregrine falcon (*Falco peregrinus*), short-eared owl (*Asio flammeus*), and western grebe (A*echmophorus occidentalis*).

**Nesting Raptors (Birds of Prey):** All raptors (owls, hawks, eagles, falcons), including species and their nests, are protected from take pursuant to the Fish and Game Code of California Section 3503.5, and the federal Migratory Bird Treaty Act, among other federal and State regulations. Special-status raptors that are known to occur in the region include: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), Cooper's hawk *(Accipiter cooperii*), ferruginous hawk *(Buteo rega*), golden eagle *(Aquila chrysaetos*), prairie falcon *(Falco mexicanus*), short-eared owl (*Asio flammeus*), Swainson's hawk *(Buteo swainsoni*), and white-tailed kite *(Elanus leucurus*), among others.

**Analysis:** Powerlines and trees located in the region represent potentially suitable nesting habitat for a variety of special-status birds. Powerlines exist throughout the region; however, mature trees are fairly limited in the region, and are absent from the Project site. Least Bell's vireos, a riparian species, depends on dense, low-growing thickets of willows, mulefat, mugwort, and California wild rose. Vireos inhabit areas where an overstory of taller willows, cottonwoods, and sycamores is also present. During the winter, they are known to occur in mesquite scrub vegetation. Foraging sometimes takes place in adjacent chaparral and coastal sage scrub. Nesting or foraging habitat for least Bell's vireo is not found on-site; as such, this species has no potential to be present.

The agricultural land represents potentially suitable nesting habitat for the ground-nesting birds. In general, most nesting occurs from late February and early March through late July and early August, depending on various environmental conditions.

The CNDDB currently contains nesting records for Swainson's hawk and burrowing owl in the vicinity of the Project site. In addition to the species described above, common raptors and migratory birds may nest in or adjacent to the Project site.

New sources of noise and light during the construction and operational phases of the project could adversely affect nesters if they located adjacent to the Project site in any given year. Additionally, the proposed Project would eliminate the agricultural areas on the Project site, which serve as potential foraging habitat for birds throughout the year. Mitigation Measure 3.4-1 requires participation in the SJMSCP. As part of the SJMSCP, SJCOG requires preconstruction surveys for

projects that occur during the avian breeding season (March 1 – August 31). When active nests are identified, the biologists develop buffer zones around the active nests as deemed appropriate until the young have fledged. SJCOG also uses the fees to purchase habitat as compensation for the loss of foraging habitat. Implementation of the proposed Project, with the Mitigation Measure 3.4-1, would ensure that potential impacts to special status birds are reduced to a ***less than significant*** level.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.4-1**.*

## Impact 3.4-4: The proposed Project has the potential to result in direct or indirect effects on special-status mammal species. (Less than Significant with Mitigation)

Special-status mammals that occur within the 9-quad region for the Project site according to the CNDDB include: Pallid bat (*Antrozous pallidus*), Berkeley kangaroo rat (*Dipodomys heermanni berkeleyensis*), Townsend's big-eared bat (*Eumops perotis californicus*), Western mastiff bat (*Eumops perotis californicus*), hoary bat (*Lasiurus cinereus*), San Joaquin pocket mouse (*Perognathus inornatus*), Riparian brush rabbit (*Sylvilagus bachmani riparius*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*). As noted in Table 3.4-2, Berkeley kangaroo rat (*Dipodomys heermanni berkeleyensis*), Townsend's big-eared bat (*Eumops perotis californicus*), Western mastiff bat (*Eumops perotis californicus*), San Joaquin pocket mouse (*Perognathus inornatus*), Riparian brush rabbit (*Sylvilagus bachmani riparius*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*) are covered species under the SJMSCP.

**Berkeley Kangaroo Rat and Riparian Brush Rabbit**: As noted in Table 3.4-2, Berkeley kangaroo rats prefer open grassy hilltops and open spaces in chaparral and blue oak/digger pine woodlands. This species requires fine, deep well-drained soil for burrowing. Riparian brush rabbits prefer native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees. The Project site does not contain appropriate soil types or habitat for the Berkeley kangaroo rat or the riparian brush rabbit. According to CNDDB, there is only one occurrence of the Berkeley kangaroo rat within the 9-quad region of the Project site located over 15 miles southwest of the site in Alameda County. Additionally, there is only one recorded occurrence of the riparian brush rabbit within the 9-quad region of the Project site located approximately 8.2 miles northeast of the site along the Salmon Slough. While there is low potential for these species to occur on-site, the Berkeley kangaroo rat and riparian brush rabbit are both covered species under the SJMSCP; therefore, it is anticipated that any impacts to these species would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**San Joaquin Pocket Mouse**: The Project site is currently undeveloped and has been previously used for agricultural uses. Previous disking on-site for agriculture likely eliminated high quality habitat for the San Joaquin pocket mouse, which is primarily found in grassland, oak savanna and arid scrubland in areas with fine-textured, sandy, and friable soils. The closest documented occurrence of San

Joaquin pocket mouse is approximately 2.75 miles northwest of the Project site. Additionally, the majority of San Joaquin pocket mouse occurrences are recorded southwest/west of Interstate 580; therefore, it is unlikely that the Project site is used by San Joaquin pocket mouse. It is noted that during fallow periods, the site improves for this species, until it is disked for weed abatement on-site.

While there is low potential for these species to occur on-site, the San Joaquin pocket mouse is a covered species under the SJMSCP; therefore, it is anticipated that any impacts to this species would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**American Badger**: The Project site is currently undeveloped and has been previously used for agricultural uses. Previous disking on-site for agriculture likely eliminated high quality habitat for the American badger, which is primarily found in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. The closest documented occurrence of American badger is approximately 3.22 miles west of the Project site. Additionally, the majority of American badger occurrences are recorded southwest/west of Interstate 580. This species is highly mobile, and will forage where opportunities exist. During fallow periods, the site improves for this species.

While there is low potential for these species to occur on-site, the American badger is a covered species under the SJMSCP; therefore, it is anticipated that any impacts to this species would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**San Joaquin Kit Fox:** San Joaquin kit fox is known to occur in western San Joaquin County within annual grasslands and alkali scrub communities with suitable prey base and loose-textured sandy soils where dens can be enlarged from California ground squirrel burrows. According to the CNDDB, the nearest occurrence of the San Joaquin Kit Fox is approximately 0.25-miles south of the Project site between the Delta Mendota Canal and the California Aqueduct while the majority of occurrences are reported to the south and west of the California Aqueduct. Suitable grassland foraging habitat occurs in the vicinity of the Project site where ground squirrels are abundant. This is a highly mobile species. Therefore, there is a moderate to high potential for the San Joaquin Kit Fox to forage on the Project site at times, especially during fallow periods. There were no dens present on-site during the reconnaissance level site survey, and the active agricultural operations adjacent to the site, as well as the regular disking of the site for weed abatement, inhibit any establishment of dens. The San Joaquin kit fox is covered species under the SJMSCP; therefore, it is anticipated that any impacts to this species would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**Special-Status Bats**: The CNDDB also identifies several special-status bats that occur within the 9-quad region of the Project site, including: Pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Eumops perotis californicus*), Western mastiff bat (*Eumops perotis californicus*), and hoary bat

(*Lasiurus cinereus*). These species are not federal or state listed; however, they are tracked by the CNDDB. Development of the Project site would eliminate foraging habitat for special status bats by removing the agricultural areas. These special status bat species are covered by the SJMSCP, with the exception of the hoary bat.

Hoary Bat: Hoary bats are the most widespread North American bat and could be found at any location in California. This species prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Specifically, this species is typically located in broadleaved upland forests, cismontane woodlands, lower montane coniferous forests, and north coast coniferous forests.

The Project site does not have appropriate roosting habitat to support the hoary bat. Additionally, there is only one documented occurrence of this species in the 9-quad region of the Project site, located approximately 15 miles southwest of the site just south of Livermore near Veterans Park. While bats are highly mobile, hoary bats are not anticipated to occur within the Project site and the proposed Project would have a ***less than significant*** impact on this species.

Covered Bat Species: The remaining special status bat species (i.e., Pallid bat, Townsend's big-eared bat, Western mastiff bat) have not been documented on the Project site. The Project site does not have appropriate roosting habitat to support the bats, and while they are highly mobile and may be present on adjacent properties, they are not expected to be directly affected by the proposed project. These special status bat species are all covered species under the SJMSCP; therefore, it is anticipated that any impacts to the Pallid bat, Townsend's big-eared bat, and Western mastiff bat would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to provide compensation for the loss of the potential foraging habitat.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.4-1**.*

## Impact 3.4-5: The proposed Project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species. (Less than Significant)

The Project site is currently undeveloped and has been previously used for agricultural uses. As identified in Table 3.4-1, the records search identified 45 documented special-status plant species within the 9-region of the Project site; however, given the existing habitat and elevation of the Project site, only seven special-status plant species have a low to moderate potential to occur on-site, including: Large-flowered fiddleneck (*Amsinckia grandiflora*), Big tarplant (*Blepharizonia plumosa*), Recurved larkspur (*Delphinium recurvatum*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), Stinkbells (*Fritillaria agrestis*), Saline clover (*Trifolium hydrophilum*), and Caper-fruited tropidocarpum (*Tropidocarpum capparideum*). Of these species, Large-flowered fiddleneck (*Amsinckia grandiflora*), Recurved larkspur (*Delphinium recurvatum*), diamond-petaled

California poppy (*Eschscholzia rhombipetala*), and Caper-fruited tropidocarpum (*Tropidocarpum capparideum*) are covered species under the SJMSCP.

Of the seven species with potential to occur on-site, the large-flowered fiddleneck, Big tarplant, diamond-petaled California poppy, and caper-fruited tropidocarpum are CNPS 1B listed species; the recurved larkspur and saline clover are CNPS 2 listed species; and the stinkbells is a CNPS 4 listed species. Additionally, the large-flowered fiddleneck is the only federal listed (endangered) species and state listed (endangered) species.

**SJMCP Covered Special-Status Plant Species:** Of the seven special status species with potential to occur on-site, the large-flowered fiddleneck, recurved larkspur, diamond-petaled California poppy, and caper-fruited tropidocarpum are covered under the SJMSCP. Therefore, any impacts to these species would be ***less than significant*** through compliance with Mitigation Measure 3.4-1, which requires the Project proponent to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species.

**Remaining Special-Status Plant Species:** The remaining three plant species are not covered by the SJMSCP: big tarplant, stinkbells, and saline clover. A field survey/habitat evaluation was performed on April 16, 2020. The field survey coincided with the early blooming period for special status plants known to occur within the region. No special-status plant species were observed within the Project site during the field survey and none are expected to be affected by the proposed Project. As previously mentioned, the Project site was historically an orchard from 1937 to 1982, and farmed from 1993 to 2012 for low-lying crops (Kleinfelder, April 2018). The site was fallow at the time of the field survey, with non-native annual grasses. Due to the extent of past disturbance from agricultural production, canal maintenance, and other development activities in the area, the potential these species-status plant species to occur on the Project site is generally considered to be low. For these reasons, the proposed Project would have a ***less than significant*** impact on special status plants.

## Impact 3.4-6: The proposed Project has the potential to effect protected wetlands and jurisdictional waters. (No Impact)

According to Steve McMurtry, Staff Biologist with De Novo Planning Group, the Project site does not contain protected wetlands or other jurisdictional areas and there is no need for permitting associated with the federal or state Clean Water Acts. The Project site is site previously used for agricultural uses that has historically been used for orchards, and more recently for crops. At times the Project site is fallow, and forms an annual grassland composed of non-native annuals, before it is disked for weed abatement on-site. The small basin in the northeast corner of the site is dry most of the year, and is used to collect water runoff. The basin is exempt from jurisdiction due to it being a manmade agricultural ditch/basin. Absent any wetlands or jurisdictional waters, implementation of the proposed Project would have ***no impact*** relative to this topic.

## Impact 3.4-7: The proposed Project has the potential to result in adverse effects on riparian habitat or a sensitive natural community. (No Impact)

The CNDDB record search revealed documented occurrences of four sensitive habitats within the 9-quad region for the Project site including: Great Valley Oak Riparian, Sycamore Alluvial Woodland,

Valley Sink Scrub, Alkali Meadow, Alkali Seep, Northern Claypan Vernal Pool, Valley Needlegrass Grassland, and Cismontane Alkali Marsh. According to Steve McMurtry, Staff Biologist with De Novo Planning Group, none of these sensitive natural communities occur within the Project site. Implementation of the proposed Project would have ***no impact*** on riparian habitats or natural communities.

## Impact 3.4-8: The proposed Project has the potential to result in interference with the movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the Project site. Special status fish species documented within the region include: Delta smelt (*Hypomesus transpacificus*), Central Valley steelhead (*Oncorhynchus mykiss*), and Longfin smelt (*Spirinchus thaleichthys*). The closest major natural movement corridor for native fish that are documented in the region is the San Joaquin River, located approximately 11 miles east of the Project site, and its tributaries. Additionally, the Delta Mendota Canal generally runs along the southern boundary of the project site and the California Aqueduct is approximately 0.3 miles south of the site. According to the CNDDB, there is only one recorded occurrence for each special status fish species, which are all located adjacent to the Clifton Court Forebay in Contra Costa County within the California Aqueduct and Delta Mendota Canal/Old River. The land uses within the Project site would not have any direct disturbance to the Delta Mendota Canal, California Aqueduct, or the San Joaquin River and its tributaries, and therefore, would not have any direct disturbance to the movement corridor or habitat.

The ongoing operational phase of the proposed Project requires discharge of stormwater into the City storm drainage system, which ultimately discharges into the Delta. The discharge of stormwater could result in indirect impacts to special status fish and wildlife if stormwater was not appropriately treated through BMPs prior to its discharge to the Delta. The Project is subject to the requirements of Chapter 11.34 of the Tracy Municipal Code – Stormwater Management and Discharge Control. The purpose of this Chapter is to "*Protect and promote the health, safety and general welfare of the citizens of the City by controlling non-stormwater discharges to the stormwater conveyance system, by eliminating discharges to the stormwater conveyance system from spills, dumping, or disposal of materials other than stormwater, and by reducing pollutants in urban stormwater discharges to the maximum extent practicable."*

This Chapter is intended to assist in the protection and enhancement of the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Water Pollution Control Act (Clean Water Act, 33 USC Section 1251 et seq.), Porter- Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) and National Pollutant Discharge Elimination System ("NPDES") Permit No. CAS000004, as such permit is amended and/or renewed. The management of water quality through BMPs is intended to ensure that water quality does not degrade to levels that would interfere or impede fish or wildlife. Implementation of these required measures would ensure that this potential impact is reduced to a ***less than significant*** level.

## Impact 3.4-9: The proposed Project has the potential to conflict with an adopted Habitat Conservation Plan. (Less than Significant with Mitigation)

The proposed Project is subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The proposed Project does not conflict with the SJMSCP. Mitigation Measure 3.4-1 requires participation in the SJMSCP. Therefore, with this mitigation, the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.4-1**.*

## Impact 3.4-10: The proposed Project has the potential to conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (No Impact)

The Open Space and Conservation Element of the General Plan establishes numerous policies and implementation measures related to biological resources as listed below:

**Open Space and Conservation Element Policies**

OSC-1.1-P-1. New development shall meet all federal, State and regional regulations for habitat and species protection.

- ***Consistent**: This EIR provides a detailed overview of the applicable regulatory requirements to ensure the Project complies with all federal, State, and regional regulations for habitat and species protections. Additionally, this EIR includes an in-depth analysis of impacts for sensitive plants and wildlife, as well as habitat. Where impacts are identified, mitigation measures are presented to minimize, avoid, or compensate to the extent practicable.*

OSC-1.1-P-2. The City shall continue to participate with the SJCOG and other agencies to implement and enforce the SJMSCP.

- ***Consistent**: The proposed Project is subject to the SJMSCP. The proposed Project does not conflict with the SJMSCP. Mitigation Measure 3.4-1 requires participation in the SJMSCP.*

OSC-1.1-P-3. New development should incorporate native, drought tolerant vegetation into landscape plans and reduce the use of invasive, non-native plant species.

- ***Consistent**: The landscape plan includes a mix of drought-tolerant shrubs and grasses, and a variety of shade trees appropriate for the climate in Tracy would be used throughout the parking lots and along the Project perimeter.*

OSC-5.1-P-2. The City shall encourage the establishment and maintenance of trees on public and private property to create an urban forest.

- ***Consistent**: As noted above in the discussion for Policy OSC-1.1-P-3, the landscape plan includes a variety of shade trees appropriate for the climate in Tracy would be used throughout the parking lots and along the Project perimeter.*

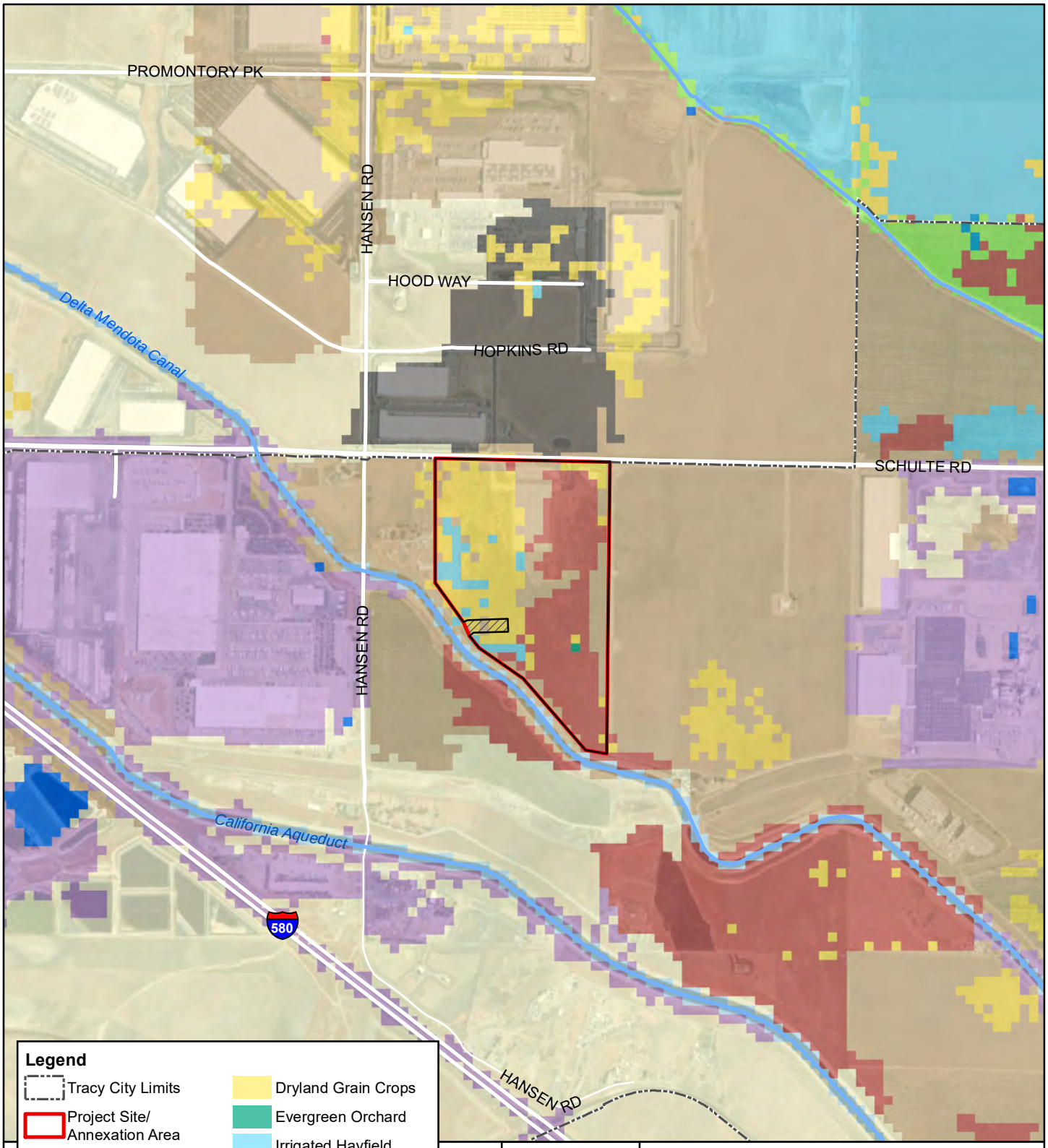
**Tracy Municipal Code**

The Tracy Municipal Code outlines the Street Tree Removal Criteria under Chapter 7.08. Section 7.08.050 of the Municipal Code prohibits cutting, pruning, removing, injuring, or interference with any tree, shrub, or plant upon or in any street tree area or other public place in the City without prior approval from the Public Work director. The proposed Project does not require the removal of any street trees subject to the regulations outlined under Chapter 7.08; therefore, the proposed Project is consistent with Chapter 7.08.

**Conclusion**

Based on the analysis above, the proposed Project does not conflict with local policies or ordinances protecting biological resources. Therefore, the proposed Project would have ***no impact*** relative to this topic.

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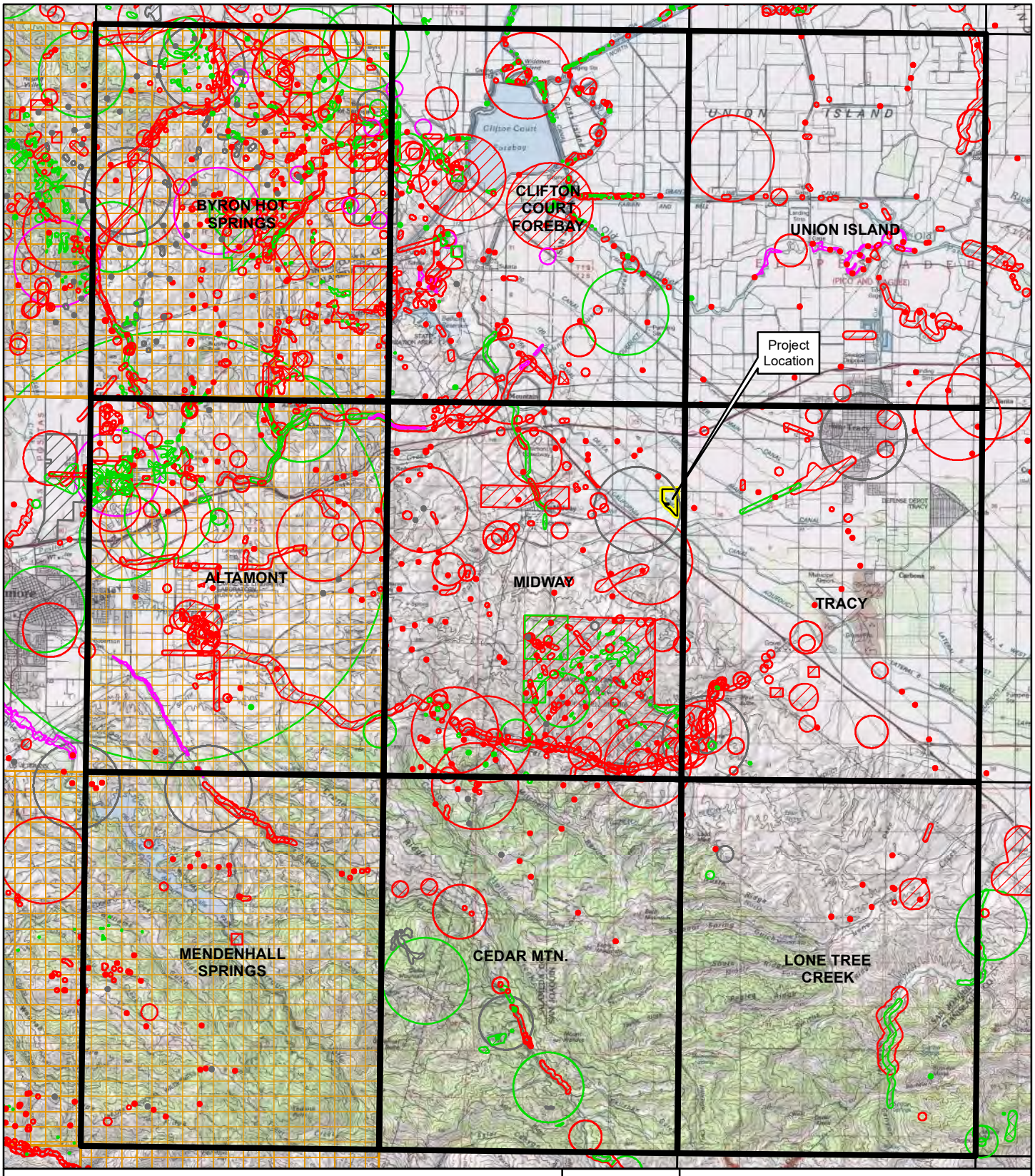

*Sources: CalFire FRAP fveg_2015; San Joaquin County GIS; ArcGIS Online World Imagery Map Service. Map date: December 11, 2019. Revised: June 28, 2021. Revised: May 26, 2022.*

**TRACY COSTCO DEPOT PROJECT**

Figure 3.4-1. Land Cover Types

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**Special Status Species Occurrences**

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive Occurrence

*CNDDB version 06/2021. Please Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area. Basemap: ArcGIS Online Topographic Map Service. Map date: June 28, 2021.*

N

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Miles

**TRACY COSTCO DEPOT PROJECT**

# Figure 3.4-2. California Natural Diversity Database

9-Quad Search

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This section provides a discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures. Information in this section is derived primarily from the San Joaquin County General Plan (San Joaquin County, 2016), City of Tracy General Plan (City of Tracy, 2011), City of Tracy General Plan EIR (City of Tracy, 2011), California Historic Resources Information System (CHRIS) search (Central California Information Center [CCIC], 2019), and the Costco E-Commerce Facility Geotechnical Review (Kleinfelder, August 2018).

No comments were received during the public review period or scoping meeting for the Notice of Preparation (NOP) regarding this topic. Full comments received are included in Appendix A.

## KEY TERMS

The following key terms are used throughout this section to describe cultural and tribal resources and the framework that regulates them:

**Archaeology.** The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

**Complex.** A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archaeological culture.

**Ethnography.** The study of contemporary human cultures.

# 3.5.1 ENVIRONMENTAL SETTING

## CULTURAL AND HISTORICAL BACKGROUND

### Prehistory

In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality where survey and excavation studies were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmiller site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

The Windmiller Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave

goods; frequent presence of red ocher in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charmstones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. During the Middle Horizon, there is a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis* sp. rather than red *Haliotis* sp. Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

The Hotchkiss Culture (Late Horizon) burial pattern retains the use of the flexed mode. There is wide spread evidence of cremation, and lesser use of red ocher, heavy use of baked clay, *Olivella* beads of Types E and M, extensive use of *Haliotis* ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird-bone tubes with elaborate geometric designs, clam shell disc beads, small projectile points indicative of the introduction of the bow and arrow, flanged tubular pipes of steatite and schist, and use of magnesite (Moratto 1984:181-183). The characteristics noted are not all-inclusive, but cover the more important traits.

Schulz (1981), in an extensive examination of the central California evidence for the use of acorns, used the terms Early, Middle and Late Complexes, but the traits attributed to them remain generally the same. While it is not altogether clear, Schulz seemingly uses the term “Complex” to refer to the particular archeological entities (above called “Horizons”) as defined in this region. Ragir's (1972) cultures are the same as Schulz's complexes.

Bennyhoff and Hughes (1984) have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There have been other chronologies proposed, including Fredrickson (1973), and because it is correlated with Bennyhoff's (1977) work, it does merit discussion. The particular archeological cultural entities Fredrickson has defined, based upon the work of Bennyhoff, are patterns, phases and aspects. Bennyhoff's (1977) work in the Plains Miwok area is the best definition of the Cosumnes District, which likely conforms to Fredrickson's pattern. Fredrickson also proposed periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities. It corresponds with Willey and Phillips' (1958) earlier “tradition”, although it is tied more specifically to the archeological record in California.

## Ethnography

The Project site lies within the northern portion of the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names (Kroeber 1925; Latta 1949). Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925).

The Yokuts held portions of the San Joaquin Valley from the Tehachapis in the south to Stockton in the north. On the north they were bordered by the Plains Miwok, and on the west by the Saclan or Bay Miwok and Costonoan peoples. Although neighbors were often from distinct language families, differences between the people appear to have been more influenced by environmental factors as opposed to linguistic affinities. Thus, the Plains Miwok were more similar to the nearby Yokuts than to foothill members of their own language group. Similarities in cultural inventory co-varied with distance from other groups and proximity to culturally diverse people. The material culture of the southern San Joaquin Yokuts was therefore more closely related to that of their non-Yokuts neighbors than to that of Delta members of their own language group.

Trade was well developed with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs that formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented along the water ways and village sites were normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape (Latta 1949; Kroeber 1925), with most constructed from the readily available tules found in the extensive marshes of the low-lying valley areas. The housepit depressions for the structures ranged in diameter from three to 18 meters (Wallace 1978:470).

## Historic Period

In the 1850s and 1860s, ranchers and farmers began to settle in the Tracy area known as the “West Side” (Minor 1994). The Central Pacific Railroad (currently the Southern Pacific) completed a rail line through the area in 1869, which ran from Sacramento to Stockton and continued over the Altamont Pass to ultimately link with the ferry service to San Francisco. Shortly after the rail line

was built, a new town sprang up along its alignment 9 miles from Stockton. The town became known as Lathrop Junction, and consisted of a roundhouse, railroad shop, rail yard, and hotels for railroad employees. The Lathrop Junction soon became the headquarters for the Central Pacific Railroad in the San Joaquin Valley. Regardless of the growth of Lathrop Junction, the railroad found it necessary to build a coaling station at the base of Altamont Pass, 14 miles west of Lathrop. The new station was called Ellis and by 1870 it had about 45 buildings serving the needs of the railroad and its employees and their families (www.ci.tracy.ca.us).

The first extensive wheat-growing in the San Joaquin Valley took place on the sand plains in the region between Stockton and Tracy and on the west side of the valley between Tracy and Newman. The wheat growing was due to an initial experiment of John Wheeler Jones, who planted 160 acres to wheat in 1855 which included the central town site of what is now Tracy. He plowed his fields with a walking plow. The famous Stockton gang-plow was reported to be invented near the present site of Tracy (Smith 1960: 221, 243).

Construction of a new rail line from Oakland along the shores of San Francisco Bay was started in 1878. This rail line passed through Martinez, and intersected the Central Pacific at a point 3 miles east of Ellis. The line was built to avoid hills, eliminate the expense of "helper engines", and increase efficiency of travel along the line. One of the results of the new rail line was the establishment of Tracy, named after Lathrop J. Tracy, an official of the railroad, on September 8, 1878. Soon after the establishment of the new line and the town of Tracy, the railroad discontinued the coaling station at Ellis and moved its employees and their families to Lathrop and Tracy. Indeed, the town of Ellis not only relocated its population to Tracy, but also some of its buildings, including two hotels.

Tracy continued to grow as a railroad center in the late 1800s. A new, fast and cheap rail line to Los Angeles was completed at this time that passed through Tracy and Los Banos and the railroad relocated its headquarters from Lathrop to Tracy in March of 1894. Tracy was incorporated in 1910, and continued to expand because of the opening of State Highway 50 in 1914 and establishment of the West Side Irrigation District in 1915 that stimulated agricultural development of the area. Railroad operations in Tracy began to decline in the 1950s, but the city continued to prosper as an agricultural community. Agriculture is still important in the Tracy area, but the area is shifting from agriculture to residential and commercial uses because of its location near the Altamont Pass and the construction of several highways in the area.

## PROJECT SETTING

### Project Site

As described in Chapter 2.0, Project Description, the Project site includes two distinct planning boundaries, including the 104.36-acre Annexation Area (or Project site) and the 103.0-acre Development Area. The 104.36-acre Annexation Area encompasses the total Project site while the 103.0-acre Development Area encompasses the portion of the Project site proposed for development.

The Project site is located in the western portion of the City of Tracy's Sphere of Influence (SOI) 10-Year Planning Horizon, within the unincorporated area of San Joaquin County. The Project site is located northeast of Interstate 580 (I-580), approximately 4.75 miles southwest of Tracy City Hall, and directly south of the Cordes Ranch Specific Plan[1]. The Project site is located within Sections 35 of Township 2 South, Range 4 East Mount Diablo Base Meridian (MDBM). The Project site is shown on the Tracy, California, U.S. Geological Survey (USGS) 7.5-minute series quadrangle map.

The Project site is currently undeveloped land with perimeter dirt roads, some graded areas, and sparse scrub vegetation in thick grasses. The site generally grades from low to high toward the northeast. The Project site is relatively flat and ranges in elevation from approximately 148 to 187 feet above sea level. The northern portion of the Project site is topographically higher than the southern portion of the site, which is bound by the Delta Mendota Canal. The Delta-Mendota Canal is used for irrigation of land along the west side of the San Joaquin Valley carrying water southeasterly from the C.W. Jones Pumping Plant to the Mendota Pool[2]. The canal's overflow spillway structure is located in the center of the southern boundary of the site. In addition, there are two existing features within the northeast corner of the site consisting of an existing underground PG&E gas line running northwest and a large depressed area possibly used as a drainage basin or detention pond during previous agricultural use.

Based on historical aerial photographs, the entire Project site was previously used for agriculture and farming (i.e., a former orchard). According to Google Earth historical imagery, the Project site has been undeveloped since at least 1993 (which is the earliest historical image available on Google Earth).

## Surrounding Uses

The Project site is surrounded by a variety of undeveloped and developed land uses. The Project site is bordered on the north by West Schulte Road. The parcels to the north of the Project site (across West Schulte Road) are designated Industrial in the Tracy General Plan and are part of the Cordes Ranch Specific Plan, which plans for a commerce and business park on approximately 1,780-acres of land.

Surrounding land uses include warehouse distribution and other industrial uses to the north, vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural

[1] The Cordes Ranch Specific Plan establishes land use, zoning, development standards and regulations for approximately 1,780 acres located in the northwest region of the City of Tracy. The vision for the Cordes Ranch Specific Plan is to create a commerce and business park, consisting of 55.1 acres of General Commercial uses, 152.2 acres of General Office uses, 1,476.9-acres of Business Park Industrial uses, and 96.3-acres of Park uses.

[2] San Luis & Delta-Mendota Water Authority. 2020. Access: https://sldmwa.org/about-sldmwa-facilities/about-the-delta-mendota-canal/

residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

## KNOWN CULTURAL RESOURCES

A summary of the record search and Native American consultation that was performed for the Project site is included below.

### Record Search

The purpose of the cultural records search is to identify all previously recorded cultural resources (prehistoric and historic archaeological sites, historic buildings, structures, objects, or districts) within the Project site. A search of CHRIS was requested from the CCIC located at California State University, Stanislaus on November 27, 2019, which included the Project area and a one-half mile radius (CCIC File # 11244L).

The search included a review of the CCIC maps for the Project site and immediate vicinity of the Project area, and a review of the: National Register of Historic Places (NRHP); California Register of Historical Resources (CRHR); California Inventory of Historic Resources (1976); California Historical Landmarks; California Points of Historical Interest listing; Built Environment Resource Directory; Office of Historic Preservation; and other pertinent historic data available at CCIC for San Joaquin County. The results of the record search indicate that the Project area does not contain any recorded prehistoric or historic archaeological resources or historic buildings, and the General Land Office Survey Plat does not reference any historic features in the Project area. No historic or prehistoric resources have ever been recorded in or in the immediate vicinity of the Project site.

### Native American Consultation

De Novo Planning Group, on behalf of the City, sent a letter to the Native American Heritage Commission (NAHC) requesting a check of the Sacred Lands Files (SLF) for the Project area and a list of the Senate Bill (SB) 18 and Assembly Bill (AB) 52 tribal groups with traditional lands or cultural places located within the Project boundaries. The check failed to reveal any properties listed as Sacred Lands on the Project site. The NAHC provided a list of interested individuals and groups to contact regarding the site.

Pursuant to SB 18 and AB 52, consultation letters were sent via certified mail on January 6, 2020 by De Novo Planning Group, on behalf of the City, requesting information related to cultural resources or heritage sites within the Project area. The letters were sent to the two tribal representatives listed in the NAHC response, including: Katherine Erolinda Perez, Chairperson of the North Valley Yokuts Tribe, and Corrina Gould, Tribal Chairperson of the Confederated Villages of Lisjan.

Corrina Gould, Tribal Chairperson of the Confederated Villages of Lisjan, responded to the consultation letter via email on February 6, 2020 indicating that, while nothing has been found or reported on the Project site to date, their tribal ancestors lived all over this area and there is the possibility of unintentionally finding remains or cultural/tribal cultural resources on the Project site during ground disturbing activities. For these reasons, the tribe asks to be contacted if any remains

or cultural/tribal cultural resources are found during construction activities. No reply was received by the North Valley Yokuts Tribe.

## 3.5.2 REGULATORY SETTING

### FEDERAL

#### National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 as a means to protect cultural resources that are eligible to be listed on the NRHP. The law sets forth criterion that is used to evaluate the eligibility of cultural resources. The NRHP is composed of districts, sites, buildings, structures, objects, architecture, archaeology, engineering, and culture that are significant to American History.

Virtually any physical evidence of past human activity can be considered a cultural resource. Although not all such resources are considered to be significant and eligible for listing, they often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values.

#### National Register of Historic Places

The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

> *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and*
>
> *(A) that are associated with events that have made a significant contribution to the broad patterns of our history and cultural heritage; or*
> *(B) that are associated with the lives of persons significant in our past; or*
> *(C) that embody the distinctive characteristics of a type, period, region, or method of construction, or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
> *(D) that have yielded, or may be likely to yield, information important in prehistory or history.*

#### American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It

establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

### Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on federal land. New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

## STATE

### California Register of Historic Resources

The California Register of Historic Resources (CRHR) was established in 1992 and codified in the Public Resource Code §§ 5020, 5024 and 21085. The law creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including: properties listed in the NRHP; properties eligible for listing in the NRHP; and certain classes of State Historical Landmarks. Determining the CRHR eligibility of historic and prehistoric properties is guided by CEQA Guidelines § 15064.5(b) and Public Resources Code (PRC) §§ 21083.2 and 21084.1.

Cultural resources, under CRHR guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

### California Environmental Quality Act

CEQA Guidelines § 15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration of a historical resource, including archaeological sites, is generally considered a significant impact. Determining the CRHR eligibility of historic and prehistoric properties is guided by CEQA Guidelines § 15064.5(b) and PRC §§ 21083.2 and 21084.1.

CEQA also provides for the protection of Native American human remains (CEQA Guidelines § 15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

If a prehistoric or historic period cultural resource does not meet any of the four CRHR criteria, but does meet the definition of a "unique" site as outlined in PRC § 21083.2, it may still be treated as a significant resource if it is: an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
- it has a special and particular quality such as being the oldest of its type or the best available example of its type, or
- it is directly associated with a scientifically recognized important prehistoric or historic event.

## California Health and Safety Code

California Health and Safety Code § 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC. The CEQA Guidelines (§ 15064.5) specifies the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

## Senate Bill 18 (Burton, Chapter 905, Statutes 2004)

SB 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. This legislation, which amended Government Code §§ 65040.2, 65092, 65351, 65352, and 65560, and added Sections 65352.3, 653524, and 65562.5; also requires the Governor's Office of Planning and Research to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §§ 65300 et seq.) and specific plans (defined in Government Code §§ 65450 et seq.).

### Assembly Bill 978

In 2001, AB 978 expanded the reach of the Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-federally recognized tribes for repatriation.

### Assembly Bill 52

AB 52, approved in September 2014, creates a formal role in the CEQA environmental review process for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    A) Included or determined to be eligible for inclusion in the CRHR;
    B) Included in a local register of historical resources as defined in PRC § 5020.1(k).
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC §5024.1 (c). In applying the criteria set forth in PRC § 5024.1 (c) the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC § 21084.1, a unique archaeological resource as defined in PRC § 21083.2(g), or a "non-unique archaeological resource" as defined in PRC § 21083.2(h) may also be a tribal cultural resource if it conforms with above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

Tribal consultation pursuant to AB 52 is discussed in the Existing Setting.

## LOCAL

### City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to cultural and tribal resources. General Plan policies applicable to the Project are identified below:

POLICIES: COMMUNITY CHARACTER

- CC-3.1-P2. Identified cultural and historical landmarks and buildings shall be preserved.
- CC-3.1-P3: New development, redevelopment, alterations, and remodeling projects should be sensitive to surrounding historic context.
- CC-3.1-P4: As part of the development review process, there shall be a standard condition of approval that if any resources are found during construction, all operations within the project area shall halt until an assessment can be made by appropriate professionals regarding the presence of archaeological and paleontological resources and the potential for adverse impacts on these resources.
- CC-3.1-P5: Any archaeological or paleontological resources on private property shall be either preserved on their sites or adequately documented and conserved as a condition of removal. If any resources are found unexpectedly during development, then construction must cease immediately until accurate study and conservation measures are implemented.
- CC-3.1-P6: If Native American artifacts are discovered on a site, the City shall consult representatives of the Native American community to ensure the respectful treatment of Native American sacred places.

### City of Tracy Municipal Code

Tracy Municipal Code Title 9 addresses building regulations. Chapter 9.48 adopts the California Historical Building Code. The purpose of the chapter is to "provide regulations for the preservation, restoration, rehabilitation, relocation, or reconstruction of buildings or structures designated as qualified historical buildings or properties; provide alternative solutions for the preservation of qualified historical buildings or properties, to provide access for persons with disabilities, to provide a cost-effective approach to preservation, and to provide for the reasonable safety of occupants or users."

## 3.5.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project is considered to have a significant impact on cultural or tribal resources if it will:

- Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC § 5020.1(k);
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as defined in CEQA Guidelines §15064.5. (Less than Significant with Mitigation)

The Project site encompasses approximately 104.46 acres of undeveloped land previously used for agricultural purposes. There are no buildings or structures located on-site. A CHRIS search was requested from the CCIC, which included the Project area and a one-half mile radius (CCIC File #11244L). The results of the CCIC records search indicated that the Project site does not contain any recorded buildings or structures listed on the State Office of Historic Preservation Historic Property Directory (which includes listings of the CRHR, California State Historical Landmarks, California State Points of Historical Interest, and the NRHP). The records search also noted that the General Land Office Survey Plat does not reference any historic features in the Project area.

While, the CCIC records search found nothing documented on-site that could be considered a "historical resource" under Section 15064.5 in the CEQA Guidelines, as with most projects in the region, there is also the potential for discovery of previously unknown historical resources during ground disturbing activities. For the above-stated reasons, the Project will be required to implement Mitigation Measure 3.5-1 to reduce the potential impact to historical resources, resulting in a ***less than significant*** impact on historical resources.

#### MITIGATION MEASURE(S)

***Mitigation Measure 3.5-1:*** *If any historical resources, cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, are found during grading and construction activities during any phase of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).*

*Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource.*

*In addition, if the resource(s) identified is cultural or tribal in nature, the Confederated Villages of Lisjan shall be contacted to review and identify the resource, prior to work continuing at the discovery site.*

*If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, would also be required and, if Native American resources are identified, shall be retained at the Project applicant's expense.*

## Impact 3.5-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as defined in CEQA Guidelines § 15064.5, or a significant tribal cultural resource, as defined in Public Resources Code § 21074. (Less than Significant with Mitigation)

The Project site is located in an area known to have archaeological, cultural, and tribal cultural resources. As noted above, a CHRIS search was requested from the CCIC, which included the project area and a one-half mile radius (CCIC File # 11244L). The results indicated that the Project area does not contain any recorded prehistoric or historic archaeological resources or historic buildings, and the General Land Office Survey Plat does not reference any historic features in the Project area. Additionally, the SLF check failed to reveal any resources on the Project site.

As noted previously, two tribal representatives were contacted pursuant to SB 18 and AB 52. The Confederated Villages of Lisjan responded noting their tribal ancestors inhabited this area resulting in the potential for unintentionally finding remains or cultural/tribal cultural resources on the Project site during ground disturbing activities. Additionally, as with most projects in the region that involve ground-disturbing activities, there is also the potential for discovery of a previously unknown archaeological resources and cultural resources, including prehistoric or historic artifacts. Implementation of Mitigation Measures 3.5-1 and 3.5-2 would ensure that the potential impact to archaeological, cultural, and tribal resources is ***less than significant***.

### MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.5-1***

***Mitigation Measure 3.5-2:*** *If human remains are discovered during the course of construction during any phase of the Project, work shall be halted at the site and at any nearby area reasonably suspected to overlie adjacent human remains until the San Joaquin County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps will be taken:*

- *The coroner shall contact the Native American Heritage Commission and the Confederated Villages of Lisjan in order to ascertain the Most Likely Descendant (MLD) from the deceased individual. If a MLD is identified, the MLD, with the permission of the owner of the land, or his or her authorized representative, in accordance with the law, may inspect the site*

*discovery site and recommend to the landowner, or his or her representative, means for the treatment or disposition, with appropriate dignity' of the human remains and any associated grave goods. The landowner has no legal obligation to allow the MLD accesses to the property for the purpose of making a recommendation. The MLD must complete their inspection and make their recommendation within 48 hours of their notification by the NAHC. The recommendation may include the scientific removal and analysis of human remains and items associated with Native American burials. The coroner shall make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.*

- *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:*
    - *The Native American Heritage Commission and Confederated Villages of Lisjan is unable to identify a descendent.*
    - *The descendant identified fails to make a recommendation.*
    - *The City of Tracy or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*

## Impact 3.5-3: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)

Indications suggest that humans have occupied San Joaquin County for over 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials.

Under CEQA, human remains are protected under the definition of archaeological materials as being “any evidence of human activity.” Additionally, Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during Project implementation.

While no human remains are documented on or near the Project site, implementation of the following mitigation measure would ensure that all construction activities which inadvertently discover human remains implement state-required consultation methods to determine the disposition and historical significance of any discovered human remains. The following mitigation measure would reduce this impact to a ***less-than-significant*** level.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.5-2.***

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The purpose of this section is to disclose and analyze the potential impacts associated with the geology of the Project site and regional vicinity, and to analyze issues such as the potential exposure of people and property to geologic hazards, landform alteration, and erosion, as well as potential impacts to paleontological resources and unique geological units. This section is based in part on the following: the *San Joaquin County General Plan* (San Joaquin County, 2016), *City of Tracy General Plan* (City of Tracy, 2011), *City of Tracy General Plan EIR* (City of Tracy, 2011), *Custom Soils Report for San Joaquin County, California* (NRCS, 2019), *Natural Resources Conservation Service* (NRCS) *Web Soil Survey* (NRCS, 2016), *Interactive Fault Map* provided by the U.S. Geological Survey (USGS, 2019), and the *Costco E-Commerce Facility Geotechnical Review* (Kleinfelder, April 2018).

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic. Full comments received are included in Appendix A.

As discussed in the Initial Study, the proposed Project would connect to the municipal sewer system for wastewater disposal and septic tanks, or septic systems are not proposed as part of the Project. Additionally, the Project site is not designated as a Mineral Resource Zone (MRZ) and there are no significant deposits of mineral resources located on the Project site, as delineated by the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP). ***No impact*** in these areas would occur. These CEQA topics will not be addressed further in this EIR. The Initial Study is included in Appendix A.

## 3.6.1 ENVIRONMENTAL SETTING

### GEOLOGIC SETTING

#### Regional Geology

The Project site lies in the San Joaquin Valley in central California. The San Joaquin Valley is located in the southern portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west.

The San Joaquin Valley (Valley) is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are located on the east side of the Valley, and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of meta-sedimentary, volcanic, and granitic rocks.

#### Local Setting

As described in Chapter 2.0, Project Description, the Project site includes two distinct planning boundaries, including the 104.36-acre Annexation Area (or Project site) and the 103.0-acre

Development Area. The 104.36-acre Annexation Area encompasses the total Project site while the 103.0-acre Development Area encompasses the portion of the Project site proposed for development.

The Project site is relatively flat with natural gentle slope from southwest to northeast and encompasses undeveloped land previously used for agricultural purposes. Surrounding land uses include existing and future warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area located in the City of Tracy), vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, California Department of Forestry and Fire Protection Station 26, and Delta Mendota Canal to the west (within unincorporated San Joaquin County). The Delta-Mendota Canal is a nearly 120-mile-long aqueduct that is part of the Central Valley Project. Its function is to restore water to the San Joaquin River drainage that has been diverted at upstream locations to the southeast, notably, the Friant Dam located roughly 15 miles northeast of Fresno.

A Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-1 and Table 3.6-1 identifies the type and range of soils found in the Project site.

***TABLE 3.6-1: PROJECT SITE SOILS***

| *UNIT SYMBOL* | *NAME* | *ACRES IN PROJECT SITE* | *PERCENT OF PROJECT SITE* | *CAPABILITY CLASSIFICATION** |
|---|---|---|---|---|
| 118 | Capay clay, 0 to 1 percent slopes | 95.85 | 93.4% | II-IV |
| 252 | Stomar clay loam, o to 2 percent slopes | 6.73 | 6.6% | II-IV |
| | **Totals** | 103.00 | 100.0% | -- |

** DEPICTS IRRIGATED VS NON IRRIGATED CAPABILITY RATING*

*SOURCE: NRCS CUSTOM WEB SOIL SURVEY, 2021; SAN JOAQUIN COUNTY SOIL SURVEY, 1992.*

**Capay clay.** The Capay series consists of very deep, moderately well and somewhat poorly drained soils that formed in fine textured alluvium derived from mostly sandstone and shale. Capay soils are on flood basins, alluvial fans, interfan basins and basin rims. They formed in fine textured alluvium derived from sandstone and shale or other mixed rock sources. Slopes are 0 to 15 percent. They have a moderately well and somewhat poor drainage and a slow to very slow permeability. Common uses for this series include: growing irrigated crops such as tomatoes, sugar beets, beans or grain sorghum, dry farmed to small grains, and irrigated and dryland pasture. Native vegetation is a dense stand of annual grasses and forbs.

As shown in Table 3.6-1, 93.4 percent of the site soils are Capay clay soils. This soil type is located throughout the entire Project site, except in the northeastern corner of the site.

**Stomar clay loam**. The Stomar series consists of very deep, well drained soils formed in alluvium from sedimentary rocks sources. Stomar soils are on dissected alluvial fans and terraces. The soils formed in material weathered from sandstone and shale. Slopes are 0 to 2 percent. The annual

precipitation is about 9 inches and the annual temperature is about 62 degrees F. This series is well drained; negligible to high runoff; and has a slow permeability. Common uses for this series include: irrigated cropland including field crops, row crops and orchards. It is also used for dryland cropland such as grain. Some areas are used for urban land and there are small areas used for livestock grazing. Typical vegetation where not cultivated is annual grasses and forbs.

As shown in Table 3.6-1, 6.73 percent of the site soils are Stomar clay loam soils. This soil type is located in the northeastern corner of the Project site along the eastern site boundary.

## FAULTS AND SEISMICITY

### Faults

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The State of California designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.6-2 presents the California fault activity rating system.

***TABLE 3.6-2: FAULT ACTIVITY RATING***

| *FAULT ACTIVITY RATING* | *GEOLOGIC PERIOD OF LAST RUPTURE* | *TIME INTERVAL (YEARS)* |
|---|---|---|
| Active (A) | Holocene | Within last 11,000 years |
| Potentially Active (PA) | Quaternary | 11,000-1.6 Million Years |
| Inactive (I) | Pre-Quaternary | Greater than 1.6 Million |

*SOURCE: CALIFORNIA GEOLOGICAL SURVEY*

Figure 3.6-2 provides a map of known nearby faults in relation to the Project site. While no faults cross the Project site, relatively large earthquakes have historically occurred in the Bay Area and along the margins of the Central Valley. The nearest earthquake fault zoned as active by the State of California Geological Survey is the Black Butte Fault, located approximately 1.1 miles to the south of the site. However, the Black Butte fault is not considered an active fault that would trigger evaluation under the Alquist-Priolo Earthquake Fault Zoning Act. Other active and potentially active faults near the Project site include the Midway fault (2.3 miles west), the Corral Hollow-Carnegie fault zone (6.1 miles southwest), and the San Joaquin fault (5.7 miles southeast of the site).

## Seismicity

The amount of energy available to a fault is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the displaced rocks. These factors are combined to calculate the moment (energy) release on a fault. The total seismic energy release for a fault source is sometimes partitioned between two different recurrence models, the characteristic and truncated Gutenberg-Richter (G-R) magnitude-frequency distributions. These models incorporate our knowledge of the range of magnitudes and relative frequency of different magnitudes for a particular fault. The partition of moment and the weights for multiple models are given in the following summary.

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.6-3 provides a description and a comparison of intensity and magnitude.

***TABLE 3.6-3: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES***

| *RICHTER MAGNITUDE* | *MODIFIED MERCALLI* | *EFFECTS OF INTENSITY* |
|---|---|---|
| 0.1 – 0.9 | I | Earthquake shaking not felt. |
| 1.0 – 2.9 | II | Shaking felt by those at rest. |
| 3.0 – 3.9 | III | Felt by most people indoors, some can estimate duration of shaking. |
| 4.0 – 4.5 | IV | Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak. |
| 4.6 – 4.9 | V | Felt by everyone indoors, many can estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing. |
| 5.0 – 5.5 | VI | Felt by all who estimate duration of shaking. Sleepers awaken, liquids spill, objects are displaced, and weak materials crack. |
| 5.6 – 6.4 | VII | People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall. |
| 6.5 – 6.9 | VIII | Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall. |
| 7.0 – 7.4 | IX | General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken. |
| 7.5 – 7.9 | X | General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed, railroads bent slightly. Dams, dikes and embankments damaged. |
| 8.0 – 8.4 | XI | Large landslides, water thrown, general destruction of buildings. Pipelines destroyed, railroads bent. |
| 8.5 + | XII | Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air. |

*SOURCE: UNITED STATES GEOLOGICAL SURVEY*

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, San Joaquin County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent

within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong.

### Alquist-Priolo Special Study Zone

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a Project site.

As shown in Figure 3.6-2, the Project site is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zone, the Greenville fault zone, is located approximately 8.7 miles west of the Project site.

## SEISMIC HAZARDS

### Seismic Ground Shaking

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters. Seismic ground shaking in the Project site is expected during the life of the proposed Project. All structures will be built in accordance with the California Building Code's seismic design standards.

### Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. The Project site does not have surface expression of active faults and fault rupture is not anticipated.

### Liquefaction

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. Under certain circumstances, the ground shaking can temporarily transform an otherwise solid material to a fluid state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may subside and suffer major structural damage. Liquefaction is most

often triggered by seismic shaking, but it can also be caused by improper grading, landslides, or other factors. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet.

The potential for liquefaction is greater in certain geologic and hydrologic environments that may be characterized by loosely consolidated, silty sediments together with shallow groundwater. In the vicinity of the Project area, the sediments most susceptible to liquefaction include Holocene (less than 10,000-year-old) delta, river channel, flood plain, and aeolian deposits, and poorly compacted fills. By contrast, dense soils, including well-compacted fills, are less susceptible to liquefaction. The Geotechnical Review prepared for the Project notes subsurface conditions consist of topsoil over native basin deposits underlain and interbedded with alluvial fan deposits. The basin deposits are anticipated to consist of stiff hard, lean to fat clay and silt and extend up to a depth of about 50 feet below ground surface (bgs). Additionally, the Geotechnical review notes groundwater level is generally greater than 40 to 50 feet bgs, based on available groundwater data and maps.

To date, the CGS Seismic Hazards Zonation Program has not identified any seismically-induced liquefaction zones in the City of Tracy or the Project site. Additionally, the Tracy General Plan EIR identifies the majority of the Tracy Planning Area as low risk for liquefaction, including the Project site, with the exception for the river banks within the Planning Area. Therefore, the potential for liquefication within the Project site is low.

### Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Because the potential for liquefaction is low on-site, the potential for lateral spreading is also considered low.

### Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The Project site is essentially flat; therefore, the potential for a landslide in the Project site is non-existent.

## NON-SEISMIC HAZARDS

### Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections. The soils shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation

systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering.

Expansion is a typical characteristic of clay-type soils. The more clayey, critically expansive surface soil and fill materials will be subjected to volume changes during seasonal fluctuations in moisture content. As indicated in the Tracy General Plan EIR, Tracy does have a moderate to high risk for expansive soils, depending on the location and soil type, and according to the Geotechnical Review, the near surface soils on-site exhibit medium to high expansion characteristics.

## Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

Because the Project site contains high clay content surface soils, the Project site would potentially be subject to water erosion. As previously mentioned, a Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program, which identified the erosion factor K for on-site soils. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the Project site, the erosion factor Kf varies from 0.24 to 0.32, which is considered a moderate potential for erosion.

## Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the Tracy General Plan EIR or the Project-specific Geotechnical Review as an issue in the Tracy area.

### Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Typically, significant subsidence occurs only in areas underlain by soft soils such as marsh deposits or in areas susceptible to liquefaction. According to the Tracy General Plan EIR, area subsidence potential has not been documented in the Tracy Planning Area. The Geotechnical Review does not identify the subsidence potential of the site. Overall, the subsidence potential on-site is considered low.

## PALEONTOLOGICAL RESOURCES

There are several rock formations in the Tracy area that could be indicators of potential paleontological resources. These include the Neroly Formation, Moreno Shale deposits, and Panoche Formations. However, these rock formations do not constitute a unique geologic feature.

According to a records search of the University of California Museum of Paleontology (UCMP) Collections Date, eighty fossils have been found and recorded within San Joaquin County. Over half of them are dated to the tertiary period, with quaternary being the second most frequent period. These are the first and second periods of the Cenozoic Era respectively, during which modern flora, apes, large mammals, and eventually humans developed. The majority of fossils found within the Tracy area have been vertebrate in nature. According to the Cordes Ranch Specific Plan EIR, the UCMP database lists five localities in the Specific Plan Area, located north of the Project site, where Pleistocene vertebrate finds were made in 1948 during construction of the Delta Mendota Canal. These fossils include mammoth/mastodon, horse, pocket gopher, and other unspecified rodents, and unidentified artiodactyl (hoofed mammal) bone.

# 3.6.2 REGULATORY SETTING

## FEDERAL

### Uniform Building Code

The purpose of the Uniform Building Code (UBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. UBC standards address foundation design, shear wall strength, and other structurally related conditions.

## STATE

The State of California has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Code, the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act.

## California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts including: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), and California Reference Standards Code. Through the CBSC, the state provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition. It also regulates grading activities, including drainage and erosion control.

## California Building Code

The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and foundations. Section 1610 provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. Section 1613 provides structural design standards for earthquake loads. Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. Section 1803.1.1.1 requires each city and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code. Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 1804 provides standards and requirements for excavation, grading, and fill. Section 1808, 1809, and 1810 provides standards and requirements for the construction of varying foundations.

## Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

### Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and Counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

## LOCAL

### City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to geological hazards and soils. General Plan policies applicable to the Project are identified below:

POLICIES: SAFETY ELEMENT

- SA-1.1-P1. Underground utilities, particularly water and natural gas mains, shall be designed to withstand seismic forces.
- SA-1.1-P2. Geotechnical reports shall be required for development in areas where potentially serious geologic risks exist. These reports should address the degree of hazard, design parameters for the project based on the hazard, and appropriate mitigation measures.
- SA-1.2-P1. All construction in Tracy shall conform to the California Building Code and the Tracy Municipal Code including provisions addressing unreinforced masonry buildings.

### City of Tracy Municipal Code

In accordance with Tracy Municipal Code Title 9, Chapter 9.04, Section 9.04.030, the City has adopted the 2010 California Building Code (CBC), Volumes 1 and 2, by reference. As previously noted, the CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition.

## 3.6.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.6-1: The proposed Project may cause substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic related ground failure, or landslides (Less than Significant)

#### GROUND RUPTURE

The Project site is not within an Alquist-Priolo Special Study Zone. The nearest earthquake fault zoned as active by the CGS is the Black Butte Fault, located approximately 1.1 miles to the south of the Project site. However, this fault is not considered an active fault that would trigger evaluation under the Alquist-Priolo Earthquake Fault Zoning Act. Therefore, because no faults are located on the Project sites, the potential for ground rupture (cracking or breaking of the ground during an earthquake) would be less than significant.

#### GROUND SHAKING

Tracy is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. Further, the City and the Project site are located within an area of California considered a seismic hazard zone. According to the Geotechnical Review prepared for the Project, the proposed Project is geotechnically feasible.

To reduce the impact of seismic ground shaking on the development, the Project would be required to be constructed using standard engineering and seismic safety design techniques of the California Building Code, consistent with General Plan Policy SA-1.2-P1. Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures would be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

#### LIQUEFICATION

The Tracy Planning Area, including the Project site, is at low risk for liquefaction. The Geotechnical Review prepared for the Project notes subsurface soil conditions consist of stiff hard, lean to fat clay and silt extending up to a depth of about 50 feet bgs. Additionally, the Geotechnical Review notes groundwater level is generally greater than 40 to 50 feet bgs, based on available groundwater data and maps. Therefore, the potential for liquefication on site would be low, resulting in a less than significant impact.

LANDSLIDES

The Project site is essentially flat; therefore, the potential for a landslide in the Project site is non-existent. Some limited potential for slope instability risk could arise during grading and construction activities, where slopes could be over-steepened. However, this risk is mitigated by adhering to relevant California Building Code requirements. Additionally, according to the CGS Information Warehouse: Regulatory Maps, the site is not located within a Landslide and Liquefication Zone. As a result, the probability of landslides causing substantial adverse effects on people or structures is less than significant.

CONCLUSION

A Geotechnical Review was prepared to review readily-available geotechnical and geologic information in order to identify potential geotechnical-related risks associated with the Project site. According to the Geotechnical Review, the proposed Project is geotechnically feasible and concerns related to ground rupture, ground shaking, liquefication, or landslides were not identified; refer to the discussion below regarding expansive soils. As described above, the Project would be required to be constructed using standard engineering and seismic safety design techniques of the California Building Code, which would reduce any potential impact to a less than significant level. Because development in the Project site must be designed in conformance with these state and local standards and policies, any potential impact would be considered ***less than significant***.

## Impact 3.6-2: Implementation and construction of the proposed Project may result in substantial soil erosion or the loss of topsoil. (Less than Significant with Mitigation)

The Project site contains high clay content surface soils; therefore, the Project site would potentially be subject to water erosion. The Custom Soil Survey identified the Project site as having a moderate potential for erosion. Further, there is the potential for human caused erosion associated with construction activities or through the operational phase of a project. Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities temporarily expose soils and increase the potential for soil erosion and sedimentation during rain events. Construction activities can also result in soil compaction and wind erosion effects that can adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.9-1 in Section 3.9, Hydrology and Water Quality, requires an approved Stormwater Pollution Prevention Plan (SWPPP) designed to control erosion and the loss of topsoil to the extent practicable using Best Management Practices (BMPs) that the Regional Water Quality Control Board (RWQCB) has deemed effective in controlling erosion, sedimentation, runoff during construction activities. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or

innovative approaches currently available or being developed. The BMPs and overall SWPPP is reviewed by the RWQCB as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency. Implementation of Mitigation Measure 3.9-1 would ensure that the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

Implement ***Mitigation Measure 3.9-1.***

## Impact 3.6-3: The proposed Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse. (Less than Significant with Mitigation)

LANDSLIDE AND LIQUEFACTION

As discussed in Impact 3.6-1, the Project site is essentially flat and has not been identified as being located within a seismically-induced liquefaction or landslide zone. Therefore, the probability of a landslide or liquefication on the Project site is low.

LATERAL SPREADING

Oftentimes, lateral spreading is also directly associated with areas of liquefaction. Based on the stiff hard, lean to fat clay and silt anticipated in the basin deposits and very dense silty and clayey sand in the alluvial deposits coupled with the low groundwater table generally greater than 40 to 50 bgs, the potential for liquefaction is low. For these reasons, generally the probability of lateral spreading occurring on the Project site is considered low.

COLLAPSIBLE SOILS

Collapsible soils have not been identified in the Tracy General Plan EIR as an issue in the Tracy area; therefore, the probability of collapsible soils occurring on the Project site is considered low.

SUBSIDENCE

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. Subsidence has not been identified in the Tracy General Plan EIR as an issue in the Tracy area.

CONCLUSION

The Project site does not have a significant risk of becoming unstable as a result landslide, subsidence, or soil collapse. There is a low potential for liquefaction, liquefaction induced settlement, and lateral spreading. As described above, the Geotechnical Review determined development of the Project is geotechnically feasible. The Project would be required to be

constructed using standard engineering and seismic safety design techniques of the California Building Code, which would reduce potential impacts associated with unstable geologic and soil conditions. Additionally, the Project would be required to comply with Mitigation Measure 3.6-1, which requires a final geotechnical evaluation be prepared and design recommendations identified to address any soil conditions within the Project site. Implementation of recommendations identified by the final geotechnical evaluation conducted for the Project site would reduce potential impacts associated with unstable geology and soils conditions and impacts would be considered ***less than significant***.

MITIGATION MEASURE(S)

***Mitigation Measure 3.6-1****: Prior to earthmoving activities for each phase of the Project, a certified geotechnical engineer shall perform a final geotechnical evaluation of the soils at a design-level as required by the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The geotechnical evaluation shall be funded by the Project applicant.*

*The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction or lateral spreading. The grading and improvement plans, as well as the storm drainage and building plans for each phase of the Project shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*

## Impact 3.6-4: The proposed Project has the potential for expansive soils to create substantial risks to life or property. (Less than Significant with Mitigation)

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. According to the Geotechnical Review, the near surface soils in the Project site exhibit moderate to high expansion characteristics and are moderately compressible. Additionally, the Geotechnical Review anticipates site grading activities would expose expansive clays. Therefore, measures to reduce potentially significant impacts related to expansive site soils would be necessary. Measures may include importing non-expansive fill for placement over the subgrade (in fill areas), removing and replacing with non-expansive fill at subgrade level, or using cement or lime treating the upper 12 to 18 inches of the subgrade. In addition, due to the tendency of expansive clays to swell and heave, site drainage would need to be directed away from building footprints to minimize moisture and volume change underneath floor slabs or foundations.

As discussed in Impact 3.6-3, the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected,

would lead to structural defects. The City of Tracy also requires a geotechnical evaluation be prepared for developments in areas where potentially serious geologic risks exist, such as expansive soils, that address the degree of hazard, design parameters for the project based on the hazard, and appropriate measures be incorporated into the overall design and construction. Mitigation Measure 3.6-1, provides the requirement for a final geotechnical evaluation in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage and building plans, would be required to be designed in accordance with the recommendations provided in the final geotechnical evaluation.

With the implementation of Mitigation Measure 3.6-1 (requiring a final Geotechnical Evaluation, and site recommendations) the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.6-1**.*

## Impact 3.6-5 The proposed Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant with Mitigation)

The Project site is located in an area known to have paleontological resources. As previously mentioned, the Cordes Ranch Specific Plan EIR, prepared for the 1,780-acres north of the Project site, indicated the UCMP database lists five localities north of the Project site, specifically, where Pleistocene vertebrate finds were found in 1948 during construction of the Delta Mendota Canal. These fossils include mammoth/mastodon, horse, pocket gopher, and other unspecified rodents, and unidentified artiodactyl (hoofed mammal) bone. Because the Delta Mendota Canal borders the southern boundary of the Project site, ground disturbing activities have the potential to reveal previously unknown significant paleontological resources, resulting in a potentially significant impact to paleontological resources or unique geologic features.

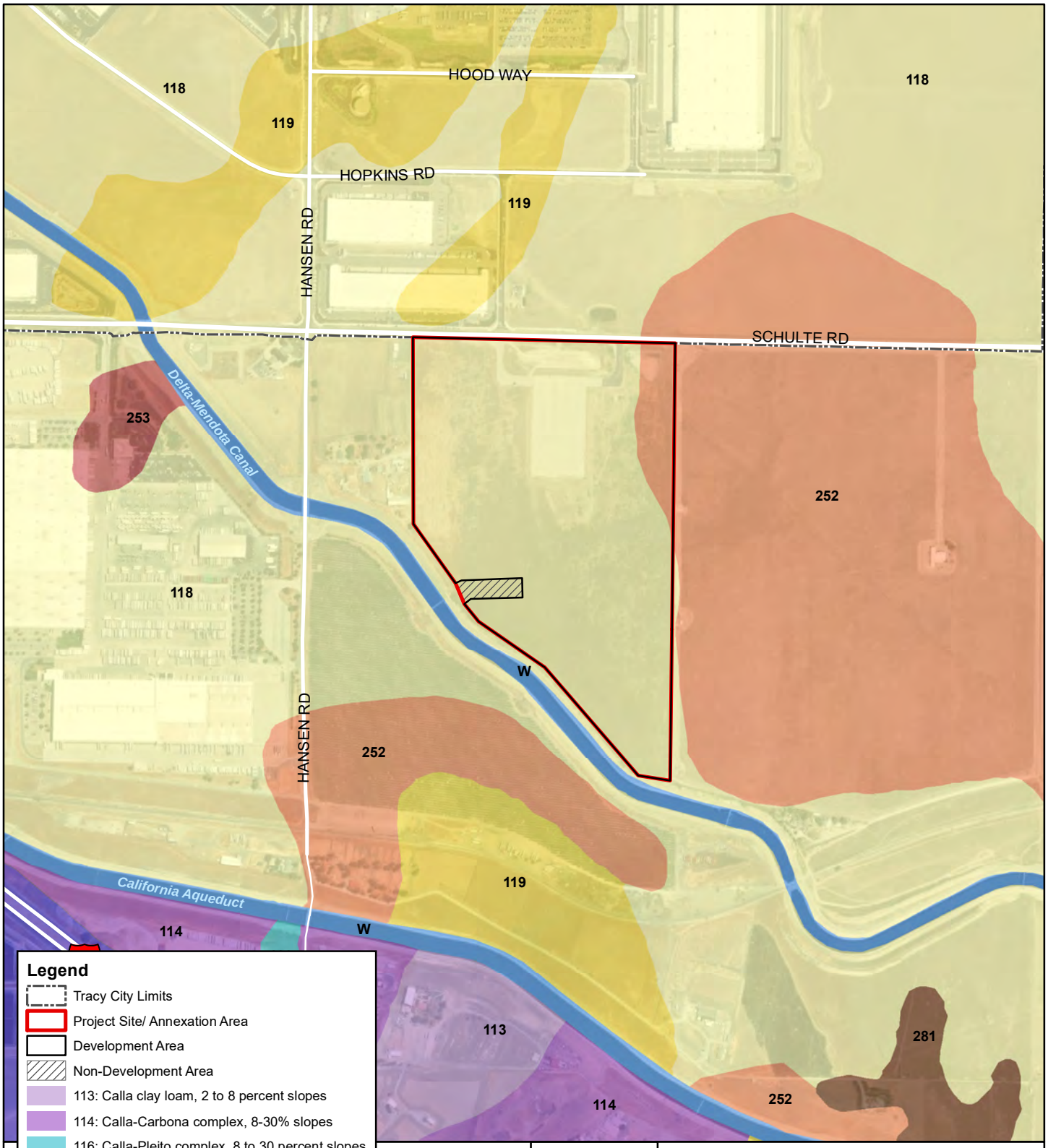
Implementation of Mitigation Measure 3.6-2, would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. Mitigation Measure 3.6-2 requires that if subsurface deposits believed to be paleontological in origin are discovered during construction, all work must halt within a 200-foot radius of the discovery and a qualified paleontologist must be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. Implementation of this mitigation measure would reduce this impact to a ***less-than-significant*** level.

MITIGATION MEASURE(S)

***Mitigation Measure 3.6-2:*** *If any paleontological resources are found during grading and construction activities of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find. A paleontologist is a scientist with an advanced degree (Master's or Doctorate) who studies the history of life on Earth through the fossil record.*

*Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating on the Project site, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology. The paleontologist recommendations shall be implemented.*

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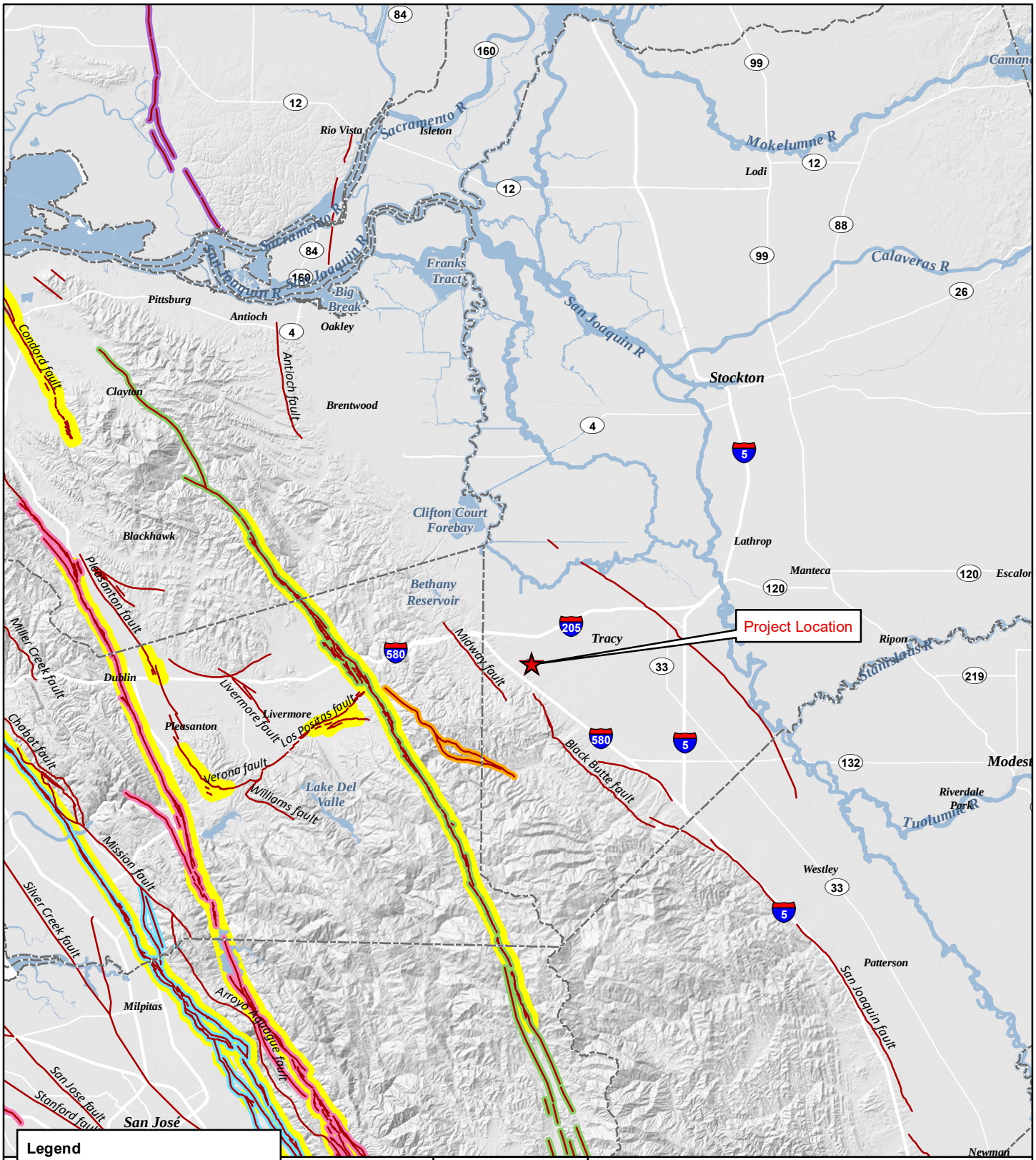

*Sources: NRCS soil survey area CA077, 9/16/2019; San Joaquin County GIS; ArcGIS Online World Imagery Map Service. Map date: December 11, 2019. Revised: June 28, 2021. Revised: May 26, 2022.*

**TRACY COSTCO DEPOT PROJECT**

## Figure 3.6-1. Soil Types

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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Project Location
Tracy
Stockton
Lathrop
Manteca
Ripon
Escalon
Modesto
Lodi
Rio Vista
Isleton
Pittsburg
Antioch
Oakley
Big Break
Brentwood
Clayton
Blackhawk
Dublin
Pleasanton
Livermore
Westley
Patterson
Milpitas
San José
Newman
Riverdale Park
Franks Tract
Clifton Court Forebay
Bethany Reservoir
Lake Del Valle
Sacramento R
San Joaquin R
Mokelumne R
Calaveras R
Stanislaus R
Tuolumne R
Midway fault
Black Butte fault
Los Positas fault
Livermore fault
Verona fault
Williams fault
Chabot fault
Pleasanton fault
Miller Creek fault
Mission fault
Silver Creek fault
Arroyo Aguague fault
San Jose fault
Stanford fault
Antioch fault
Concord fault
San Joaquin fault
Legend
Fault Line
Fault Zone
Calaveras fault zone
Corral Hollow-Carnegie fault zone
Greenville fault zone
Hayward fault zone
Vaca fault zone
Alquist-Priolo Zone
N
0 2½ 5
Miles
1:500,000
Data sources: US Geologic Survey; CalAtlas. Map date: December 11, 2019.
TRACY COSTCO DEPOT PROJECT
Figure 3.6-2. Earthquake Fault Map
De Novo Planning Group

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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from Project implementation. The analysis contained in this section is intended to be at a Project level, and covers impacts associated with the conversion of the entire site to urban uses. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the proposed Project's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed Project. Disclosure and discussion of the Project's estimated energy usage and greenhouse gas emissions are provided.

One comment was received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the San Joaquin Valley Air Pollution Control District (October 29, 2021). This comment is addressed within this section. The full comment is included in Appendix A.

## 3.7.1 ENVIRONMENTAL SETTING

### GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor ($H_2O$), carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), and ozone ($O_3$). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs $CO_2$, $CH_4$, and $N_2O$ occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide ($CO_2$), methane ($CH_4$), ozone ($O_3$), water vapor, nitrous oxide ($N_2O$), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2020).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 440 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2016 (California Air Resources Board, 2018a).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only $CO_2$ were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out of-state sources) (15%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Air Resources Board, 2020c).

## EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the

Climate Scenarios report (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

## Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

## Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much

snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

## Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

## Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as

60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

### Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

## ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 60 percent of electricity generated by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under SB 100). The 2021 SB 100 Joint Agency Report was published in 2021, which found that the long-term goals contained in SB 100 are technically achievable through multiple pathways, although achieving 100 clean electricity would increase the total annual electricity system cost by 6% relative to the cost under the state's Renewables Portfolio Standard requirement of having at least 60 percent clean electricity by the end of 2030. These estimates will change over time as markets change, new technologies are commercialized, and additional factors such as grid reliability are included in future analyses.

Overall, in 2019, California's per capita energy usage was ranked second-lowest in the nation (U.S. EIA, 2020b). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970s, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

### Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and a very small amount of nuclear generation resources. In 2020, nearly one-half of the electricity supply came from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from

nuclear generating stations (U.S. EIA, 2022). In 2020, approximately 41 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 48 percent of the State's utility-scale net electricity generation came from renewable sources, such as solar, wind, geothermal, hydropower, and biomass. Nuclear energy powered an additional 11 percent. The amount of electricity generated from coal was effectively zero (U.S. EIA, 2022). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2020b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2021, the latest year for which data is available, statewide consumption was 277,205 GWh (California Energy Commission, 2022). In 2020, electricity consumption in San Joaquin County was 5,737 GWh (California Energy Commission, 2021).

### Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2019, world consumption of oil had reached approximately 98 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (U.S. EIA, 2020c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 95 percent of the State's transportation energy needs.

### Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). In As of March 2022, California produced 11.4 billion cubic feet of natural gas per month (U.S. EIA, 2022). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area. In 2018, natural gas consumption in San Joaquin County was 259 million therms (California Energy Commission, 2020).

## 3.7.2 REGULATORY SETTING

### FEDERAL

### Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control

effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, State attainment plans, NAAQS motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

In 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC Sections 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

## Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been

20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

## Federal Climate Change Policy

According to the U.S. EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The U.S. EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs.

The following are actions taken at the federal level relating to GHG emissions.

**Clean Vehicles**. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the U.S. EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light duty trucks, and medium duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of $CO_2$ per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this $CO_2$ level solely through fuel economy improvements. Together, these standards would cut $CO_2$ emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration issued final rules on a second phase joint rulemaking, establishing national standards for light duty vehicles for model years 2017 through 2025 in August 2012.[1] The new standards for model years 2017 through 2025 apply to passenger cars, light duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO2 in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

[1] United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. Website: http://www.epa.gov/otaq/climate/documents/420f12051.pdf. Accessed January 21, 2021.

The U.S. EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies adopted engine and vehicle standards that began in the 2014 model year and achieve up to a 20 percent reduction in CO2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies adopted separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles, and a 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Finally, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption and $CO_2$ emissions from the 2014 to 2018 model years.

**Mandatory Reporting of Greenhouse Gases**. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the U.S. EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the U.S. EPA.

**Cap and Trade**. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Currently only California and Quebec are participating in the cap-and-trade program.

## STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

## Statutes Setting Statewide GHG Reduction Targets

### ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Safety Code Section 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction was accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directed the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

### SENATE BILL 32

SB 32 (Stats. 2016, ch. 249) added Section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

## Statutes Setting Target for the Use of Renewable Energy for the Generation of Electricity

### CALIFORNIA RENEWABLES PORTFOLIO STANDARD

Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1) set more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities were required to meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, Section 399.11 et seq. [subsequently amended].) SB 350, discussed below, increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, Section 399.11, subd (a); see also Section 399.30, subd. (c)(2).) In 2018, Senate Bill 100 (Stats. 2018, ch. 312) revised the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

## Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In 2002, the Legislature enacted Assembly Bill 1493 ("Pavley Bill") (Stats. 2002, ch. 200), which directed CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health and Safety Code Section 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the "Pavley II standards." (See California Code of Regulations, Title 13, Sections 1900, 1961, and 1961.1 et seq.)

In 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, Sections 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

## Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for 2020 and 2035.[2] Each of California's metropolitan planning

[2] The San Joaquin COG region was assigned reduction targets of 12% by 2020 and 16% by 2035.

organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed that demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

## Climate Change Scoping Plans

### 2017 SB 32 SCOPING PLAN

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provided additional direction for developing the scoping plan. In response, CARB adopted an updated Scoping Plan in December 2017. The document reflects the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks.
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

### 2022 SCOPING PLAN UPDATE

The Draft 2022 Scoping Plan Update was released on May 10, 2022, but has yet to be adopted. The 2022 Scoping Plan Update assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term

climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

## Building Code Requirements Intended to Reduce GHG Emissions

### CALIFORNIA ENERGY CODE

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2019 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost-effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2019 Title 24 standards. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. The California Energy Commission updates the standards every three years.

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. This will reduce greenhouse gas emissions by 700,000 metric tons over three years, equivalent to taking 115,000 fossil fuel cars off

the road. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.

### CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- **Tier I:** 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- **Tier II:** 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

## CEQA Direction

In 2007, SB 97 was enacted and directed OPR and the California Natural Resources Agency to prepare amendments to the CEQA Guidelines addressing the analysis of GHG emissions under CEQA. Following formal rulemaking, a series of amendments to the CEQA Guidelines were adopted to provide the general framework for the analysis of GHG emissions, and became effective in 2010. The amendments do not provide a mandatory, quantitative rubric for GHG emissions analysis, but instead provide general guidance and recognize longstanding CEQA principles regarding the discretion afforded to lead agencies where supported by substantial evidence. More specifically, CEQA Guidelines Section 15064.4(a) recognizes that the "determination of the significance" of GHG emissions "calls for careful judgment by the lead agency" in accordance with the more general provisions of CEQA Guidelines Section 15064; each agency "shall have discretion to

determine" whether to conduct quantitative or qualitative analysis, provided its determination is supported by substantial evidence. Section 15064.4 was most recently amended by the California Natural Resources Agency in 2018.

## California Supreme Court Decisions

### THE "NEWHALL RANCH" CASE

On November 30, 2015, the California Supreme Court released its opinion on *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204 (hereafter referred to as the Newhall Ranch Case).

Because of the importance of the Supreme Court as the top body within the California Judiciary, and because of the relative lack of judicial guidance regarding how GHG issues should be addressed in CEQA documents, the opinion provides very important legal guidance to agencies charged with preparing EIRs.

The case involved a challenge to an EIR prepared by the California Department of Fish and Wildlife (CDFW) for the Newhall Ranch development project in Los Angeles County, which consists of approximately 20,000 dwelling units as well as commercial and business uses, schools, golf courses, parks and other community facilities in the City of Santa Clarita.

In relation to GHG analysis, the Newhall Ranch Case illustrates the difficulty of complying with statewide GHG reduction targets at the local level using CEQA to determine whether an individual project's GHG emissions will create a significant environmental impact triggering an EIR, mitigation, and/or statement of overriding consideration. The EIR utilized compliance with AB 32's GHG reduction goals as a threshold of significance and modelled its analysis on CARB's business-as-usual (BAU) emissions projections from the 2008 Scoping Plan. The EIR quantified the project's annual emissions at buildout and projected emissions in 2020 under a BAU scenario, in which no additional regulatory actions were taken to reduce emissions. Since the Scoping Plan determined a reduction of 29 percent from BAU was needed statewide to meet AB 32's 2020 reduction goal, the EIR concluded that the project would have a less-than-significant impact because the project's annual GHG emissions were projected to be 31 percent below its BAU estimate.

The Supreme Court concluded that the threshold of significance used by the EIR was permissible; however, the BAU analysis lacked substantial evidence to demonstrate that the required percentage reduction from BAU is the same for an individual project as for the entire State. The court expressed skepticism that a percentage reduction goal applicable to the State as a whole would apply without change to an individual development project, regardless of its size or location. Therefore, the Supreme Court determined that the EIR's GHG analysis was not sufficient to support the conclusion that GHG impacts would be less than significant.

In addition, the Supreme Court provided the following guidance regarding potential alternative approaches to GHG impact assessment at the project level for lead agencies:

1. The lead agency may determine a level of 'GHG emission reduction' from the business-as-usual (BAU) projection that a new land development at the proposed location would need to achieve to comply with statewide goals, using the data behind the Scoping Plan's business-as-usual emission projections. The lead agency must provide substantial evidence and account for the disconnect between the Scoping Plan, which dealt with the State as a whole, and an analysis of an individual project's land use emissions (the same issues with CEQA compliance addressed in this case);

2. The lead agency may use a project's compliance with performance based standards – such as high building energy efficiency – adopted to fulfill a statewide plan to reduce or mitigate GHG emissions to assess consistency with AB 32 to the extent that the project features comply with or exceed the regulation (See Guidelines Section 15064.4(a)(2), (b)(3); see also Guidelines Section 15064(h)(3)). A significance analysis would then need to account for the additional GHG emissions – such as transportation emissions – beyond the regulated activity. Transportation emissions are in part a function of the location, size, and density or intensity of a project, and thus can be affected by local governments' land use decision making. Additionally, the lead agency may use a programmatic effort including a general plan, long range development plan, or a separate plan to reduce GHG emissions (such as Climate Action Plan or a SB 375 metropolitan regional transportation impact Sustainable Communities Strategy) that accounts for specific geographical GHG emission reductions to streamline or tier project level CEQA analysis pursuant to Guidelines 15183.5(a)-(b) for land use and Public Resources Code Section 21155.2 and 21159.28 and Guidelines Section 15183.5(c) for transportation.

3. The lead agency may rely on existing numerical thresholds of significance for GHG emissions (such as the Bay Area Air Quality Management District's proposed threshold of significance of 1,100 MT $CO_2E$ in annual emission for CEQA GHG emission analysis on new land use projects). The use of a numerical value provides what is "normally" considered significant but does not relieve a lead agency from independently determining the significance of the impact for the individual project (See Guidelines Section 15064.7).

## SAN JOAQUIN AIR POLLUTION CONTROL DISTRICT

### Climate Change Action Plan

On August 21, 2008, the Valley Air District Governing Board approved a proposal called the Climate Change Action Plan (CCAP). The CCAP began with a public process bringing together stakeholders, land use agencies, environmental groups, and business groups to conduct public workshops to develop comprehensive policies for CEQA Guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Governing Board's consideration. The CCAP contains the following goals and actions:

- Develop GHG significance thresholds to address CEQA projects with GHG emission increases.

- Develop the San Joaquin Valley Carbon Exchange for banking and trading GHG reductions.
- Authorize use of the SJVAPCD [Valley Air District's] existing inventory reporting system to allow use for GHG reporting required by AB 32 regulations.
- Develop and administer GHG reduction agreements to mitigate proposed emission increases from new projects.
- Support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

On December 17, 2009, the Valley Air District Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA," and the policy "District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency." The Valley Air District concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change. The Valley Air District found the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The Valley Air District found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.

The Valley Air District's approach is intended to streamline the process of determining whether project-specific GHG emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and must have a certified final CEQA document.

For non-exempt projects, those projects for which there is no applicable approved plan or program, or those projects not complying with an approved plan or program, the lead agency must evaluate the project against performance-based standards and would require the adoption of design elements, known as a Best Performance Standard, to reduce GHG emissions. The Best Performance Standards (BPS) have not yet fully been established, though they must be designed to effect a 29 percent reduction when compared with the BAU projections identified in the ARB's AB 32 Scoping Plan.

BAU represents the emissions that would occur in 2020 if the average baseline emissions during the 2002–2004 period were grown to 2020 levels, without control. These standards thus would carry with them pre-quantified emissions reductions, eliminating the need for project-specific quantification. Therefore, projects incorporating BPS would not require specific quantification of GHG emissions, and automatically would be determined to have a less than significant cumulative impact for GHG emissions.

For stationary source permitting projects, BPS means, "The most stringent of the identified alternatives for control of GHG emissions, including type of equipment, design of equipment and operational and maintenance practices, which are achieved-in-practice for the identified service, operation, or emissions unit class." The Valley Air District has identified BPS for the following sources: boilers; dryers and dehydrators; oil and gas extraction, storage, transportation, and refining operations; cogeneration; gasoline dispensing facilities; volatile organic compound control technology; and steam generators.

For development projects, BPS means, "Any combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual."

Projects not incorporating BPS would require quantification of GHG emissions and demonstration that BAU GHG emissions have been reduced or mitigated by 29 percent. As stated earlier, the ARB's adjusted inventory reduced the amount required by the State to achieve 1990 emission levels from 29 percent to 21.7 percent to account for slower growth experienced since the 2008 recession. According to Valley Air District guidance, quantification of GHG emissions would be required for all projects for which the lead agency has determined that an EIR is required, regardless of whether the project incorporates BPS.

Nevertheless, it should be noted that, in light of the Newhall Ranch case, the Supreme Court concluded that a BAU analysis requires substantial evidence to demonstrate what the required percentage reduction from BAU would be for an individual project. The court expressed skepticism that a percentage reduction goal applicable to the State as a whole would apply without change to an individual development project, regardless of its size or location. Therefore, the BAU analysis as identified by SJVAPCD is not employed for this EIR.

## San Joaquin Valley Carbon Exchange

The Valley Air District initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley. However, the Valley Air District has pursued an alternative strategy that incorporates the GHG emissions into its existing Rule 2301—Emission Reduction Credit Offset Banking that formerly only addressed criteria pollutants. The Valley Air District is also participating with the California Air Pollution Control Officers Association (CAPCOA), of which it is a member, in the CAPCOA Greenhouse Gas Reduction Exchange (GHG Rx). The GHG Rx is operated cooperatively by air districts that have elected to participate. Participating districts have signed a Memorandum of Understanding (MOU) with CAPCOA and agree to post only those credits that meet the Rx standards for quality. The objective is to provide a secure, low-cost, high-quality, GHG exchange for credits created in California. The GHG Rx is intended to help fulfill compliance obligations, or mitigation needs of local projects subject to environmental review, reducing the uncertainty of using credits generated in distant locations.

### Rule 2301

While the CCAP indicated that the GHG emission reduction program would be called the San Joaquin Valley Carbon Exchange, the Valley Air District incorporated a method to register voluntary GHG emission reductions into its existing Rule 2301-Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use.
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable.

## LOCAL

### City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to air quality. General Plan policies applicable to the Project are identified below:

#### POLICIES: AIR QUALITY ELEMENT

- AQ-1.1-P1. The City shall promote land use patterns that reduce the number and length of motor vehicle trips.
- AQ-1.1-P2. To the extent feasible, the City shall maintain a balance and match between jobs and housing.
- AQ-1.2-P1. The City shall assess air quality impacts using the latest version of the CEQA Guidelines and guidelines prepared by the San Joaquin Valley Air Pollution Control District.
- AQ-1.2-P2. The City shall assess through the CEQA process any air quality impacts of development projects that may be insignificant by themselves, but cumulatively significant.
- AQ-1.2-P3. Developers shall implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.
- AQ-1.2-P4. New development projects should incorporate energy efficient design features for HVAC, lighting systems and insulation that exceed Title 24.
- AQ-1.2-P5. Use of solar water and pool heaters is encouraged.
- AQ-1.2-P6. Installation of solar voltaic panels on new homes and businesses shall be encouraged.
- AQ-1.2-P7. Trees should be planted on the south- and west-facing sides of new buildings or building undergoing substantial renovation in order to reduce energy usage.

- AQ-1.2-P12. New sources of toxic air pollutants shall prepare a Health Risk Assessment as required under the Air Toxics "Hot Spots" Act and, based on the results of the Assessment, establish appropriate land use buffer zones around those areas posing substantial health risks.
- AQ-1.2-P13. Dust control measures consistent with San Joaquin Valley Air Pollution Control District rules shall be required as a condition of approval for subdivision maps, site plans, and all grading permits.
- AQ-1.2-P14. Developments that significantly impact air quality shall only be approved if all feasible mitigation measures to avoid, minimize or offset the impact are implemented.
- AQ-1.2-P15. Encourage businesses to electrify loading docks or implement idling-reduction systems so that trucks transporting refrigerated goods can continue to power cab cooling elements during loading, layovers, and rest periods.
- AQ-1.3-P3. The City shall encourage employers to establish Transportation Demand Management programs.
- AQ-1.4-P1. The City shall continue to consult with other local, regional and State agencies on air quality planning efforts as well as encourage community participation in air quality planning.
- AQ-1.4-P2. The City shall be proactive in educating the public about the linkages between land use, transportation and air quality.
- AQ-1.4-P3. The City shall be proactive in reducing greenhouse gas emissions from City operations as well as new or renovated development.

### City of Tracy Sustainability Action Plan

The City of Tracy Sustainability Action Plan was adopted in 2011 to achieve sustainability in numerous sectors including GHG emissions, energy, and transportation and land use. The Sustainability Action Plan includes specific measures to be implemented that the City estimates will reduce GHG emissions by 378,461 to 482,154 metric tons (MT) of $CO_2e$. These reductions would come in part from reductions in Vehicle Miles Traveled (VMT) and energy consumption. However, is should be noted that the sustainability measures included with the City of Tracy Sustainability Action Plan do not apply to land use projects.

## 3.7.3 IMPACTS AND MITIGATION MEASURES

### GREENHOUSE GAS EMISSIONS THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). The City of Tracy does not currently have a formal GHG emissions reduction plan or recommended emissions thresholds for determining significance associated with GHG emissions from development projects.

Since no other local or regional Climate Action Plan is in place, the Project is assessed for its consistency with CARB's adopted Scoping Plans. This would be achieved with an assessment of the project's compliance with relevant Scoping Plan measures contained in the CARB's 2017 Scoping Plan Update, as well as the latest RTP/SCS for the region the Project is located within (i.e. the San Joaquin Council of Governments 2018 RTP/SCS, or the SJCOG 2018 RTP/SCS). Therefore, this analysis provides a qualitative assessment of the Project's compliance with the applicable plans, policies, and regulations for the purposes of reducing greenhouse gas emissions to determine whether the project would have a significant impact on the environment relative to GHGs.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.7-1: Project implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Less than Significant)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the Project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to Project development would be primarily associated with increases of $CO_2$ and other GHG pollutants, such as methane ($CH_4$) and nitrous oxide ($N_2O$), from mobile sources and utility usage.

The Project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)™ (v.2020.4.0). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use

planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of $CO_2$ equivalent units of measure (i.e., MT $CO_2e$), based on the global warming potential of the individual pollutants.

### SHORT-TERM CONSTRUCTION GHG EMISSIONS

Estimated maximum GHG emissions associated with construction of the proposed Project are summarized in Table 3.7-1. These emissions include all worker vehicle, vendor vehicle, hauler vehicle, and off-road construction vehicle GHG emissions. For the purposes of this analysis, based on input from the Project applicant, the proposed Project is assumed to commence construction in 2023 and finish in late 2024. While the Project could be built in two phases given the two buildings, these estimates conservatively assume that the Project would be constructed within a single phase.

***TABLE 3.7-1: TOTAL CONSTRUCTION GHG EMISSIONS (MT $CO_2E$/YEAR)***

| *YEAR* | *BIO- $CO_2$* | *NON-BIO- $CO_2$* | *TOTAL $CO_2$* | *$CH_4$* | *$N_2O$* | *$CO_2E$* |
|---|---|---|---|---|---|---|
| 2023 | 0 | 1,769 | 1,769 | <1 | <1 | 1,803 |
| 2024 | 0 | 1,430 | 1,430 | <1 | <1 | 1,457 |
| **Total** | **0** | **3,199** | **3,199** | **<1** | **<1** | **3,206** |

*SOURCES: CALEEMOD (V.2020.4.0)*

As presented in the table, short-term construction emissions of GHGs are estimated to be 3,206 MT $CO_2e$.

### OPERATIONAL GHG EMISSIONS

The operational GHG emissions estimate for the proposed Project includes on-site area, energy, mobile, waste, and water emissions. Estimated GHG emissions associated with operation of the proposed Project are summarized in Table 3.7-2, below. It should be noted that CalEEMod does not account for Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20), which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035. This is anticipated to substantially reduce the operational emissions associated with passenger vehicles (i.e. mobile emissions) over time. The operational emissions results provided in Table 3.7-2 are likely an overestimate for mobile emissions, given the state's ongoing effort to increase electric vehicles and trucks. As shown in the following table, the annual GHG emissions associated with the proposed Project would be approximately 12,273 MT $CO_2e$.

***TABLE 3.7-2: OPERATIONAL GHG EMISSIONS AT BUILDOUT (METRIC TONS/YEAR)***

| | *BIO- $CO_2$* | *NON-BIO- $CO_2$* | *TOTAL $CO_2$* | *$CH_4$* | *$N_2O$* | *$CO_2E$* |
|---|---|---|---|---|---|---|
| Area | 0 | <1 | <1 | <1 | 0 | <1 |
| Energy | 0 | 1,298 | 1,298 | <1 | <1 | 1,309 |
| Mobile | 0 | 9,054 | 9,054 | <1 | 1.1 | 9,386 |
| Waste | 333 | 0 | 333 | 20 | 0 | 825 |
| Water | 128 | 202 | 330 | 13 | <1 | 753 |
| **Total** | **461** | **10,554** | **11,015** | **33** | **1.4** | **12,273** |

*SOURCES: CALEEMOD (V.2020.4.0)*

## CONSISTENCY WITH 2017 SCOPING PLAN POLICIES

The 2030 goal was codified under SB 32 and is now addressed by the 2017 Scoping Plan Update. The new plan provides a strategy that is capable of reaching the SB 32 target if the measures included in the plan are implemented and achieve reductions within the ranges expected. Under the Scoping Plan Update, local government plays a supporting role through its land use authority and control over local transportation infrastructure. The 2017 Scoping Plan Update includes reductions from implementation of SB 375 that apply to VMT from passenger vehicles. San Joaquin County targets for SB 375 are a 12 percent per capita reduction by 2020 and a 16 percent per capita reduction by 2035 relative to 2005 levels. SB 375 is implemented with the SJCOG RTP/SCS. The RTP/SCS envisions an increase in development density that would encourage fewer and shorter trips and more trips by transit, walking, and bicycling in amounts sufficient to achieve the SB 375 targets. The 2017 Scoping Plan Update includes the strategy that the State intends to pursue to achieve the 2030 targets of Executive Order S-3-05 and SB 32. The 2017 Scoping Plan includes the following summary of its overall strategy for reaching the 2030 target:

- SB 350
  - Achieve 50 percent Renewables Portfolio Standard by 2030.
  - Doubling of energy efficiency savings by 2030.
- Low Carbon Fuel Standard
  - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
  - Maintaining existing GHG standards for light- and heavy-duty vehicles.
  - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
  - Increase ZEV buses, delivery, and other trucks.
- Sustainable Freight Action Plan
  - Improve freight system efficiency.

  - Maximize use of near Zero-Emission Vehicles and equipment powered by renewable energy.
  - Deploy over 100,000 zero-emission trucks and equipment by 2030.
- Short-Lived Climate Pollutant (SLCP) Reduction Strategy
  - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
  - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
- SB 375 Sustainable Communities Strategies
  - Increased stringency of 2035 targets.
- Post-2020 Cap-and-Trade Program
  - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
  - The CARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
- By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Table 3.7-3 provides an analysis of the Project's consistency with the 2017 Scoping Plan Update measures.

***TABLE 3.7-3: CONSISTENCY WITH SB 32 2017 SCOPING PLAN UPDATE***

| *SCOPING PLAN MEASURE* | *PROJECT CONSISTENCY* |
|---|---|
| **SB 350 50 percent Renewable Mandate**. Utilities subject to the legislation will be required to increase their renewable energy mix from 33 percent in 2020 to 50 percent in 2030. | **Consistent**. The proposed Project will be supplied by the Pacific Gas & Electric Company (PG&E). Currently, 33% of electricity delivered by PG&E is supplied by renewable sources. As such, a significant portion of the electricity usage associated with the Project would come from renewable resources. |
| **SB 350 Double Building Energy Efficiency by 2030**. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels. | **Consistent**. While this measure applies to existing buildings, the proposed Project would be required to comply with Title 24 Energy Efficiency Standards that have increased in stringency over time. |
| **Low Carbon Fuel Standard**. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030. | **Consistent**. The proposed Project would not conflict with implementation of LCFS. |

| | |
|---|---|
| **Mobile Source Strategy (Cleaner Technology and Fuels Scenario)**. Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses. | **Consistent**. The proposed Project will include electric vehicle charging parking spaces to support the transition to cleaner technologies. |
| **Sustainable Freight Action Plan**. The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero-emission operation and maximize near zero-emission freight vehicles and equipment powered by renewable energy by 2030. | **Consistent**. The proposed Project would not conflict with implementation of the California Sustainable Freight Action Plan. |
| **Short-Lived Climate Pollutant (SLCP) Reduction Strategy**. Approve and implement SLCP strategy to reduce highly potent GHGs | **Consistent**. The proposed Project would not conflict with implementation of SB 1383. Primary areas of focus under the SLCP reduction strategy are dairy and livestock emissions, oil and natural gas production, processing, and storage and stationary hydrofluorocarbon. |
| | |
| **Post-2020 Cap-and-Trade Program**. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. | **Consistent**. The proposed Project would not conflict with implementation of the Cap-and-Trade Program. |
| **Natural and Working Lands Action Plan**. The ARB is working in coordination with several other agencies at the federal, State, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land. | **Consistent**. The Project site is designated as Industrial (I) by the City of Tracy General Plan; the Project site is not considered natural and working land and thus it would not inhibit the Natural and Working Lands Action Plan. |

*SOURCE: CALIFORNIA AIR RESOURCES BOARD (CARB). 2017. THE 2017 CLIMATE CHANGE SCOPING PLAN UPDATE. JANUARY 20. WEBSITE: HTTPS://WW2.ARB.CA.GOV/OUR-WORK/PROGRAMS/AB-32-CLIMATE-CHANGE-SCOPING-PLAN/2017-SCOPING-PLAN-DOCUMENTS. ACCESSED JUNE 8, 2022.*

## CONSISTENCY WITH SJCOG'S 2018 RTP/SCS

The proposed Project is analyzed for consistency with the strategies contained in the latest adopted SJCOG RTP/SCS (i.e. SJCOG's 2018 RTP/SCS). With the passage of SB 375 in 2008, metropolitan planning organizations were required to develop an SCS, which must demonstrate an ambitious, yet achievable, approach to how land use development and transportation can work together to meet greenhouse gas emission reduction targets for cars and light trucks. These

targets, set by the California Air Resources Board, call for the region to reduce per capita emissions. Table 3.7-4 below provides this consistency analysis.

***TABLE 3.7-4: CONSISTENCY WITH SJCOG'S 2018 RTP/SCS***

| *RTP/SCS POLICY* | *PROJECT CONSISTENCY* |
|---|---|
| **Policy 1: Enhance the Environment for Existing and Future Generations and Conserve Energy** | **Consistent**. The proposed Project would meet the requirements of Title 24 for energy efficient design. |
| **Policy 2: Maximize Mobility and Accessibility** | **Consistent**. The proposed Project is compatible to the surrounding area. The proposed Project's location will provide strategic access for goods. |
| **Policy 3: Increase Safety and Security** | **Consistent**. The proposed Project is located in an Industrial area, away from sensitive land uses that are more vulnerable to vehicle safety risks. |
| **Policy 4: Preserve the Efficiency of the Existing Transportation System** | **Consistent**. The proposed Project will facilitate goods movement in the Tracy area and thereby increasing the efficiency of the existing transportation system. |
| **Policy 5: Support Economic Vitality** | **Consistent**. The proposed Project improves freight access to a key strategic economic center, promotes the safe and efficient movement of goods by truck, and supports the implementation of transportation improvements adjacent to the Project site (since the Project would pay its fair share of traffic improvements). |
| **Policy 6: Promote Interagency Coordination and Public Participation for Transportation Decision-Making and Planning Efforts** | **Not Applicable**. The proposed Project is not a transportation project. |
| **Policy 7: Maximize Cost-Effectiveness** | **Consistent**. The proposed Project is located in an area that has been planned for in the City's General Plan for industrial uses such as the proposed Project. Moreover, the proposed Project utilizes existing transportation corridors. |
| **Policy 8: Improve the Quality of Life for Residents** | **Consistent**. The proposed Project implements an industrial Project in an area that has been planned for in the General Plan for industrial land uses, located away from sensitive land uses such as large residential communities. Therefore, the proposed Project avoids being sited in an area that would be highly sensitive to the physical environmental impacts associated with the proposed Project, thereby maintaining quality of life for residents in the City of Tracy and the region. |

*SOURCE: SAN JOAQUIN COUNCIL OF GOVERNMENTS (SJCOG). 2018. THE 2018 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (RTP/SCS). ADOPTED JUNE 2018. WEBSITE: HTTPS://WWW.SJCOG.ORG/DOCUMENTCENTER/VIEW/4156/FINAL-COMPILED-RTPSCS-2018. ACCESSED JUNE 8, 2022.*

## EXECUTIVE ORDER S-3-05

The Executive Order S-3-05 2050 target has not been codified by legislation. However, studies have shown that, in order to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the

regulatory framework in 2050, quantitatively analyzing the project's impacts further relative to the 2050 goal is speculative for purposes of CEQA.[3]

The CARB recognizes that AB 32 establishes an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, the CARB's First Update to the Scoping Plan "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by the CARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

- Energy Sector: Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the project's emissions level.

- Transportation Sector: Anticipated deployment of improved vehicle efficiency, zero-emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.

- Water Sector: The project's emissions level will be reduced as a result of further utilization to water conservation technologies.

- Waste Management Sector: Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.

In his January 2015 inaugural address, Governor Brown expressed a commitment to achieve "three ambitious goals" that he wanted to see accomplished by 2030 to reduce the State's GHG emissions:

- Increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;

- Cutting the petroleum use in cars and trucks in half; and

- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the State agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change.[4]

[3] California Air Resources Board (CARB). 2014. First Update to the Climate Change Scoping Plan. Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm. Accessed February 5, 2020.

Further, studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.[5]

Given the proportional contribution of mobile source-related GHG emissions to the State's inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the project would be required to comply with whatever measures are enacted that State lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, the CARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the 2017 Scoping Plan Update, however, the ARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately." The 2017 Scoping Plan Update provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target.

[4] Brown, Edmund G. Jr. 2015. Press Release: California Establishes Most Ambitious Greenhouse Gas Goal in North America. April 29.
Website: https://www.gov.ca.gov/news.php?id=18938. Accessed February 2, 2021.

[5] Energy and Environmental Economics, 2015. Pathways to Deep Carbonization in the United States.
Website: http://deepdecarbonization.org/wp-content/uploads/2015/11/US_Deep_Decarbonization_Technical_Report_Exec_Summary.pdf. Accessed June 8, 2022.

CONCLUSION

The proposed Project would be consistent with relevant plans, policies, and regulations associated with GHGs, notably the SB 32 2017 Scoping Plan Update, and the SJCOG's 2018 RTP/SCS. Taking into account the proposed Project's emissions, and the progress being made by the State toward reducing emissions in key sectors such as transportation, industry, and electricity, the Project would be consistent with State GHG Plans and would not impede the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. The proposed Project would make a reasonable fair share contribution to the State's GHG reduction goals, and therefore, the proposed Project's GHG emissions would be considered to have a ***less than significant*** impact.

## THRESHOLDS OF SIGNIFICANCE (ENERGY CONSERVATION)

Consistent with Appendices F and G of the CEQA Guidelines, energy-related impacts are considered significant if implementation of the proposed Project would do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;

In order to determine whether or not the proposed Project would result in a significant impact on energy use, this EIR includes an analysis of proposed Project energy use, as provided under *Impacts and Mitigation Measures* below.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.7-2: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources, and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Less than Significant)

According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to Project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with an applicable plan, policy, or regulation.

The proposed Project includes various characteristics that reduce the inefficient, wasteful, or unnecessary use of energy. For example, the proposed Project would comply with all of the energy efficiency requirements of the latest version of the California Title 24 Energy Efficiency Standards. Moreover, it should be noted that, over time, electrification of the vehicles will increase due to

state requirements, and state and national trends. Furthermore, the proposed Project includes a Transportation Demand Management (TDM) strategy for passenger vehicles, as described under Mitigation Measure 3.13-1 (see Section 3.13: Transportation and Circulation, for further detail).

The amount of energy used by the proposed Project during operation with include the amount of energy used by Project buildings and outdoor lighting, and the fuel used by vehicle trips generated during Project construction and operation, fuel used by off-road construction vehicles during construction activities, and fuel used by Project maintenance activities during Project operation. The following discussion provides a detailed calculation of energy usage expected for the proposed Project, as provided by applicable modelling software (i.e. CalEEMod v2020.4.0 and the CARB EMFAC2021). Additional assumptions and calculations are provided within Appendix B.2 of this EIR.

### ELECTRICITY AND NATURAL GAS

Electricity and natural gas used by the proposed Project would be used primarily to generate energy for Project buildings, as well as for outdoor parking lot lighting. As shown in the Table 3.7-2 (above), and as provided in further detail in the CalEEMod modeling outputs provided in Appendix B, "Energy" is one of the categories that was modeled for GHG emissions. As also shown in the CalEEMod modeling outputs as provided in Appendix B, the proposed Project is anticipated to consume approximately 7,939,980 kWh of electricity per year and approximately 10,557,560 kBTU per of natural gas per year. The CalEEMod model accounted for the latest version of Title 24.

### ON-ROAD VEHICLES (OPERATION)

The proposed Project would generate vehicle trips (i.e. passenger vehicles for employees and heavy-duty trucks for hauling) during its operational phase. Requirements to limit the idling of vehicles and equipment would result in fuel savings. Similarly, compliance with applicable State laws and regulations would limit idling and a part of a comprehensive regulatory framework that is implemented by the CARB. A description of Project operational on-road mobile energy usage is provided below.

According to the Traffic Study prepared for the proposed Project (Kimley Horn, 2021), and as described in more detail in Section 3.13 of this EIR, the proposed Project would increase total vehicle trips by approximately 3,800 new daily trips. In order to calculate operational on-road vehicle energy usage, De Novo Planning Group used fleet mix data from the CalEEMod (v2020.4.0) output for the proposed Project, and Year 2025 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2021, to derive weighted average gasoline and diesel MPG factors for the vehicle fleet as a whole. Based on these calculations, as provided in Appendix B, upon full buildout, the proposed Project would generate operational vehicle trips that would use a total of approximately 969 gallons of gasoline and 2,240 gallons of diesel per day, or 353,602 gallons of gasoline and 817,549 gallons of diesel per year.

The proposed project's buildings would be designed and constructed in accordance with the City's latest adopted energy efficiency standards, which are based on the State's Title 24 Energy

Efficiency Standards for Nonresidential Buildings and Green Building Code Standards. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC] and water heating systems), and indoor and outdoor lighting, are widely regarded as the some of the most advanced and stringent building energy efficiency standards in the country. Moreover, as specified in Chapter 5, Part 11 of the Title 24 standards, the proposed project would be required to incorporate electrical conduit to facilitate future installation of EV charging infrastructure. In addition, as specified in Subchapter 6, Part 6 of the Title 24 standards, the proposed project would be required to design the proposed buildings to structurally accommodate future installation of a rooftop solar system. As such, the design of the proposed project would facilitate the future commitment to renewable energy resources. Therefore, building energy consumption would not be considered wasteful, inefficient, or unnecessary.

Moreover, as discussed in Section 3.13: Transportation and Circulation, the proposed project would be required to implement various Transportation Demand Management (TDM) strategies that would contribute to fuel savings through incentives for project staff to utilize non-motorized transportation modes. Thus, transportation fuel consumption would not be wasteful, inefficient, or unnecessary.

### ON-ROAD VEHICLES (CONSTRUCTION)

The proposed Project would also generate on-road vehicle trips during Project construction (from construction workers and vendors travelling to and from the Project site). De Novo Planning Group estimated the vehicle fuel consumed during these trips based on the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2023 gasoline and diesel MPG factors provided by EMFAC2021 (year 2023 factors were used to represent a conservative analysis, as the energy efficiency of construction activities is anticipated to improve over time). For the sake of simplicity and to be conservative, it was assumed that all construction worker light duty passenger cars and truck trips use gasoline as a fuel source, and all medium and heavy-duty vendor trucks use diesel fuel. Table 3.7-5, below, describes gasoline and diesel fuel consumed during each construction phase (in aggregate). As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed Project would occur during the building construction phase. See Appendix B.2 of this EIR for a detailed accounting of construction on-road vehicle fuel usage estimates.

***TABLE 3.7-5: ON-ROAD MOBILE FUEL GENERATED BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE***

| *CONSTRUCTION PHASE* | *# OF DAYS* | *TOTAL DAILY WORKER TRIPS(A)* | *TOTAL DAILY VENDOR TRIPS(A)* | *TOTAL HAULER WORKER TRIPS(A)* | *TOTAL GALLONS OF GASOLINE FUEL(B)* | *TOTAL GALLONS OF DIESEL FUEL(B)* |
|---|---|---|---|---|---|---|
| Site Preparation | 90 | 18 | 0 | 0 | 1,048 | 0 |
| Grading | 90 | 20 | 0 | 750 | 1,164 | 2,680 |
| Building Construction | 150 | 1,884 | 750 | 0 | 182,770 | 86,547 |
| Paving | 60 | 15 | 0 | 0 | 582 | 0 |
| Architectural Coatings | 120 | 377 | 0 | 0 | 29,259 | 0 |
| **Total** | **N/A** | **N/A** | **N/A** | **N/A** | **214,823** | **89,227** |

*NOTE: (A) PROVIDED BY CALEEMOD OUTPUT. (B) SEE APPENDIX B.3 OF THIS EIR FOR FURTHER DETAIL*

*SOURCE: CALEEMOD (V.2020.4.0); EMFAC2021.*

### OFF-ROAD EQUIPMENT (CONSTRUCTION)

Off-road construction equipment would use diesel fuel during the construction phase of the proposed Project. A non-exhaustive list of off-road constructive equipment expected to be used during the construction phase of the proposed Project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of $CO_2$ emissions expected to be generated by the proposed Project (as provided by the CalEEMod output), and standard conversion factors (as provided by the U.S. Energy Information Administration), the proposed Project would use a total of approximately 62,514 gallons of diesel fuel for off-road construction equipment. Detailed calculations are provided in Appendix B.2 of this EIR.

State laws and regulations would limit idling from both on-road and off-road diesel-powered equipment and are part of a comprehensive regulatory framework that is implemented by the CARB. Additionally, as a practical matter, it is reasonable to assume that the overall construction schedule and process would be designed to be as efficient as feasible in order to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, the opportunities for further future efficiency gains during construction are limited. For the foregoing reasons, it is anticipated that the construction phase of the project would not result in wasteful, inefficient, and unnecessary consumption of energy.

### COMPLIANCE WITH CITY'S SUSTAINABILITY ACTION PLAN

The City's Sustainability Action Plan and General Plan contain goals, objectives and policies related to energy conservation that are relevant to this analysis, as provided Section 3.7.2. While several of these goals, objectives and policies are voluntary or cannot be implemented by an individual development project, compliance with applicable Title 24 standards would ensure that the proposed Project would not conflict with any of the Sustainability Action Plan energy conservation policies related to the proposed project's building envelope, mechanical systems, and indoor and outdoor lighting.

CONCLUSION

The proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the proposed Project, and off-road and on-road construction activities associated with the proposed Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, including through the mitigation measures provided throughout this EIR, as well as through the implementation of statewide and local measures.

The proposed Project would comply with all applicable federal, State, and local regulations regulating energy usage. For example, PG&E, the electric and natural gas provider to the proposed Project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E has already achieved renewable energy mix of 50% (as of 2021)[6], and is on track to achieve the required renewable energy mix of 60% by 2030. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Moreover, the proposed Project would comply with the City's Sustainability Action Plan and General Plan goals, objectives and policies related to energy conservation that are relevant to this analysis.

The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the energy-related thresholds as described by the *CEQA Guidelines*. This is a ***less than significant*** impact.

[6] See here for more detail: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page

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The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the Project site and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the Project is built and operated in the future. This section is based in part on the following: *San Joaquin County General Plan* (San Joaquin County, 2016), *City of Tracy General Plan* (City of Tracy, 2011), *City of Tracy General Plan EIR* (City of Tracy, 2011), and the *Costco E-Commerce Facility Phase I Environmental Site Assessment (Phase 1 ESA)* (Kleinfelder, April 2018).

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic. Full comments received regarding other topics are included in Appendix A.

As discussed in the Initial Study (see Appendix A), there would be ***no impacts*** associated with the handling of hazardous materials or substances within one-quarter mile of a school, hazardous materials sites pursuant to Government Code Section 65962.5, airports, and private air strips from implementation of the proposed Project. The Initial Study (see Appendix A) also found impacts related to adopted emergency response plans, adopted emergency evacuation plans, and wildfires would be ***less than significant***. Additionally, the Project site is not located within a very high fire hazard severity zone; therefore, the thresholds associated with the Project's proximity to state responsibility areas or lands classified as very high fire hazard severity zones are not applicable to the Project and there is no impact associated with these thresholds. As such, these CEQA topics are not relevant to the Project and will not be addressed further.

## 3.8.1 ENVIRONMENTAL SETTING

### PHYSICAL SETTING

As described in Chapter 2.0, Project Description, the Project site includes two distinct planning boundaries, including the 104.36-acre Annexation Area (or Project site) and the 103.0-acre Development Area. The 104.36-acre Annexation Area encompasses the total Project site while the 103.0-acre Development Area encompasses the portion of the Project site proposed for development.

#### Project Location

The Project site is located in the western portion of the City of Tracy's Sphere of Influence (SOI) 10-Year Planning Horizon, within the unincorporated area of San Joaquin County. The Project site is located northwest of I-580, approximately 4.75 miles southwest of Tracy City Hall, and directly south of the Cordes Ranch Specific Plan. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

#### Existing Site Uses

The Project site encompasses approximately 104.46 acres of undeveloped land previously used for agricultural purposes. As a result of site disturbance associated with the previous agricultural operations, there is little native vegetation or naturalized habitat located on the site, and the

relatively flat topography of the site renders the site essentially void of prominent natural visual features. There are no trees or light sources on-site.

The site contains pipeline markers indicating the presence of below grade irrigation pipelines/infrastructure related to the previous agricultural uses is located on-site. In addition, there are two existing features within the northeast corner of site consisting of an existing PG&E gas line running northwest and a large, depressed area possibly used as a drainage basin or detention pond during previous agricultural use. The depth of the basin is up to approximately 10 feet below the surrounding grades at its center.

### Existing Surrounding Uses

The Project site is surrounded by a variety of undeveloped and developed land uses. Uses immediately adjacent to the east and south of the Project site include agricultural land within unincorporated San Joaquin County. The parcel to the west of the Project site is currently agricultural land with a ranch-style house, detached garages, barns, and sheds in the southern portion of the parcel. Existing and future industrial uses are also located to the northwest, north, and northeast of the Project site (within the Cordes Ranch Specific Plan Area, located in the City of Tracy). Other nearby uses include the South County Fire Authority Station 94/California Department of Fire Station 26 directly southwest of the intersection of West Schulte Road and Hansen Road (approximately 800 feet west of the Project site) and the Tracy Biomass Facility (approximately ½ mile to the east past the undeveloped agricultural land).

### Site Topography

The Project site is relatively flat and ranges in elevation from approximately 148 to 187 feet above sea level.

### Site Soils

A Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-1 in Section 3.6, Geology and Soils. Table 3.8-1 identifies the type and range of soils found in the Project site.

***TABLE 3.8-1: PROJECT SITE SOILS***

| *UNIT SYMBOL* | *NAME* | *ACRES IN AOI* | *PERCENT OF AOI* |
|---|---|---|---|
| 118 | Capay Clay, 0 to 1 percent slopes, MLRA 17 | 95.85 | 93.4% |
| 252 | Stomar Clay Loam, 0 to 2 percent slopes | 6.73 | 6.6% |

*SOURCE: NRCS CUSTOM SOIL SURVEY 2019.*

## HAZARDS ASSESSMENT

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code, Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

"Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.
- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.
- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE)), petroleum based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

## Adjoining Properties

The Project site is bounded on the north by West Schulte Road, on the west by an unnamed driveway serving the adjacent rural residence, on the south by the Delta Mendota Canal, and on the east by vacant land.

Properties surrounding the site appeared to be used for agricultural purposes. Farm-related structures are located west of the Site. Various aboveground storage tanks (ASTs) were visible; some appeared empty, while others appeared to be in use. However, these ASTs did not appear immediately adjacent to the western Site boundary and are not considered to be an environmental concern to the Site.

## Site Reconnaissance

According to the *Phase I ESA*, site reconnaissance was conducted on April 17, 2018. The Project site was observed to be unpaved and the vacant land was covered with grasses. A retention basin was observed in the northeastern site corner. The basin is surrounded by mounds of dirt that appear to be retention basin excavation spoils and a corrugated metal pipe was noted in the deepest portion of the basin. Evidence of discolored water, stressed vegetation, underground storage tanks (USTs), ASTs, wells, pits, ponds (other than the retention basin), or lagoons were not observed on the site during the reconnaissance.

## Historical Use Information

Historical information was reviewed to develop a history of the previous uses on the Project site and surrounding area, in order to evaluate the Project site and adjoining properties for evidence of Recognized Environmental Conditions (RECs). Standard historical sources reviewed during the preparation of the *Phase I ESA* included the following, as available: Aerial Photographs, Environmental Records, and Databases.

### AERIAL PHOTOGRAPHS

The *Phase I ESA* included a review of aerial photographs of the Project site and general vicinity obtained from historical photograph collections. Agricultural operations appear to have occurred throughout the majority of the Project site from 1937 to 2012. In 1937, the Project site appeared to contain orchards while the surrounding area contained several residential or farm-related structures to the west of the site with the remaining areas used for agricultural purposes. From 1937 to 1982, the Project site appeared to still be used as an orchard, and from 1993 to 2012, the Project site appeared to be used instead for low-lying crops. The surrounding area appeared

relatively the same from 1937 to 2012, with the exception of the construction of the Delta Mendota Canal along the southern boundary of the Project site. Additionally, between 1975 and 1993 an unimproved road was identified on aerial photographs that follows the alignment of an existing PG&E right-of-way easement noted on the San Joaquin County Assessor's parcel map.

### ENVIRONMENTAL RECORDS

A search of local, state, and federal agency databases for the Project site and known contaminated sites in the vicinity was performed. None of the parcels in the Project site were found to contain any known contamination.

The U.S. Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) does not list data on disposal or other releases of toxic chemicals on the Project site (USEPA, 2015). The nearest TRI site is located at 14700 West Schulte Road, approximately 0.52 miles east of the Project site.

The California Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. There are no sites listed in the Envirostor database within the Project site or within one half mile of the Project site. The nearest site listed on the Envirostor database is located at 24606 S. Lammers Road, approximately 1.66 miles northeast of the Project site. This site, the Kimball High School Parcel 4 site, was investigated for potential contaminants of concern. The investigation concluded that there are no contaminants of concern at the Kimball High School Parcel 4 site and the site received a "No Action" cleanup status on October 4, 2007.

*GeoTracker* is the State Water Resources Control Board's (SWRCB's) Internet-accessible database system used by the SWRCB, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from USTs. According to a *GeoTracker* database search on October 22, 2020, no sites are identified within 0.5 miles of the Project site.

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned and closed sites. The Project site does not have any active or planned solid waste facilities listed in the database. The nearest active facility, Tracy Material Recovery & T.S. (39-AA-0024), is located approximately 5.19 miles southeast of the Project site at 30703 S. Macarthur Drive, Tracy.

The Pipeline and Hazardous Materials Safety Administration's online National Pipeline Mapping System (NPMS) website contains pipeline information. Based on a search of the PHMSA/NPMS data, the *Phase I ESA* notes the following pipelines are present beneath the Project site.

- Crimson Pipeline, L.P. operates a crude oil pipeline, identified as Los Medanos Pipeline ID 499, which runs generally southeast-northwest across the northeastern portion of the Project site. The NPMS database does not list accidental releases along this pipeline near the Project site. Kleinfelder also forwarded a request to Crimson Pipeline, L.P. for

information regarding potential accidental releases or incidents along their pipeline beneath the Project site. A response had not been received according to the *Phase I ESA*.

- PG&E operates two natural gas pipelines, identified as Pipeline IDs 002_481377 and 401-1422906, which run generally southeast-northwest across the northeastern portion of the Project site. No incidents were reported along these natural gas pipelines.

These pipelines appear to pass through the northeastern portion of the Project site within and near a PG&E easement depicted on the San Joaquin County Assessor's parcel map. Although releases were not reported along Crimson Pipeline, L.P.'s crude oil pipeline, the potential exists for undocumented releases to have occurred, which represents a REC. The *Phase I ESA* notes that there is there is no evidence of any other RECs located on-site.

### DATABASES

There is a broad list of federal and state databases that provide information for sites with varying potential for risk from the possible existence of hazardous materials. There are numerous redundancies among these various database listings. Below is a brief summary of each.

**National Priorities List:** The National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites is EPA's database of more than 1,200 sites designated or proposed for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas. The Project site is not listed in this database.

**RCRIS System:** The Resource Conservation and Recovery Information System (RCRIS) is an EPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Identification on this list does not indicate that there has been an impact on the environment. The Project site is not listed in this database.

**CERCLIS Data:** Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) is an EPA database that contains information on potential hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and individuals, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are either proposed for or on the NPL, as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Project site is not listed in this database.

**CORRACTS:** Corrective Action Report (CORRACTS) is an EPA database that identifies hazardous waste handlers with RCRA corrective action activity. The Project site is not listed in this database.

**Cortese Database:** The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. The source of this database is the California Environmental Protection Agency (Cal-EPA) and are found in the GeoTracker database. The Project site is not listed in this database.

GeoTracker has replaced past databases, such as the Leaking Underground Storage Tank Information System (LUSTIS) and the Underground Storage Tank (UST) database. Permitted USTs are not located in the Project site. The nearest permitted UST is located at a Mobil Gas Station, located approximately 1.44 miles west of the Project site.

## Hazardous Material Sites

As noted above, the State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by the state, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements for providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the Cal EPA to annually update the Cortese List. The DTSC is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list.

GeoTracker is a geographic information system (GIS) that provides online access to environmental data and is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Searches of the above resources and records identified no hazardous material sites within 0.5-mile of the Project site known to handle and store hazardous materials that are associated with a hazardous material related release or occurrence. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping.

The *Phase I ESA* identified two facilities closest to the Project site that could potentially impact soil, soil vapor, and groundwater beneath the site. The following summarizes the information for these facilities:

### "SHELL PIPELINE CO LP LOCATION NO. 805248 DRUM LOCATION" AND "SHELL OIL COMPANY" (WEST SCHULTE ROAD AND HANSEN ROAD)

These two off-site properties represent one facility. It was listed as a Small Quantity Generators (SQG) of hazardous waste in the year 2012, having disposed of ignitable, "benzene" waste. No violations were reported for this facility. The facility was also listed in the Spills, Leaks, Investigations, and Cleanup (SLIC) database as having had a reported release of total petroleum hydrocarbons ("TPH"). Details were not provided in the database listing information. However, based on information obtained from the SWRCB GeoTracker™ database, the release associated with this facility occurred over 3,500 feet to the north of the Project site. Soil and groundwater impacts associated with a crude oil release from pipelines appear to be limited in extent, and based on the distance of this release to the Project site, these listings are not considered likely to have impacted soil, soil vapor or groundwater beneath the Project site.

"TRACY YOUTH SPORTS PARK" (15178 SCHULTE ROAD)

This facility partially adjoins the Project site to the east. It is listed in the SLIC database as having had a release (substance not reported) that affected soil. In June 2006, the City of Tracy prepared an Environmental Impact Report to evaluate the potential environmental impacts from a proposed development of a youth sports park (e.g., baseball, softball, soccer fields, sports/football stadium, and a recreation area) at this location. Environmental impacts noted included increased traffic and regional air quality impacts, and the presence of two PG&E transmission pipelines and one Chevron crude oil pipeline beneath the property. The proposed sports park development was rejected by the City in December 2007. The case for this facility was reportedly open in GeoTracker™ on September 1, 2007 following receipt of the Environmental Impact Report; however, the Regional Water Quality Control Board (RWQCB) indicated it would not be activating the case and considers the case closed. July 24, 2013 a "No Further Action Required Letter" was prepared by the Central Valley RWQCB, which indicated the RWQCB had no files associated with this case.

## Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Tracy Planning Area is subject to various federal, state, and local regulations. The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials.

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))
- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))
- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

In addition to area roadways, hazardous materials are routinely transported on Union Pacific Railroad (UPRR) lines that are roughly one-mile south of the Project boundary. Hazardous materials are transported on these lines. The risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. Department of Transportation Federal

Railroad Administration found the UPRR company train accident rate to be 4.18 train accidents per one million train miles traveled, resulting in a less than 0.001% chance of an accident. Risk of a railroad accident containing hazardous materials is considered much lower, as only an average of eight accidents involving hazardous material spills occur annually in California.

The Union Pacific Railroad Company implements a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232): Security Requirements for Offerors and Transporters of Hazardous Materials. The plan includes requirements to enhance the security of transported hazardous materials and ensures proper cleanup procedures in the instance of an accidental release.

## 3.8.2 REGULATORY SETTING

### FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the EPA, Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

#### Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the basic statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

#### Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

#### Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous

wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program established tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. The RCRA was further amended in 1988 to set additional standards for USTs.

In July 2015, the EPA revised the federal UST regulation, which strengthened the 1988 federal UST regulations by increasing emphasis on properly operating and maintain UST equipment. The revision added new operation and maintenance requirements and addressed UST systems deferred in the 1988 UST regulation. The purpose of the revision was to help prevent and detect UST releases, which are a leading source of groundwater contamination. To ensure compliance performance measures reflect the 2015 UST regulation, the EPA and the Association of State and Territorial Solid Waste Management Officials coordinated to update existing compliance performance measures and add new measures. The measures required states to switch from tracking compliance against significant operational compliance measures to the more stringent technical compliance rate (TCR) measures. As of June 2020, only 45.6 percent of USTs were in compliance with all TCR categories[1].

### Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. CERCLA was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

## STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), Cal-EPA, DTSC, California Department of Transportation (Caltrans), California Highway Patrol (CHP), State Water Quality Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies.

[1] EPA. *Semiannual Report of UST Performance Measures Mid Fiscal Year 2020*. June 2020. Access: https://www.epa.gov/sites/production/files/2020-06/documents/ca-20-12.pdf

State laws and regulations that are applicable to hazards and hazardous materials are presented below.

### California Health and Safety Code

Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

### California Code of Regulations Title 22 and Title 26

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal-EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

## LOCAL

### City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to hazards and hazardous materials. General Plan policies applicable to the Project are identified below:

#### POLICIES: PUBLIC FACILITIES ELEMENT

- PF-1.1-P1. The City shall provide fire and emergency response facilities and personnel necessary to meet residential and employment growth in the city.
- PF-1.2-P1. Fire hazards shall be identified and mitigated during the project review and approval process.
- PF-1.2-P6. The City shall use physical site planning as an effective means of preventing wildland fires by requiring the following:
    - Drought-resistant native plants incorporated into public works projects.
    - More than one ingress/egress road to any neighborhood in areas subject to wildland fires.
    - Roadways with grades that accommodate emergency vehicles.
    - Structures that are constructed of fire-resistant materials.

#### POLICIES: SAFETY ELEMENT

- SA-4.1-P1. Adequate separation shall be provided between areas where hazardous materials are present and sensitive uses such as schools, residences and public facilities.
- SA-4.1-P2. When reviewing applications for new development and redevelopment in areas historically used for commercial or industrial uses, developers shall conduct the necessary level of environmental investigations to ensure that soils, groundwater and buildings

affected by hazardous material releases from prior land uses and lead or asbestos potentially present in building materials, will not have a negative impact on the natural environment or health and safety of future property owners or users.

- SA-4.1-P3. The safe transport of hazardous materials through Tracy shall be promoted by implementing the following measures:
    - Maintain formally-designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas.
    - Prohibit the parking of vehicles transporting hazardous materials on City streets.
    - Require that new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the extent possible.
- SA-4.1-P4. Emergency response plans shall be submitted as part of use applications for all large generators of hazardous waste.
- SA-4.1-P5. The City shall continue to encourage the reduction of solid and hazardous wastes generated within the City, in accordance with countywide plans.
- SA-4.1-P6. The City shall partner with San Joaquin County to implement the Hazardous Materials Area Plan.

## Tracy Municipal Code

The City of Tracy's Municipal Code (Code) addresses a variety of hazards and related topics, including hazardous materials and waste and airport safety.

The California Fire Code is adopted as Chapter 9.06 of the Code. Code Section 5.24.130 requires notification of the City, EPA Regional Waste Management Division Director, and "state hazardous waste authorities" (i.e., DTSC) of all hazardous waste discharges to the sewer. Code Section 5.24.260 requires that waste not permitted to be discharged into the community sewer must be transported to a State-approved disposal site, and the required "Waste Haulers Report" must be completed and a copy kept at the facility and the waste hauling manifest must be made available upon demand by the City, and retained for a minimum of three years. Code Article 27 establishes an Airport Overlay zone intended to regulate land uses adjacent to the Tracy Municipal Airport by limiting activities and construction in aircraft approach areas within the City limits. Code Chapter 3.24 provides for the preparation and carrying out of plans for the protection of persons and property within the City in the event of an emergency, including from fire or pollution. All officers and employees of this City, together with volunteer and other forces enrolled to aid them during an emergency, shall constitute the Emergency Organization of the City. This chapter provides for the direction of the Emergency Organization, and coordination of the emergency functions of the City and all other public agencies, corporations, organizations, and affected private persons.

## Tracy Local Hazard Mitigation Plan

On March 17, 2020, the Tracy City Council adopted the City of Tracy Local Hazard Mitigation Plan (Tracy LHMP), which guides hazard mitigation planning to better protect the people and property of the City from the effects of hazard events. The Tracy LHMP was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that Tracy would be eligible for the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation and Hazard Mitigation Grant

programs. The Tracy LHMP includes a risk assessment that identified and profiled hazards that pose a risk to the City of Tracy, assessed the City's vulnerability to these hazards, and examined the capabilities in place to mitigate them.

### Certified Unified Program Agency (CUPA)

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. The San Joaquin County Department of Environmental Health is the CUPA designated for San Joaquin County. The San Joaquin County Department of Environmental Health is responsible for the implementation of statewide programs within its jurisdiction, including: Underground storage of hazardous substances (USTs), Hazardous Materials Business Plan (HMP) requirements, California Accidental Release Prevention (Cal-ARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

### San Joaquin County Office of Emergency Services

The San Joaquin County Office of Emergency Services administers the State's Hazardous Material Release Response Plan and Inventories and the Accidental Release Prevention (Cal-ARP) programs. Additionally, the Office of Emergency Services has a Hazardous Material Area Plan designed to protect human health and the environment through hazardous materials emergency planning, response and agency coordination and community right-to-know programs. The Hazardous Material Area Plan, among other provisions, provides guidance for businesses required to file a hazardous materials business plan. Under Chapter 6.95 of the California Health and Safety Code and the Federal Resource Conservation and Recovery Act, any business storing quantities of hazardous materials greater than 55 gallons of liquid, 500 pounds of solid or 200 cubic feet of some compressed gases must file a hazardous materials business plan annually that establishes incident prevention measures, hazardous material handing protocols and emergency response and evacuation procedures. The City of Tracy Police Department and the South County Fire Authority work with San Joaquin County to implement the Hazardous Material Area Plan.

The Office of Emergency Services also administers the Emergency Planning and Community Right-to-Know program for Tracy. The Office of Emergency Services has also prepared the Emergency Operations Plan, which is known as the basic emergency plan for San Joaquin County. The Emergency Operations Plan is intended to facilitate multiple-agency and multiple jurisdictional coordination, particularly among local, state, and federal agencies in emergency management, and establish a framework for an effective system of comprehensive emergency management.

## 3.8.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; and/or
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

## IMPACT DISCUSSIONS AND MITIGATION MEASURES

### Impact 3.8-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)

#### CONSTRUCTION PHASE IMPACTS

Construction of the proposed Project would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials will pose a reasonable risk of release into the environment if not properly handled, stored, and transported.

Construction workers and the general public could be exposed to hazards and hazardous materials as a result of improper handling or use during construction activities (particularly by untrained personnel); transportation accidents; or fires, or other emergencies. Construction workers could also be exposed to hazards associated with accidental releases of hazardous materials, which could result in significant impacts to the health and welfare of people and/or wildlife. Additionally, an accidental release into the environment could result in the contamination of water, habitat, and countless resources. Mitigation Measure 3.9-1 contained in Section 3.9, Hydrology and Water Quality, ensures compliance with existing regulatory requirements of the Regional Water Quality Control Board, which requires the preparation a project specific Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is required to include project specific best management measures that are designed to control erosion and the loss of topsoil to the extent practicable using best management practices (BMPs) that the RWQCB has deemed effective in controlling erosion, sedimentation, and runoff during construction activities, which reduces the risk of accidental release of hazardous materials into the environment.

The proposed Project would also be required to comply with regulations on the transportation of hazardous materials codified in 49 CFR 173 and 49 CFR 177 and CCR Title 26, Division 6. These regulations, which are under the jurisdiction of Caltrans and the CHP, provide specific packaging requirements, define unacceptable hazardous materials shipments, and prescribe safe-transit practices by carriers of hazardous materials. Compliance with these regulations would reduce the risk of exposure to humans and the environment related to the transportation of hazardous materials.

Hazardous materials regulations, which are codified in CCR Titles 8 and 22, and their enabling legislation set forth in Chapter 6.5 (Section 25100 et seq.) of the California Health and Safety Code, were established at the State level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. Construction specifications would include the following requirements in compliance with applicable regulations and codes, including, but not limited to CCR Titles 8 and 22, International Fire Code, and Division 20 of the California Health and Safety Code: all reserve fuel supplies and hazardous materials must be stored within the confines of a designated construction area; equipment refueling and maintenance must take place only within the staging area; and construction vehicles shall be inspected daily for leaks. Off-site activities (e.g., utility construction) would also be required to comply with these regulations. These regulations and codes must be implemented, as appropriate, and are monitored by the State and/or local jurisdictions, including the San Joaquin County Department of Environmental Health and the South San Joaquin County Fire Authority (SSJCFA).

Contractors would be required to comply with Cal-EPA's Unified Program; regulated activities would be managed by San Joaquin County Department of Environmental Health, the designated CUPA for San Joaquin County, in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California UFC hazardous material management plans and inventories). Additionally, in the event that hazardous materials are discovered during construction, a Soils Management Plan (SMP) will need to be submitted and approved by the San Joaquin County Department of Environmental Health, as required by Mitigation Measure 3.8-1. The SMP will establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. Such compliance would reduce the potential for accidental release of hazardous materials during construction of the proposed Project. As a result, it would lessen the risk of exposure of construction workers and the public to accidental release of hazardous materials, as well as the demand for incident emergency response.

Development of the Project would involve site grading, excavation for utilities, trenching, backfilling, and the construction of proposed facilities that could result in the exposure of construction workers and the general public to hazardous materials. Like most agricultural and farming operations in the Central Valley, agricultural practices in the area have used agricultural chemicals including pesticides and herbicides as a standard practice. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides, in farm soils. Of highest concern relative to agrichemicals are chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides (OCPs), such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE).

As part of the Phase I ESA (see Appendix D), a limited Phase II ESA was conducted to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. Soil samples were collected pursuant to the DTSC Interim Guidance for Sampling Agricultural Properties (Third Revision) and were analyzed for OCPs using US EPA Method 8081A and arsenic

using US EPA Method 6010B. The soil sample analytical results indicated that OCPs were not present above laboratory detection limits in shallow soils at the site and arsenic concentrations ranged from 2.3 milligrams per kilogram (mg/kg) to 4.3 mg/kg. Arsenic concentrations did not exceed the arsenic California Code of Regulations (CCR) Title 22 Total Threshold Limit Concentration of 500 mg/kg, 10 times the arsenic CCR Title 22 Soluble Threshold Limit Concentration value of 5 milligrams per liter (mg/L) (50 mg/kg), or 20 times the arsenic Federal Toxicity Characteristic Leaching Procedure threshold of 5 mg/L (100 mg/kg). Therefore, arsenic concentrations at the Site do not exceed thresholds that would classify soils as Federal or California hazardous wastes.

### OPERATIONAL PHASE IMPACTS

The operational phase would occur after construction is completed and business operations commence on a day-to-day basis. The Project would include the construction and subsequent operation of two Costco warehouse and distribution buildings to support Costco's ongoing distribution and e-commerce facilities in the area. Building 1 is anticipated to serve as the annex by providing additional storage for high-turnover merchandise processed through the nearby Costco Depot, a pallet repair facility, and a return to vendor facility for large items returned to a Costco warehouse. The larger Building 2 is anticipated to serve as a Direct Delivery Center (DDC), an ecommerce distribution center primarily for large and bulky items ordered online by Costco members for direct delivery through Market Delivery Operations (MDO) located in various smaller cities in the Northern California region. The Project would not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of degreasers, lubricants, and common cleaning agents. If handled appropriately, these materials would not pose a significant risk.

Any operations that involve the use of hazardous materials would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The San Joaquin County Department of Environmental Health is the CUPA for San Joaquin County and is responsible for the implementation of statewide programs within the city including Hazardous Materials Business Plan (HMBP) requirements, among numerous other programs. Additionally, businesses are regulated by Cal/OSHA and are therefore required to ensure employee safety. Specific requirements include identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers. To further ensure the safety of employees, and reduce the potential for accidental release of hazardous materials into the environment, the applicant must submit a HMBP to San Joaquin County Department of Environmental Health for review and approval prior to bringing hazardous materials onsite, as required by Mitigation Measure 3.8-2.

As with construction, operation of the proposed Project is required to be consistent with federal, State, and local laws and regulations addressing hazardous materials management and environmental protection, including, but not limited to 49 CFR 173 and 177, and CCR Title 26, Division 6 for transportation of hazardous materials, and CCR Titles 8 and 22, Uniform Fire Code, and Division 20 of the California Health and Safety Code for routine use of hazardous materials. These regulations and codes must be implemented, as appropriate, and are monitored by the

State and/or local jurisdictions, including Caltrans, the CHP, the San Joaquin County Department of Environmental Health.

As discussed in the existing setting, Crimson Oil operates a crude oil pipeline beneath the Project site and PG&E operates two natural gas pipelines, which both run across the northeastern portion of the Project site. While the *Phase I ESA* notes no incidental/accidental releases in the Project vicinity have been reported along the pipelines to date, the presence of natural gas pipelines and the potential for undocumented leaks to occur from the crude oil pipeline represents a REC. Undocumented leaks that could occur on-site would result in the release of hazardous materials into the environment contaminating the site and potentially exposing employees and the public to hazardous materials. The *Phase I ESA* notes that Crimson Pipeline, L.P. (or the current pipeline operator at the time of the leak) would be responsible for subsurface contamination as a result of leaks from this pipeline; therefore, the site cleanup from the subsurface contamination would be the responsibility of Crimson Pipeline, L.P. (or the current pipeline operator at the time of the leak). Mitigation Measure 3.8-3 would require the Project applicant to notify the San Joaquin County Department of Environmental Health, who would facilitate the site cleanup.

### CONCLUSION

Overall, consistency with federal, State, and local laws and regulations related to the handling of hazardous materials discussed above and implementation of Mitigation Measures 3.8-1, 3.8-2, and 3.8-3, as well as Mitigation Measure 3.9-1 from Section 3.9, Hydrology and Water Quality, would ensure that these potential impacts are reduced to a ***less than significant*** level.

### MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.9-1**.*

***Mitigation Measure 3.8-1**: In the event that hazardous materials are encountered during construction, a Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.*

***Mitigation Measure 3.8-2**: Prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to San Joaquin County Environmental Health Department (CUPA) for review and approval. If during the construction process the applicant or its subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).*

***Mitigation Measure 3.8-3**: During construction and Project operation, if subsurface contamination as a result of leaks from the crude oil pipeline is detected, the Project proponent/operator shall notify the San Joaquin County Department of Environmental Health (CUPA) to facilitate the site*

*cleanup. Crimson Pipeline, L.P., or the current pipeline operator, shall be responsible for the site cleanup.*

This section describes the regulatory setting, existing regional hydrology and water quality, impacts that are likely to result from Project implementation, and measures to reduce potential impacts to hydrology and water quality. This section is based in part on the following documents, reports and studies: San Joaquin County General Plan (San Joaquin County, 2016), City of Tracy General Plan (City of Tracy, 2011), City of Tracy General Plan EIR (City of Tracy, 2011), *2020 Urban Water Management Plan* (City of Tracy, 2021), Draft *Citywide Storm Drainage Master Plan Update* (City of Tracy, 2021), Costco Depot Project Planning Submittal Review for Drainage and Flood Management, (Wood Rodgers, 2021), *California Water Plan Update 2013* (DWR 2013), *Tracy Storm Drain Master Plan* (City of Tracy 2020), *California's Groundwater Bulletin 118, San Joaquin Valley Groundwater Basin, Tracy Subbasin* (DWR 2006), *California's Groundwater* (DWR 2003), *Draft Tracy Subbasin Groundwater Sustainability Plan: Chapters 1—3* (Tracy Subbasin Groundwater Sustainability Agencies [GSAs], 2020), *Draft Tracy Subbasin Groundwater Sustainability Plan: Chapter 4* (Tracy Subbasin GSAs, 2020), *Draft Tracy Subbasin Groundwater Sustainability Plan: Chapter 5* (Tracy Subbasin GSAs, 2020).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the Central Valley Regional Water Quality Control Board (CVRWQCB). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

As discussed in the Initial Study (see Appendix A), there would be ***no impacts*** associated with the risk of release of pollutants due to flood hazards, tsunamis, or seiches. As such, this CEQA topic does not warrant additional analysis and will not be addressed further in this section.

## 3.9.1 ENVIRONMENTAL SETTING

### REGIONAL HYDROLOGY

San Joaquin County is located in the San Joaquin River watershed. The San Joaquin River is about 300 miles long. It begins in the Sierra Nevada mountain range on California's eastern border. The river runs down the western slope of the Sierra and flows roughly northwest through the Central Valley, to where it meets the Sacramento River at the Sacramento-San Joaquin Delta, a 1,000-square-mile maze of channels and islands that drains more than 40 percent of the state's lands (SJRGA 2013).

Because the Central Valley receives relatively little rainfall (12 to 17 inches a year, falling mostly October through March), snowmelt runoff from the mountains is the main source of fresh water in the San Joaquin River. Over its 300-mile length, the San Joaquin River is fed by many other streams and rivers, most notably the Stanislaus, Tuolumne and Merced rivers.

Most of the surface water in the upper San Joaquin River is stored and diverted at Millerton Lakes' Friant Dam, near Fresno. From Friant Dam, water is pumped north through the Madera Canal and then flows south through the Friant-Kern Canal to irrigation districts and other water retailers, which then deliver the water directly to the end users in the southern portion of the watershed.

In the central and northern portions of the watershed, many agricultural and municipal users receive water from irrigation districts, such as the Modesto, Merced, Oakdale, South San Joaquin and Turlock Irrigation Districts. That water is provided through diversions from rivers that are tributary to the San Joaquin, such as the Mokelumne, Stanislaus, Tuolumne and Merced rivers.

In an average year, about 1.5 million acre-feet of water is diverted from the San Joaquin River at Friant Dam, leaving little flow in the river until the Merced River joins the San Joaquin northwest of the City of Merced. Additional water also reaches the river via flows returning to the river from municipal wastewater treatment plants, as well as urban and agricultural runoff. The rest of the area's water supply needs are met by importing water from northern California (via the Central Valley Project) and by pumping water from the groundwater basin (SJRGA 2013).

## Climate

The climate in San Joaquin County is characterized by long hot dry summers and cool rainy winters that include dense tule fog. According to the San Joaquin County 2035 General Plan Draft EIR, average rainfall ranges from approximately 10 inches per year in the southern portion of the county to 18 inches per year in the north. The mean annual precipitation as measured in the City of Stockton is 13.79 inches. Most of the precipitation occurs between October and April while the summer months are typically absent of any precipitation. The average temperatures range from December lows of 37.5°F to July highs of 94.3°F.

## Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife, including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State of California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

***TABLE 3.9-1. STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION***

| *WATERSHED LEVEL* | *APPROXIMATE SQUARE MILES (ACRES)* | *DESCRIPTION* |
|---|---|---|
| Hydrologic Region (HR) | 12,735 (8,150,000) | Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs. |
| Hydrologic Unit (HU) | 672 (430,000) | Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others. |
| Hydrologic Area (HA) | 244 (156,000) | Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components. |

| *WATERSHED LEVEL* | *APPROXIMATE SQUARE MILES (ACRES)* | *DESCRIPTION* |
|---|---|---|
| Hydrologic Sub-Area (HSA) | 195 (125,000) | A major segment of an HA with significant geographical characteristics or hydrological homogeneity. |

*SOURCE: CALIFORNIA DEPARTMENT OF WATER RESOURCES, 2012.*

## Hydrologic Region

San Joaquin County is located in the San Joaquin River Hydrological Region. The San Joaquin River is the principal river of the region, and all other streams of the region are tributary to it. The Mokelumne River and its tributary, the Cosumnes River, originate in the central Sierra Nevada, along with the more southerly Stanislaus and Tuolumne rivers. The Merced River flows from the south central Sierra Nevada and enters the San Joaquin near the City of Newman. The Chowchilla and Fresno rivers also originate in the Sierra, south of the Merced River, and trend westward toward the San Joaquin River. Creeks originating in the Coast Range and draining eastward into the San Joaquin River include Del Puerto Creek, Orestimba Creek, and Panoche Creek. Del Puerto Creek enters the San Joaquin near the City of Patterson, and Orestimba Creek enters north of the City of Newman. During flood years, Panoche Creek may enter the San Joaquin River or the Fresno Slough near the town of Mendota. The Kings River is a stream of the Tulare Lake Hydrologic Region, but in flood years it may contribute to the San Joaquin River, flowing northward through the James Bypass and Fresno Slough to enter near the City of Mendota. The Mud, Salt, Berrenda, and Ash sloughs also add to the San Joaquin River, and numerous lesser streams and creeks also enter the system, originating in both the Sierra Nevada and the Coast Range. The entire San Joaquin River system drains northwesterly through the Delta to Suisun Bay (DWR 2013, pg. SJR-5).

The Project site is located in the Old River principal watershed. See Figure 3.9-1. It should be noted that the Old River is a distributary channel of the San Joaquin River. It is located to the north of the city of Tracy (City) and it drains generally towards the west. The Old River has levees that separate it from low-lying portions of the City.

## Regional Groundwater

The San Joaquin Valley Groundwater Basin lies within the San Joaquin River and Tulare Lake Hydrologic Regions. The San Joaquin River Hydrologic Region portion of the basin covers approximately 3.73 million acres while the Tulare Lake Hydrologic Region portion of the basin covers approximately 5.15 million acres. Groundwater is extensively used in the San Joaquin Valley Groundwater Basin by agricultural and urban entities and accounts for approximately 48% of the groundwater used in the State (DWR 2003).

The northern portion of the basin is within the San Joaquin River Hydrologic Region and consists of nine subbasins. These subbasins are the Cosumnes, Eastern San Joaquin, Tracy, Modesto, Turlock, Merced, Delta-Mendota, Chowchilla, and Madera (DWR, 2003). The City of Tracy is located in the Tracy Subbasin of the San Joaquin Valley Groundwater Basin. The Tracy Subbasin encompasses an area of about 345,000 acres in San Joaquin and Alameda counties, primarily between the eastern extent of the Coast Ranges on the south and the San Joaquin River on the east. The Subbasin is

bounded on the north and the east by the San Joaquin River, on the south by the San Joaquin-Stanislaus counties border, and on the west by the aerial extent of sedimentary deposits bounded by the Coastal Ranges. The San Joaquin, Old, and Middle rivers are the principal rivers within or bordering the Subbasin[1].

The City of Tracy and much of the surrounding area is located in the Tracy Subbasin of the San Joaquin Valley Groundwater Basin. This groundwater subbasin covers approximately 345,000 acres in San Joaquin and Alameda counties, primarily between the eastern extent of the Coast Ranges on the south and the San Joaquin River on the east. The Tracy Subbasin is bounded on the north and the east by the San Joaquin River, on the south by the San Joaquin-Stanislaus counties border, and on the west by the aerial extent of sedimentary deposits bounded by the Coastal Ranges. The San Joaquin, Old, and Middle rivers are the principal rivers within or bordering the Subbasin. Other adjacent subbasins include the Delta-Mendota Subbasin to the southeast, the Modesto Subbasin to the east, the Eastern San Joaquin Subbasin to the east and north, and the East Contra Costa Subbasin to the west.

Six Groundwater Sustainability Agencies (GSAs) have formed in the Tracy Subbasin to collaboratively develop one Groundwater Sustainability Plan (GSP) for the Subbasin, including the Banta-Carbona Irrigation District, Byron-Bethany Irrigation District, San Joaquin County, City of Lathrop, City of Tracy, and Stewart Tract. The Tracy Subbasin GSP is required to be provided to the State by January 31, 2022. A draft Groundwater Sustainability Plan was made available for public review from August 9 to September 9, 2021. The Plan was then revised to address public comments provided during the public comment period.

Each of the GSAs voted to adopt the Final GSP. The City of Tracy City Council adopted the Final GSP at a public hearing held on November 16, 2021. The Final GSP was submitted to the California Department of Water Resources (DWR) ahead of the January 31, 2022 deadline. After the GSP is reviewed, the GSAs will submit annual reports to DWR and update the GSP every five years.

Water uses in the Tracy Subbasin include agricultural, municipal, industrial, domestic, and native vegetation and aquatic species. Some water is also being used for managed habitats, mostly for migrating birds. Some water purveyors rely exclusively on either groundwater or surface water, but most rely on a combination of surface water and groundwater. There are about 2,400 "production" wells in the subbasin, of which about 450 are production wells (agricultural and municipal), and about 1,950 are domestic wells, although these estimates vary. The Department of Water Resources (DWR) classifies wells as "production" wells if the well casing is greater than or equal to 4 inches, and the total depth is greater than or equal to 22 feet. Most of the production wells in the Subbasin are domestic wells, which may be classified as de-minimis extractors who pump less than 2 AFY[2].

The Tracy Subbasin has not been designated by DWR as being in a condition of critical overdraft. In an eight-year study conducted by Stoddard & Associates (1996), the average change in the entire sub-basin storage was approximately negative 13,000 af/yr. Stoddard & Associates (1996) noted

[1] Tracy Subbasin GSAs. June 2020. Draft Tracy Subbasin Groundwater Sustainability Plan: Chapters 1 – 3.
[2] Tracy Subbasin GSAs. June 2020. Draft Tracy Subbasin Groundwater Sustainability Plan: Chapters 1 – 3.

that rainfall during the study period was well below average, thus they inferred that the Tracy Subbasin was in a hydrologically-balanced condition and not overdrafted. Additionally, the Sustainable Groundwater Management Act directs DWR to identify groundwater basins and subbasins that are in conditions of critical overdraft. Per DWR's current list of critically overdrafted basins, finalized in January 2016, the Tracy Subbasin is not designated as a critically overdrafted basin. However, the Delta-Mendota Subbasin and the Eastern San Joaquin Subbasin, which border the Tracy Subbasin to the south and to the east, respectively, have been designated as being in conditions of critical overdraft[3].

The Tracy Subbasin has two principal aquifers; an Upper unconfined to semi-confined aquifer and a Lower confined aquifer that are separated by the Corcoran Clay. The City of Tracy is located within the Lower Aquifer. The Lower aquifer is primarily comprised of the lower portions of the Tulare Formation and is below the Corcoran Clay and extends to the base of fresh water. The City of Tracy is the principal water agency that actively monitors water levels in the confined aquifer. Groundwater levels in the confined aquifer are about 25 to 75 feet above mean sea level (msl). The groundwater levels are always above the top of the Corcoran Clay by about 60 to 200 feet[4].

## LOCAL SETTING

The Project site is located in the western portion of the City of Tracy's Sphere of Influence (SOI) 10-Year Planning Horizon, within the unincorporated area of San Joaquin County. The Project site is located northwest of Interstate-580, approximately 4.75 miles southwest of Tracy City Hall, and directly south of the Cordes Ranch Specific Plan[5]. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

The Project site encompasses approximately 104.46 acres of undeveloped land previously used for agricultural purposes. As a result of site disturbance associated with the previous agricultural operations, there is little native vegetation or naturalized habitat located on the site, and the flat topography of the site renders the site essentially void of prominent natural visual features. There are no trees or light sources on-site. The Project site is relatively flat and ranges in elevation from approximately 148 to 187 feet above sea level. The southern portion of the Project site is topographically higher than the northern portion of the site, which is bound by the Delta Mendota Canal. The Delta-Mendota Canal is used for irrigation of land along the west side of the San Joaquin Valley carrying water southeasterly from the C.W. Jones Pumping Plant to the Mendota Pool[6]. The canal's overchute is located in the center of the southern boundary of the site. The overchute is designed to convey surface water runoff that originates to the south of the Delta-Mendota Canal over the top of the Delta-Mendota Canal where the runoff can generally follow its historical flow

[3] West Yost Associates. 2020. Water Supply Assessment for Tracy Costco Depot Project.
[4] Tracy Subbasin GSAs. June 2020. Draft Tracy Subbasin Groundwater Sustainability Plan: Chapter 5.
[5] The Cordes Ranch Specific Plan establishes land use, zoning, development standards and regulations for approximately 1,780 acres located in the northwest region of the City of Tracy. The vision for the Cordes Ranch Specific Plan is to create a commerce and business park, consisting of 55.1 acres of General Commercial uses, 152.2 acres of General Office uses, 1,476.9-acres of Business Park Industrial uses, and 96.3-acres of Park uses.
[6] San Luis & Delta-Mendota Water Authority. 2020. Access: https://sldmwa.org/about-sldmwa-facilities/about-the-delta-mendota-canal/

pattern to the northeast. In addition, a large depressed area possibly used as a drainage basin or detention pond during previous agricultural use is located within the northeast corner of site.

Based on historical aerial photographs, the entire Project site was previously used for agriculture and farming (i.e., a former orchard). According to Google Earth historical imagery, the Project site has been undeveloped since at least 1937. Historic aerial images are available in the Phase 1 ESA (Appendix D of this EIR).

## Local Groundwater

The local groundwater basin and City groundwater use are described in the City's 2015 UWMP. A brief description of the groundwater basin and a discussion of historical and projected groundwater pumping are provided below.

The City currently owns and operates nine groundwater production wells: the Lincoln Well and Production Wells 1, 2, 3, 4, 5 (Lewis Manor), 6 (Park & Ride), 7 (Ball Park) and 8. It is noted that Production Well 8 operates as an aquifer storage and recovery well. The pumping capacity of the City's production wells ranges from 1,400 gallons per minute (gpm) to 2,500 gpm, with a combined total capacity of 18,300 gpm. All production wells are screened below the confining Corcoran Clay with sanitary seals that entirely seal the wells from the upper, unconfined aquifer.

Historically, the City's annual potable groundwater production accounted for up to 50 percent of the City's water supply. Prior to 2001, groundwater extraction in Tracy totaled less than 6,000 acre-feet per year (AFY). Between 2001 and 2004, to meet increased demands for water, Tracy began extracting additional groundwater, ranging from 6,878 AFY to 7,717 AFY. In 2005, groundwater extraction decreased to approximately 6,000 AFY because Tracy began receiving Stanislaus River water and rainfall was above normal. From 2006 through 2010, groundwater extraction ranged from 3,672 AFY to 498 AFY, declining as more water was used from the South San Joaquin Irrigation District (SSJID). Over the period 2012 through 2020, net groundwater production by the City ranged from 252 AFY to 1,181 AFY.

The aquifer beneath the City has an average annual operational yield of 9,000 AFY and an estimated total safe yield of 28,000 AFY[7]. Because the groundwater is of lower quality than the City's surface water resources, the City has reduced its groundwater extraction over the past 15 years. However, Tracy will continue to rely on groundwater for peaking and drought and emergency supplies. Overall, the City anticipates that total extraction during a normal year will decrease to less than 2,500 AFY through the planning horizon (2040). By reducing groundwater extraction on an average annual basis, the City will recharge the underlying aquifer, effectively increasing the availability of groundwater during a drought or emergency condition.

According to the Water Supply Assessment (WSA) prepared for the Project, water demand within the City's water service area is not expected to exceed the City's supplies at buildout under normal hydrologic conditions if the City is able to fully implement its future planned projects, which include Aquifer Storage and Recovery Program Expansion, Recycled Water Distribution Network and

[7] West Yost Associates. 2021. Water Supply Assessment for Tracy Costco Depot Project.

Exchange Program for additional Central Valley Project water supplies, and recycled water distribution for non-potable use. During a single dry year or a multiple dry year period, the City must depend more heavily on water conservation efforts, groundwater, and the proposed future supply projects to overcome the gap between supply and demand. Investments in wet year water supplies will also be needed to refill storage in Semitropic and expand the City's Aquifer Storage and Recovery Program. Delays in implementing the proposed future water supply projects could result in greater water supply shortages and the need for additional water conservation to meet demands.

As discussed in the City's 2020 UWMP, the dry year shortfalls are based on water supply and demand projections with numerous uncertainties and the situation is dynamic. The City continues to work on strategies and actions to address the projected water supply shortfall. The City's strategies and actions include the implementation of demand management measures as part of its water conservation program, consideration of net neutral policies to improve water use efficiency community-wide, and implementation of the future water supply projects described above.

## Drainage

The City of Tracy provides and maintains an extensive network of inlets, manholes, pipes, channels, basins and pump stations. Additionally, the City enforces storm drain regulations established by the US EPA and the State of California.

According to Tracy's Citywide Storm Drainage Master Plan (CSDMP, Final Draft September 2021), the Project site is located within the Lammers Watershed. The Lammers Watershed refers to an area located generally between Mountain House Parkway to the west and Lammers Road to the east including the hills to the south of I-580 that drain into it. A portion of this area, generally south of Interstate-205 and north of Old Schulte Road, is within the City's Sphere of Influence. The California Aqueduct and Delta Mendota Canal cross this watershed and include overchutes and culvert crossings that limit discharges from the hills to the south into the flatter parts of the watershed. There are also several locations of terminal drainage via direct discharge to the Delta Mendota Canal. The hills to the south of I-580 are identified as Offsite Tributary Areas 2 and 3. The natural flow path across the Lammers Watershed from Offsite Tributary Area 2 is generally to the north, whereas the natural flow path across the Lammers Watershed from Offsite Tributary Area 3 is generally to the northeast. Therefore, the area referred to as the Lammers Watershed is not truly a watershed because it does not drain to a single point and does not have a defined outlet available to receive runoff from new development.

Prior to the City's 2012 CSDMP, developments within the Lammers Watershed entered into interim agreements with the West Side Irrigation District (WSID) to permit connections to the Upper Main Canal. Flows in the WSID Upper Main Canal ultimately enter the Eastside Channel. WSID Upper Main Canal discharges into the Eastside Channel are limited to 35 cubic feet per second (cfs) based on the 2010 Drainage Agreement. As noted in the City's 2012 CSDMP, the City's 1994 SDMP anticipated construction of a new system that would discharge to the Old River. The 2012 CSDMP called for the Lammers Watershed drainage system to be connected to the WSID Sub-Main Drain that connects to the WSID Main Drain which leads to the existing Wicklund Outfall.

Drainage features within this area include agricultural ditches and tailwater ponds, and low capacity tailwater ditches that drain to WSID tailwater conveyance facilities. WSID's Upper and Lower Main Canals also traverse across the watershed and intercept various upstream irrigation discharges and stormwater flows. The WSID Sub-Main Drain tailwater ditch extends northwesterly along the south side of Byron Road between I-205 (near Lammers Road) and the alignment of San Jose Road, and then turns north, crossing Byron Road and the Union Pacific Railroad and joins the WSID Main Drain to the north on the east side of San Jose Road.

#### EXISTING PROJECT SITE DRAINAGE

According to the City's 2021 CSDMP, there are two historical drainage flow paths on-site. The first, western drainage path originates just to the west of the Project and drains towards the West Side Irrigation District (WSID) Upper Main Canal. Within the Project site, this path begins in the northwest corner of the Project site traveling northeast across Old Schulte Road and the Cordes Ranch Specific Plan toward to the WSID Upper Canal. The second historic drainage flow path receives runoff from Offsite Tributary Area 3, a watershed that covers approximately 3,500 acres to the southwest of Interstate 580. Runoff from Offsite Tributary Area 3 is conveyed across Hansen Road through four culverts that are 3 feet high by 6 feet wide. The runoff flows to the northeast towards the flume (overchute) that is 7.5 feet wide. The flume conveys flows over the Delta-Mendota Canal towards the Project site. The flow rates traveling towards the flume can exceed the capacity of the culvert through the southern embankment of the Delta Mendota Canal (which regulates flow into the flume). The 3-foot 7-inch-high culvert causes water to be impounded by the southern embankment of the Delta Mendota Canal. High flow velocities discharging from the northeastern end of the Delta-Mendota Canal flume can cause localized erosion before spreading over a large portion of the Project site.

## Flooding

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater. Figure 3.9-2 identifies the FEMA flood zone designations for the City of Tracy. According to FEMA, the Project site is located outside of any mapped 100-year and 500-year floodplains and is considered to be located in an area of minimal flood hazard. It is noted that the site is subject to shallow flooding resulting from periodic stormwater runoff flowing across the Delta-Mendota Canal overchute.

## Dam Failure

Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of

dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

As shown in Figure 3.9-3, the Project site is not located within a dam failure inundation area. The nearest damn inundation area is from the New Melones Lake and San Luis Reservoir in the northeast portion of Tracy, generally north of Interstate 205 and east of the Union Pacific Rail Road tracks.

## Stormwater Quality

Surface water quality is affected by point source and non-point source pollutants. Point source pollutants are those emitted at a specific point, such as a pipe, while non-point source pollutants are typically generated by surface runoff from diffuse sources, such as streets, paved areas, and landscaped areas. Point source pollutants are controlled with pollutant discharge regulations or waste discharge requirements (WDRs). Non-point source pollutants are more difficult to monitor and control, although they are important contributors to surface water quality in urban areas.

Stormwater runoff pollutants vary based on land use, topography, the amount of impervious surface, and the amount and frequency of rainfall and irrigation practices. Runoff in developed areas typically contains oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, herbicides, particulate matter, nutrients, animal waste, and other oxygen-demanding substances from landscaped areas. The highest pollutant concentrations usually occur at the beginning of the wet season during the “first flush.”

Currently, runoff from within the Project site is collected in a system of shallow agricultural and roadside ditches. Additionally, the site is located downstream from an overchute that carries runoff from a large watershed across the Delta-Mendota Canal and is referred to as Offsite Tributary Area 3. The majority of this off-site watershed is south of the California Aqueduct and it drains under Interstate 580 through a large culvert, across the California Aqueduct through an overchute, and under the railroad tracks that are south of the Safeway Distribution Center located west of the site. To the north of the railroad tracks, the runoff turns to the east towards Hansen Road. There is a weir along the south side of an access road that runs on the south side of the Safeway Distribution Center to the north of the flow path towards Hansen Road (also west of the Project site).

Typically, the most prevalent source of agricultural water pollution is soil that is washed off fields. Additionally, other pollutants like fertilizers, pesticides, and heavy metals are often attached to the soil particles and wash into the water bodies. It is noted, however, that the proposed Project site was previously used for agricultural purposes; as such, fertilizers and pesticides are not actively applied to the site.

## 303(d) Impaired Water Bodies

Water quality in the City is governed by the Central Valley Regional Water Quality Control Board (CVRWQCB), which sets water quality standards in their Water Quality Control Plan for the respective basins (Basin Plans). The Basin Plans identify beneficial uses for surface water and groundwater and establish water quality objectives to attain those beneficial uses.

Section 303(d) of the federal CWA requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within the San Joaquin County which are considered Section 303(d) impaired waterbodies. Those areas in the regional vicinity of the Project site that are impaired are referred to as Delta Waterways (Southern Portion) by the Water Quality Control Monitoring Council. This includes 3,125 acres listed as early as 1996 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), DDT (Agriculture), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Electrical Conductivity (Agriculture), Group A Pesticides (Agriculture), Invasive Species (Source Unknown), Mercury (Resource Extraction), and Unknown Toxicity (Source Unknown).

Storm water runoff may play a role in the water quality impairments described above. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific. This storm water can carry pollutants that enter the local waterways and result in the types of water quality impairments described above. Common sources of storm water pollution in the City include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980s. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to NPDES permits. Rules now affect medium and large urban areas, and further rulemaking

is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

## 3.9.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including the Federal Emergency Management Agency, the US Environmental Protection Agency, the State Water Resources Board, and the Regional Water Quality Control Board. The following is an overview of the federal, state and local regulations that are applicable to the proposed Project.

### FEDERAL AND STATE

#### Clean Water Act (CWA)

The Clean Water Act (CWA), initially p assed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to pollutant dischargers through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-001-DWQ-DWQ).

#### Federal Emergency Management Agency (FEMA)

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted, as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

## 200-Year Flood Protection in the Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by DWR. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after 2016 if "adequate progress" towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use "adequate progress" as a condition to approve development after 2025. Adequate progress is defined as meeting all of the following:

1. The project scope, cost and schedule have been developed;
2. In any given year, at least 90% of the revenues scheduled for that year have been appropriated and expended consistent with the schedule;
3. Construction of critical features is progressing as indicated by the actual expenditure of budget funds;
4. The city or county has not been responsible for any significant delay in completion of the system; and
5. The above information has been provided to the DWR and the Central Valley Flood Protection Board and the local flood management agency shall annually report on the efforts to complete the project.

The 200-year flood protection regulations do not apply to the Project site because the site is not located within a flood hazard zone identified on a flood insurance rate map issued by FEMA.

## California Water Code

The Federal Clean Water Act places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the States to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
>
> > (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
> >
> > (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.
> >
> > (3) A person operating, or proposing to construct, an injection well.
>
> (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.
>
> (c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

## National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

### Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

## LOCAL

### City of Tracy General Plan

The City of Tracy General Plan includes several policies relevant to hydrology and water quality. General Plan policies and implementation measures applicable to the Project are identified below:

#### POLICIES: PUBLIC FACILITIES

- PF-1.1-P1: Stormwater infrastructure shall be maintained in good condition.
- PF-1.1-P2: Stormwater infrastructure shall minimize local flooding by attaining capacity that conforms to the Storm Drainage Master Plan and City Design Standards.
- PF-1.1-P3: New permanent stormwater infrastructure shall be designed to serve dual purposes to the extent possible. This includes the following:

  - Drainage facilities integrated into recreation corridors with bike paths, sidewalks, and landscaping.
  - Drainage channels integrated with transportation and environmental corridors
  - Stormwater detention basins shall incorporate active and passive recreation areas where feasible. These areas shall not count towards parks dedication requirements
- PF-1.1-P4: Design of storm drainage facilities shall be consistent with State and federal requirements, including NPDES requirements
- PF-2.1-P1: To the extent feasible, new development projects shall incorporate methods of reducing storm runoff within the project to reduce the requirements for downstream storm drainage infrastructure and improve stormwater quality.
- PF-2.1-P2: New storm drainage facilities shall meet adopted City standards, including the standards and policies contained in the Storm Water Management Plan, the Storm Drainage Master Plan, and the Parkways Design Manual.
- PF-2.1-P3: New development projects shall only be approved if necessary stormwater infrastructure is planned and is in compliance with environmental regulations.
- PF-2.1-P4: If sufficient downstream stormwater infrastructure has not yet been constructed, new development projects shall be required to implement temporary on-site retention facilities in compliance with City standards
- PF-6.1-P3: To the extent feasible, the City shall use surface water supplies to meet daily water needs and reduce reliance on groundwater supplies.

## City of Tracy Municipal Code

Chapter 9.52 (Floodplain Regulations) of the Tracy Municipal Code is intended to minimize damage resulting from flooding and promote safety. This section of the code prohibits encroachments, including fill, new construction, substantial improvements, and other new development, in floodways, and establishes construction standards in special flood hazard areas. Chapter 11.32 (Storm and Surface Water Management Enterprise and Utility) of the City's Municipal Code outlines the storm drainage fees for, improving the quality of storm and surface water, funding the operation, maintenance, improvement and replacement of the existing City storm drainage control facilities, and funding the operation, maintenance, and replacement of future such facilities. Chapter 11.34 (Stormwater Management and Discharge Control) of the City's Municipal Code addresses City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable.

## Multi-Agency Post Construction Stormwater Standards Manual

The Cities of Lathrop, Lodi, Manteca, Patterson, and Tracy, and portions of the County of San Joaquin, are each classified as Phase II Municipal Separate Storm Sewer System (MS4) communities. On April 30, 2003, the State Water Board adopted the first general NPDES permit (CAS000004) under Order No. 2003-0005-DWQ for small MS4s, including nontraditional small MS4s (e.g., military bases), that required compliance with section 402(p) of the CWA and defined the minimum acceptable elements of stormwater management programs for small MS4s. On February 5, 2013,

the State Water Board adopted Order No. 2013-0001-DWQ, which replaced Order No. 2003-0005-DWQ and required that the Agencies develop/update post-construction standards to address stormwater quality for regulated new development and redevelopment projects.

The Phase II Permit specifies three types of projects (both public and private new development and redevelopment) that must implement post-construction stormwater standards, to varying degrees, as discussed below:

- Small Projects (Provision E.12.b(i)) – These are projects that create and/or replace at least 2,500, but less than 5,000 square feet of impervious surface; or detached single-family homes that create and/or replace a minimum of 2,500 square feet of impervious surface and are not part of a larger plan of development. Small Projects exclude linear underground/overhead utility projects (LUPs).
- Regulated Projects – These are projects that create and/or replace greater than or equal to 5,000 square feet of impervious surface and LUPs that create 5,000 square feet or more of newly constructed contiguous impervious surfaces.
- Hydromodification Management Projects – These are a subset of Regulated Projects that create and/or replace one acre or more of impervious surface. A project that does not increase the impervious surface area over the pre-project condition is not considered a Hydromodification Management Project.

The Multi-Agency Post Construction Stormwater Standards Manual requires projects to implement Low Impact Development (LID) control measures to reduce and/or eliminate the volume of stormwater runoff and pollutants leaving the project site. LID is an approach to managing stormwater runoff that mimics the natural pre-development hydrology of a development site by using design techniques that infiltrate, filter, store, treat, evaporate, and detain stormwater runoff close to the source. There are a number of opportunities in site design that can incorporate LID measures, including landscaping, open space, streetscapes, parking lots, sidewalks, and medians. LID can be used in combination with traditional storm drain systems to infiltrate the smaller, more frequent storms, while allowing the larger storms to flow to pipes and basins for flood control (possibly with lower off-site costs than traditional non-LID systems). LID techniques offer benefits to stormwater quality, especially for the smaller return interval storm events. LID help reduce the amount of runoff entering the City's system and aid in recharging ground water.

Under the Multi-Agency Post Construction Stormwater Standards Manual, applicants must submit a Project Stormwater Quality Control Plan (SWQCP) that adequately demonstrates how the proposed Project will implement stormwater treatment control measures for review by City staff as part of its development application. Applicants for Regulated and Hydromodification Management Projects must submit a comprehensive, technical discussion describing compliance with the requirements of this Manual, including proposed site design measures to be implemented, proposed source control measures to be implemented, calculation of the stormwater design volume and/or stormwater design flow and results from the Post-Construction Stormwater Runoff Calculator, proposed stormwater treatment control measures (if necessary), proposed hydromodification control measures, and proposed operations and maintenance plan.

## Citywide Storm Drainage Master Plan

The City of Tracy Citywide Storm Drainage Master Plan (CSDMP) was adopted in 2013, and the Final Draft to the CSDMP was completed in September 2021. The CSDMP identifies storm drainage facilities needed to serve future land development projects under the buildout condition for the City and its SOI and storm drainage facility upgrades needed to correct existing deficiencies, as well as serving as a reference document for existing storm drainage facilities and their functional characteristics.

In the 2012 CSDMP, new master plan level storm drainage facilities were identified and sized based on the following criteria:

- Detention basins: 100-year 24-hour storm.
- Detention basin pump stations (when needed): provide the desired function and attenuation during the 100-year 24-hour storm.
- Open channels, channel parkways, and greenbelt parkways: 100-year 24-hour storm.
- Underground storm drains: 100-year 24-hour storm in new development areas and in existing development areas served by 100-year 24-hour storm capacity systems. Ten-year 24-hour storm in existing development areas served by 10-year 24-hour storm capacity systems. Ten-year storm for on-site storm drains as set forth per City standards.

Detention basin sizing represented in the 2012 CSDMP accounts for the acreage required to accommodate the storage volumes needed for flood control only, and additional land would be required to incorporate provision for joint-use recreation facilities and differential grading, if such facilities are proposed.

The CSDMP Update (2021) uses different hydrologic modeling methodology from that used in the 2012 CSDMP. The methodology takes street storage and pipe capacity into account in the determination of reported flow rates. Additionally, a re-evaluation of imperviousness, new design precipitation and soils data from updated sources contribute to changes to the design discharges. More accurate topographic data resulted in more accurate drainage area delineations while also affecting assessments of required and available capacity.

On-site storm drainage facilities serving individual future development projects or phases of future development projects are not presented in the CSDMP Update and shall be designed in consideration of the master plan storm drainage infrastructure presented in the CSDMP Update and in conformance with the City Design Standards. Detention basins that have highly restricted discharge rates must be evaluated to ensure that they are designed with adequate capacity for a 100-year storm event of any duration.

The CSDMP Update recommends that consideration be given to flood risks associated with potential runoff from off-site drainage areas. To the extent feasible, it is recommended that overland release paths be identified and preserved.

## 3.9.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
    - Impede or redirect flood flows;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

### IMPACTS AND MITIGATION

#### Impact 3.9-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. (Less than Significant with Mitigation)

CONSTRUCTION PHASE

The Project would include the construction and subsequent operation of two warehouse buildings that would serve as an annex to the existing Costco Depot located approximately 1.5-miles to the west of the Project and as a Direct Delivery Center. The two buildings (approximately 543,326 sf for Building 1 and 1,201,726 sf for Building 2) total approximately 1,745,052 sf on the 104.46-acre Project site. The smaller Building 1 is anticipated to serve as the annex by providing additional storage for high-turnover merchandise processed through the nearby Costco Depot, a pallet repair facility, and a return to vendor facility for large items returned to a Costco warehouse. The larger Building 2 is anticipated to serve as a Direct Delivery Center (DDC), an ecommerce distribution center primarily for large and bulky items ordered online by Costco members for direct delivery through Market Delivery Operations (MDO) located in various smaller cities in the Northern California region. Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction

activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at the construction site and staging areas.

The Project would be required to comply with Chapter 11.34 of the Tracy Municipal Code, Stormwater Management and Discharge Control, which outlines City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable. To ensure Project construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), as per Chapter 11.34 of the Tracy Municipal Code, the Project would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) to reduce erosion and sediments to meet water quality standards (Mitigation Measure 3.9-1) before any grading or building permit for the construction Project is issued.

Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency. Upon completion of the Project, the applicant would be required to submit a Notice of Termination to the State Regional Water Quality Control Board to indicate that construction is completed. Mandatory compliance with the SWPPP would ensure that the proposed Project would not violate any water quality standards or waste discharge requirements during construction activities. Therefore, water quality impacts associated with construction activities would be ***less than significant***.

### OPERATIONAL PHASE

The long-term operations of the proposed Project (all phases) could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed Project would result in increased impervious area at the site as a result of the construction and subsequent operation of the two Costco warehouse buildings totaling 1,745,052 sf on the 103-acre Development Site. Normal activities in these developed areas include the use of various automotive petroleum products (i.e. oil, grease, and fuel), common household hazardous materials, heavy metals, pesticides, herbicides, fertilizers, and sediment. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people.

Potential impacts include considerations of both stormwater quantity and quality. Long-term water quality impacts could be significant due to development of the proposed Project; however, the Project would be designed to conform with current City of Tracy standard requirements, as discussed below.

As shown in Appendix I, Stormwater Quality Control Plan, of this EIR, the Project site includes seven drainage areas: Area 1 (12.07 acres located along the western boundary of the site), Area 2 (36.50 acres located in the center of the site), Area 3 (2.46 acres located along the northwestern boundary of the site), Area 4 (2.00 acres located along the northern boundary of the site) Area 5 (34.26 acres located in the eastern portion of the site), Area 6 (1.64 acres located along the northern boundary of the site), and Area 7 (5.68 acres located along the eastern boundary of the site). Stormwater runoff from each of the seven drainage areas would be routed to a series of stormwater treatment/detention basins and stormwater bioretention treatment planters, located throughout the Project site, mainly in the proposed landscaped areas and along West Schulte Road. Runoff from the Project will be directed into a master-planned offsite detention basin (called DET LW11). The outflow from DET LW11 will be highly restricted. The Project will meet Hydromodification Management Project requirements by discharging to DET LW11.

The overall design of the drainage infrastructure, including the proposed detention basins, will be required to comply with the Multi-Agency Post Construction Stormwater Standards Manual, which includes existing and enhanced program control measures for controlling the discharge of pollutants to the municipal storm drain system to the maximum extent practicable (MEP). Additionally, the Multi-Agency Post Construction Stormwater Standards Manual requires that the post-construction stormwater runoff flow rate not exceed the estimated pre-project flow rate for the 2-year, 24-hour design storm event. Hydromodification Management can consider runoff reduction resulting from various Low Impact Development (LID) and treatment measures. Additionally, under the Multi-Agency Post Construction Stormwater Standards Manual, applicants must submit a SWQCP that adequately demonstrates how the proposed Project will implement stormwater treatment control measures for review by City staff as part of its development application.

The term LID means a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. The Project would be required to integrate LID measures throughout the Project site to provide stormwater quality treatment. As such, BMPs would be applied to the proposed development to limit the concentrations of constituents in any site runoff to acceptable levels. Stormwater flows from the Project site would be directed to the proposed stormwater treatment basins, treatment planters, and bioretention areas by a new stormwater conveyance system on the Project site. Stormwater runoff would not be allowed to discharge directly to the existing storm drains in West Schulte Road without first discharging to the bioretention areas. The landscaping plan includes stormwater treatment plantings in the treatment/detention basins. Additionally, erosion and sediment control measures would be implemented during construction.

According to the Multi-Agency Post Construction Stormwater Standards Manual, the Project is considered a Hydromodification Management Project as it would result in the development of one acre or more of impervious surface. Hydromodification Management Projects are required to prepare and submit a Project Stormwater Quality Control Plan that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff

rates, and reduce pollutants in post-development runoff. In particular, the Project Stormwater Quality Control Plan will need to specify BMPs the Project will use and design specifications for selected BMPs. The Project Stormwater Quality Control Plan must be submitted for review and approval by the City of Tracy, as required by Mitigation Measure 3.9-2. Implementation of Mitigation Measure 3.9-2 would require the Project to be consistent with regulatory requirements, which would ensure that the proposed Project would have a ***less than significant*** impact on operation-related water quality.

MITIGATION MEASURE(S)

***Mitigation Measure 3.9-1:*** *Prior to any site disturbance, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Tracy and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

***Mitigation Measure 3.9-2:*** *Prior to the issuance of grading permits, the applicant must submit a site-specific Project Stormwater Quality Control Plan to the City of Tracy for review and approval. The site-specific Project Stormwater Quality Control Plan must specify operational BMPs the Project will use and design specifications for selected operational BMPs to ensure the Project's consistency with State and local water quality regulations.*

## Impact 3.9-2: The proposed Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. (Less than Significant)

As previously stated, the Project site is located in the Lower Aquifer of the Tracy Subbasin and the Tracy Subbasin is not designated as a critically overdrafted basin. Much of the groundwater recharge sources within the Lower Aquifer are limited to precipitation and perennial streams. Precipitation in the region is 13.81 inches, most of which falls between November through April. However, only a small portion of this annual rainfall infiltrates the soil and groundwater basin because of the Corcoran Clay underlaying the majority of the Lower Aquifer area. While the proposed Project would reduce the amount of pervious surfaces within the Project site, the Project site is not located within a known recharge area for the Lower Aquifer due to the presence of Corcoran clay under the Project

site[8]. Therefore, development of the Project site would not substantially interfere with groundwater recharge.

The Project site will receive its water from the City of Tracy, which relies on water from the following sources:

- Untreated surface water from the Delta-Mendota Canal (Central Valley Project) that is treated at the City's John Jones Water Treatment Plant;
- Surface water from the Stanislaus River via the South County Water Supply Project delivered by the SSJID;
- Groundwater pumped from the groundwater wells located within the City; and
- Untreated surface water from the Byron Bethany Irrigation District (BBID) pre-1914 rights that is treated at the City's John Jones Water Treatment Plant.

As previously stated, the City's use of groundwater over the last few years has significantly declined, primarily due to the availability of new high-quality surface water supplies. In the future, although the City can sustainably extract up to 9,000 AFY of groundwater on a continuous basis, the City's use of groundwater under normal hydrologic conditions is anticipated to decrease even further, as additional high-quality surface water supplies become available[9]. According to the Water Supply Assessment prepared for the Project, sufficient water supplies exist to meet the Project's build-out water demand as well as all existing and reasonably foreseeable water demands. Additionally, the WSA concludes that the existing near-term and long-term reliable supplies of surface water supplies and indigenous groundwater supplies can deliver a sustainable reliable water supply to meet existing and foreseeable water demands without impacting environmental values and/or impacting the current stabilization of the Tracy Subbasin (West Yost Associates, 2020). As such, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

## Impact 3.9-3: The proposed Project would not alter the existing drainage pattern of the site or area, including the alteration of the course of a river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff. (Less than Significant)

Currently, runoff from within the Project site is collected in a system of shallow agricultural and roadside ditches. Additionally, the site is located downstream from an overchute that carries runoff from a large watershed across the Delta-Mendota Canal and is referred to as Offsite Tributary Area 3. The majority of this off-site watershed is south of the California Aqueduct and it drains under Interstate 580 through a large culvert, across the California Aqueduct through an overchute, and under the railroad tracks that are south of the Safeway Distribution Center located west of the site. To the north of the railroad tracks, the runoff turns to the east towards Hansen Road. There is a weir along the south side of an access road that runs on the south side of the Safeway Distribution Center

[8] Tracy Subbasin GSAs. June 2020. Draft Tracy Subbasin Groundwater Sustainability Plan: Chapter 4 [Figure 4-33].
[9] West Yost Associates. 2020. Water Supply Assessment for Tracy Costco Depot [Page 32].

to the north of the flow path towards Hansen Road (also west of the Project site). If the flood levels upstream of Hansen Road reach the level of the weir, some of the runoff from Offsite Tributary Area 3 will drain to the north through a drainage path within the Safeway Distribution Center. According to the Costco Depot Project Planning Submittal Review for Drainage and Flood Management, any flows that drain over the weir to the north will not impact the Project site. Four three-foot-high by six-foot-wide concrete box culverts (CBCs) under Hansen Road convey most of the runoff east, towards an overchute crossing of the Delta-Mendota Canal that drains towards the Project site. There are two other culverts located under Interstate 580 upstream from the minor pipe crossings over the California Aqueduct. These pipe overchutes (estimated to be 18-inch and 36-inch diameter pipes based on imagery) were included in the Project's stormwater evaluation and were determined to not contribute significantly to the flows towards the Project site due to insignificant conveyance towards the box culverts under Hansen Road.

As previously stated, there are two historical drainage flow paths on-site, including one running northeast across Old Schulte Road and the Cordes Ranch Specific Plan, connecting to the WSID Upper Canal and another running northeast across the Project site toward to a 7-foot, six-inch wide by 3-foot, 7-inch high flume in the southwest portion of the Annexation Area. This on-site flume directs stormwater runoff over the Delta Mendota Canal[10]

The proposed Project would alter the existing drainage site through grading and development of two Costco warehouse buildings (approximately 543,326 sf for Building 1 and 1,201,726 sf for Building 2) totaling approximately 1,745,052 sf on the 104.46-acre Project site. Development of the proposed Project, when complete, would result in increased impervious surfaces and result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, thereby generating additional runoff during storm events. Additional runoff could contribute to increased erosion, siltation, and pollution, and increase in flood potential, or runoff that could exceed the capacity of the City's drainage system. The Project would be conditioned to control overflow from the site in a manner that approximates how overflows would have occurred in the pre-project condition.

As previously noted, the Project site includes seven drainage areas. Stormwater runoff from each of the seven drainage areas would be routed to a series of on-site stormwater bioretention treatment planters and treatment/detention basins. As noted in the Stormwater Control Plan sheet of the Project Plan Set, the proposed Project would require a stormwater quality treatment volume of 144,625.62 cubic feet and the proposed bioretention area would provide 157,900 cubic feet. Runoff from the site will be collected and discharges into DET LW11 which will detain 100-year runoff and release it within the capacity of the planned stormwater drainage system. Therefore, development of the Project would not result in a substantial increase in the rate of amount of surface runoff in a manner which would result in flooding nor would it create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage system. However, as discussed in Mitigation Measure 3.9-2, the Project's Stormwater Control Plan will require approval by the City of

[10] Delta-Mendota Canal - STA. L-680+00 Overchute Inlet and Flume plan, October 20, 1955.

Tracy to ensure the Project's stormwater drainage system is consistent with State and local water quality regulations.

Construction would include excavation and the overall disturbance of the existing landscape, and would expose bare soil, and could temporarily alter drainage patterns with the potential to cause erosion and sedimentation. Adherence with statewide NPDES Construction General Permit and MS4 Permit construction requirements would ensure erosion or siltation does not occur onsite through implementation of erosion and sediment control BMPs during construction of the proposed Project. These requirements (see Mitigation Measure 3.9-1) would include the implementation of minimum BMPs, typical Source Control BMPs, and typical Treatment Control BMPs for erosion, sediment, non-storm water management and waste management. Adherence to the MS4 Permit and Construction General Permit conditions would ensure that potential water quality degradation associated with the construction of future development projects within the Project area would be minimized. With implementation of erosion and sediment control BMPs, as would be required by the appropriate permitting authorities, and goals, policies, and implementation measures to reduce water quality impacts, construction-related impacts related to alteration of an existing drainage pattern that could result in substantial erosion or siltation on- or off-site from future development projects occurring under the proposed Project would be less than significant.

Additionally, planned urbanization of the Project site would result in changes to land use, natural vegetation, and infiltration characteristics, and would introduce new sources of water pollutants, producing "urban runoff." Pollutants contained within urban runoff may include, but are not limited to sediment, oxygen-demanding substances (e.g., organic matter), nutrients (primarily nitrogen and phosphorus), heavy metals, bacteria, oil and grease, and toxic chemicals that can degrade receiving waters. Urban runoff pollutants may stem from erosion of disturbed areas, deposition of atmospheric particles derived from automobile or industrial sources, corrosion or decay of building materials, rainfall contact with toxic substances, decomposing plant materials, animal excrement, and spills of toxic materials on surfaces which receive rainfall and generate runoff. New industrial development can generate urban runoff from parking areas, as well as any areas of hazardous materials storage exposed to rainfall.

In order to ensure that stormwater runoff from the Project site does not adversely increase pollutant levels in adjacent surface waters and stormwater conveyance infrastructure, or otherwise degrade water quality, Mitigation Measure 3.9-1 requires the preparation of a SWPPP, and structural BMPs. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the Project. Additionally, the Project will be required to comply with Chapter 11.34 of the Tracy Municipal Code, Stormwater Management and Discharge Control, which outlines the City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable.

Further, as described under Impact 3.9-1, the Project will be required to submit a Project Stormwater Quality Control Plan (see Mitigation Measure 3.9-2) that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. Further, General Plan Action SAF-3.2B requires new development to employ LID approaches that conserve natural areas and reduce impervious areas. Therefore, consistency with the General Plan and implementation of these Mitigation Measures would reduce this impact to a less-than-significant level.

Overall, compliance with Federal, State, and local standards and regulations as well as implementation of Mitigation Measures 3.9-1 and 3.9-2 would ensure that that the proposed Project would not result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff and that the impact would be ***less than significant***.

## Impact 3.9-4: The proposed Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (Less than Significant)

The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Tracy Subbasin Groundwater Sustainability Plan are the two guiding documents for water quality and sustainable groundwater management in the Project area.

### WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS

The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) and supported by the Federal Clean Water Act. Section 303 of the Clean Water Act requires states to adopt water quality standards which "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

In order to ensure that stormwater runoff from the Project site does not adversely increase pollutant levels in adjacent surface waters and stormwater conveyance infrastructure, or otherwise degrade water quality, Mitigation Measure 3.9-1 requires the preparation of a SWPPP, and structural BMPs. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the Project. Additionally, as described under Impact 3.9-1, the Project will be required to submit a

Project Stormwater Quality Control Plan (see Mitigation Measure 3.9-2) that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. Additionally, the Project will be required to comply with Chapter 11.34 of the Tracy Municipal Code, Stormwater Management and Discharge Control, which outlines the City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable.

### TRACY SUBBASIN GROUNDWATER SUSTAINABILITY PLAN

As noted previously, each of the GSAs voted to adopt the Final GSP. The City of Tracy City Council adopted the Final GSP at a public hearing held on November 16. The Final GSP was submitted to DWR ahead of the January 31, 2022 deadline. After the GSP is reviewed, the GSAs will submit annual reports to DWR and update the GSP every five years.

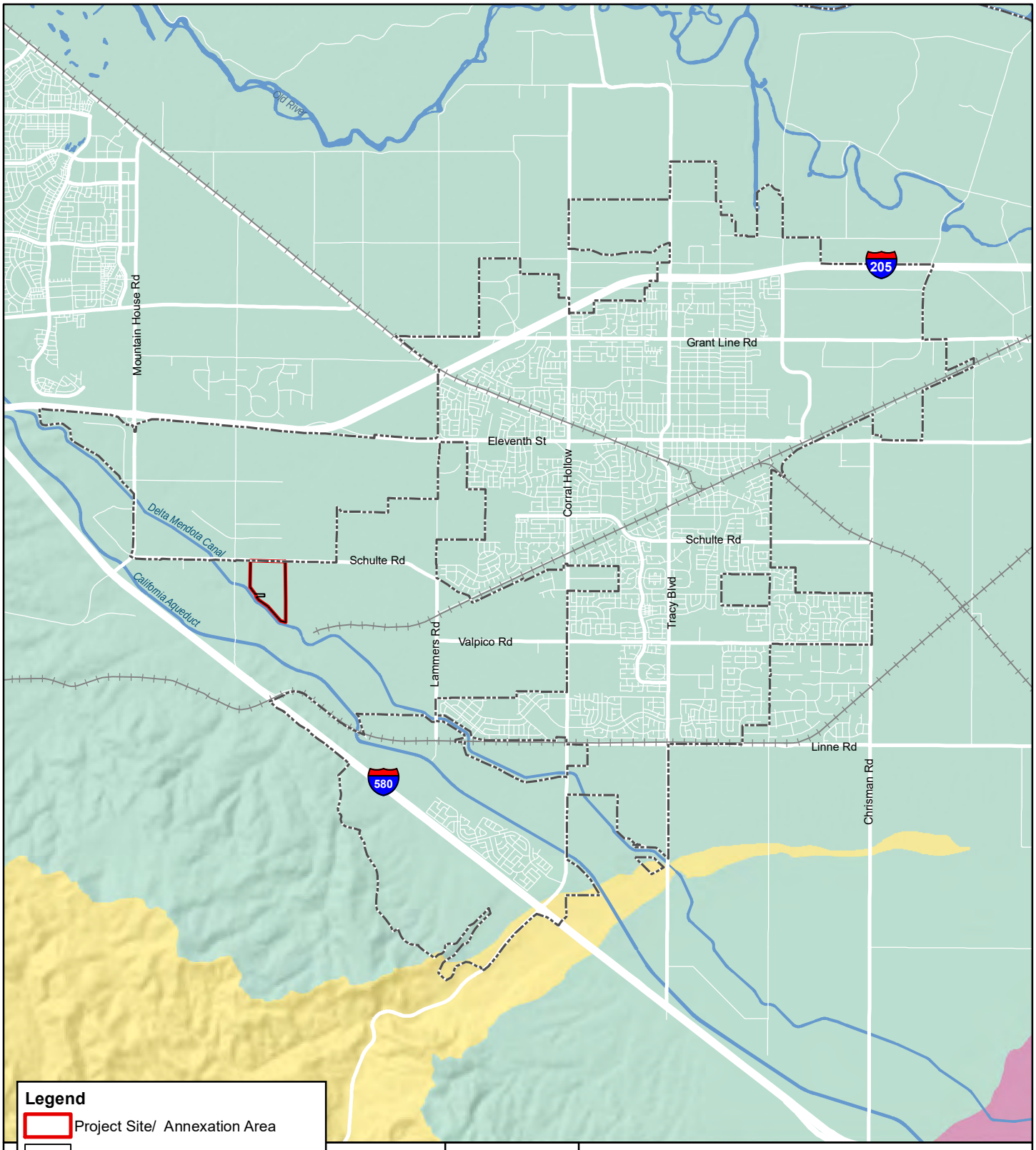
As discussed in Impact 3.9-2, the Project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. The on-site conditions do not allow for significant groundwater recharge, and the Project site is not located within a known recharge area for the Lower Aquifer due to the presence of Corcoran clay under the Project site. As previously stated, the Project's WSA concluded that the existing near-term and long-term reliable supplies of surface water supplies and indigenous groundwater supplies can deliver a sustainable reliable water supply to meet existing and foreseeable water demands without impacting environmental values and/or impacting the current stabilization of the groundwater basin.

Additionally, Mitigation Measure 3.9-1 requires the preparation of a SWPPP, and structural BMPs. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the Project. Additionally, as described under Impact 3.9-1, the Project will be required to submit a Project Stormwater Quality Control Plan (see Mitigation Measure 3.9-2) that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. The Project will be required to comply with Chapter 11.34 of the Tracy Municipal Code, Stormwater Management and Discharge Control, which outlines the City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable.

### CONCLUSION

Overall, implementation of the proposed Project and adherence to the requirements of Mitigation Measures 3.9-1 and 3.9-2 would have a ***less than significant*** impact related to conflicts with the Basin Plan and the Tracy Subbasin Groundwater Sustainability Plan.

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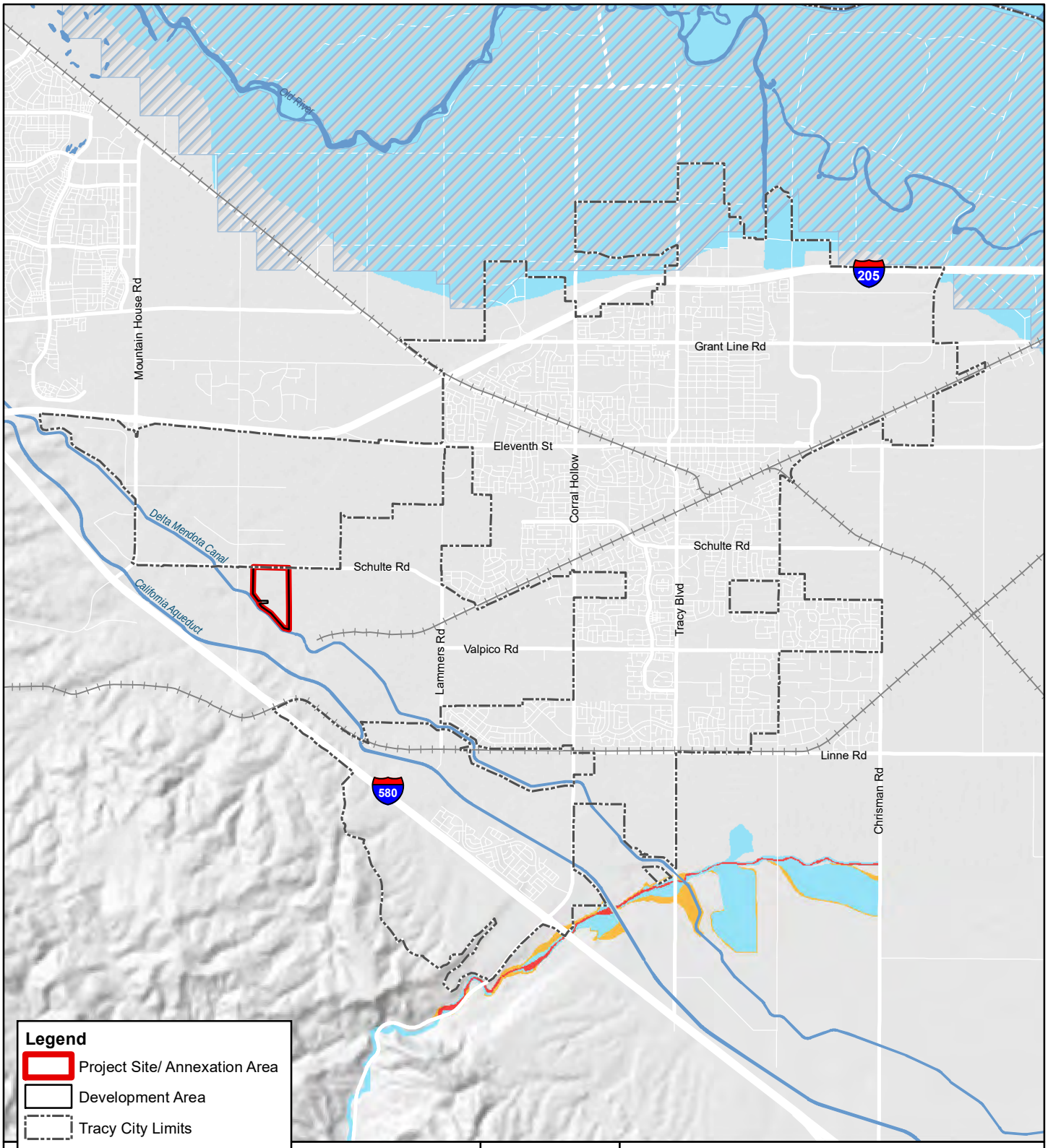

*Sources: USGS Watershed Boundary Dataset, HU-10; San Joaquin County GIS; ArcGIS Online World Imagery Map Service. Map date: December 11, 2019. Revised: June 28, 2021.*

**TRACY COSTCO DEPOT PROJECT**

Figure 3.9-1. Principal Watershed

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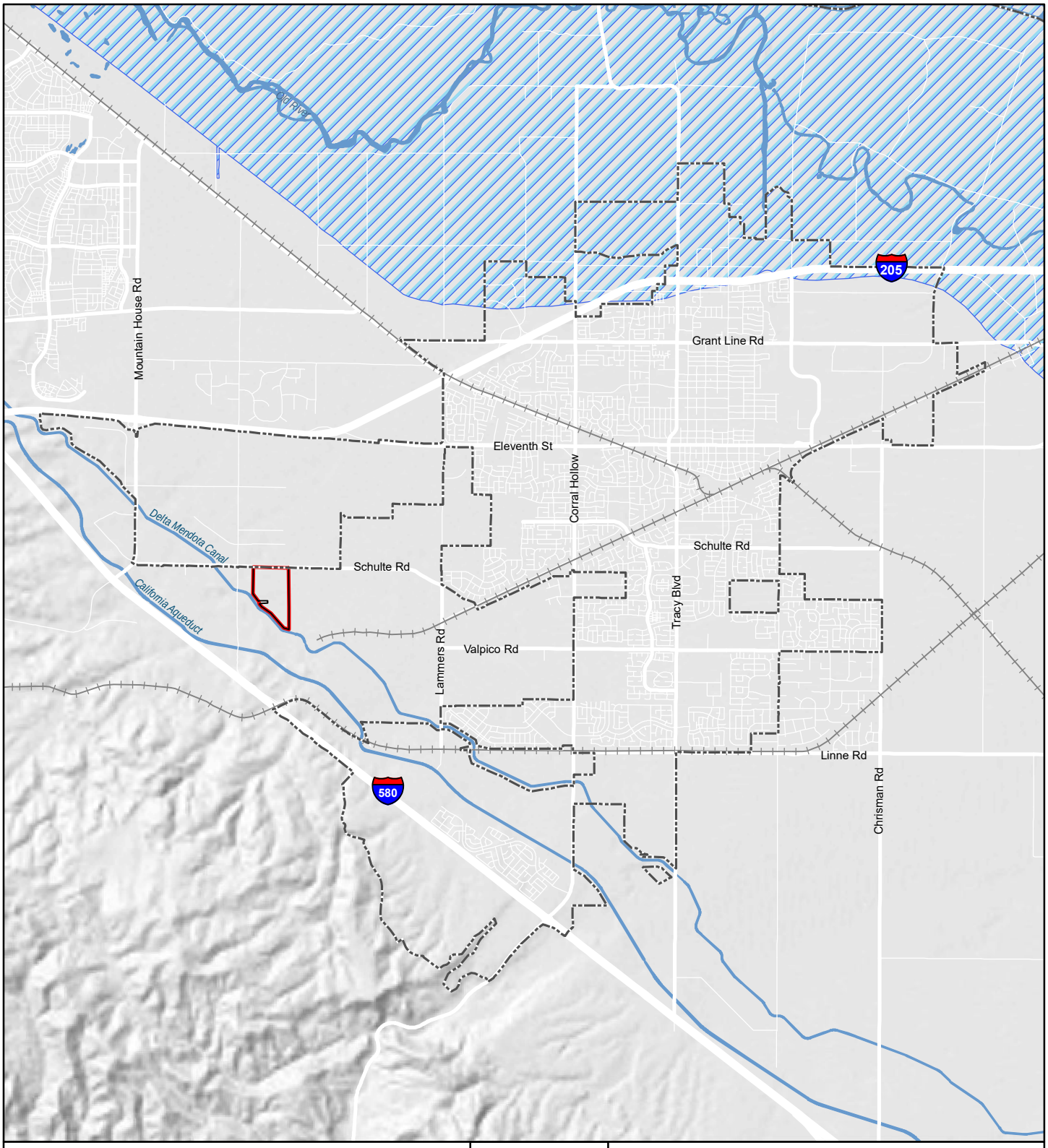

*Sources: FEMA; DWR; San Joaquin County GIS; ArcGIS Online World Imagery Map Service. Map date: December 11, 2019. Revised: June 28, 2021.*

**TRACY COSTCO DEPOT PROJECT**

## Figure 3.9-2. Flood Zones

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**Legend**

- Project Site/Annexation Area
- Development Area
- Tracy City Limits
- New Melones and San Luis Dam Inundation Area

N

0 ½ 1

Miles

*Sources: CalOES; San Joaquin County GIS; ArcGIS Online World Imagery Map Service. Map date: December 11, 2019. Revised: June 28, 2021.*

**TRACY COSTCO DEPOT PROJECT**

Figure 3.9-3. Dam Inundation Areas

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This section describes the existing land uses on the Project site and in the surrounding area, describes the applicable land use regulations, and evaluates the environmental effects of implementation of the proposed Project related to land use. Information in this section is based on the following reference documents: *City of Tracy General Plan 2011*, the *Tracy General Plan 2011 Draft Environmental Impact Report,* the City of Tracy Municipal Code, Title 17 - Zoning (City of Tracy, 2011), and the San Joaquin County General Plan (County of San Joaquin, 1992).

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

As discussed in the Initial Study prepared for the proposed project, development of the project site would not result in physical barriers, such as a highway, wall, or other division, that would divide an existing community, but would serve as an orderly extension of existing and planned development. Therefore, the proposed project would have ***no impact*** related to established communities. As such, this CEQA topic will not be further discussed.

## 3.10.1 ENVIRONMENTAL SETTING

### EXISTING PHYSICAL ENVIRONMENT

The City of Tracy is located in southern San Joaquin County, approximately 17 miles from Stockton and 25 miles from Modesto. Tracy is located inside a geographic triangle formed by Interstate 205 on the north side of the city, Interstate 5 to the east, and Interstate 580 to the southwest.

### Project Site

The Project site is located in the western portion of the City of Tracy Sphere of Influence (SOI) 10-Year Planning Horizon, within the unincorporated area of San Joaquin County. The Project site is adjacent to the City of Tracy city limits to the north of the Project site. The Project site is immediately south of the intersection of Bud Lyons Way and West Schulte Road. The Project site is bounded on the north by West Schulte Road, on the west by an unnamed driveway serving the adjacent rural residence, on the south by the Delta Mendota Canal, and on the east by vacant agricultural land. The Project site is located within Section 35 of Township 2 South, Range 4 East Mount Diablo Base Meridian (MDBM). Figures 2.0-1 and 2.0-2 found in Chapter 2.0 illustrate the regional location and Project vicinity.

The Project site includes two distinct planning boundaries including the Annexation Area and Development Area. The Annexation Area totals 104.46 acres and includes the whole of the Project, including the proposed 103.0-acre Development Area, and 1.46 acres of land along the Delta Mendota Canal. The Development Area includes 103.0 acres that is intended for the development of up to 1,745,052 square feet (sf) of industrial uses. Figure 2.0-3 shows the aerial view of the Project

site. The Project site is relatively flat with natural gentle slope from southwest to northeast. The Project site topography ranges in elevation from approximately 148 to 187 feet above sea level[1].

### GENERAL PLAN

The Project site is designated as Agriculture by the County's General Plan Land Use Map and is zoned as AG-40 Agriculture by the County. The Project site currently has a City of Tracy General Plan land use designation of Industrial (I). Figure 2.0-5 illustrates the current and proposed Tracy General Plan land use within the Project site.

### PRE-ZONING

The Project site is currently within the jurisdiction of San Joaquin County. Current county zoning for the Project site is AG-40 Agriculture.

The San Joaquin County Local Agency Formation Commission (LAFCO) will require the Project site to be pre-zoned by the City of Tracy in conjunction with the proposed annexation. The City's pre-zoning will include the Light Industrial (M-1) zoning designation for Project site. The pre-zoning would go into effect upon annexation into the City of Tracy. Additionally, the Project is requesting a Conditional Use Permit to allow for food processing and canning in the proposed M-1 zoning district. The proposed pre-zoning for the Project site is shown on Figure 2.0-6

### SURROUNDING LAND USES

Surrounding land uses include warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area, located in the City of Tracy), vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

## 3.10.2 REGULATORY SETTING

## STATE

### Government Code

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a jurisdiction and of any land outside its boundaries that, in the jurisdiction's judgment, bears relation to its planning. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing,

[1] San Joaquin County GIS; ArcGIS Online USGS Topographic Map Service. Map date: November 1, 2019.

conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the jurisdiction's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code, Section 65860, subd. [c]).

## LOCAL

### City of Tracy General Plan

As noted above, General Plans are prepared under a mandate from the State of California, which requires each City and County to prepare and adopt a comprehensive, long-term general plan for its jurisdiction and any adjacent related lands. State law requires General Plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety. In addition to those components required by State law, the Tracy General Plan also contains optional elements, including Community Character and Economic Development.

#### CITY OF TRACY GENERAL PLAN POLICIES

General Plan policies associated with specific environmental topics (aesthetics, air quality, agriculture, biological resources, cultural resources, geology/soils, hazards, hydrology/water quality, noise, public services/recreation, transportation, utilities, etc.) are discussed in the relevant chapters of this EIR.

### City of Tracy Municipal Code, Title 10 – Planning and Zoning

The purpose of Title 10, Planning and Zoning, of the City's Municipal Code is to conserve and stabilize the value of property; to provide adequate open spaces for light and air and to secure safety from fire, panic, and other dangers; to prevent undesirable concentrations of population; to lessen congestion on streets; to facilitate adequate provisions for community utilities and facilities, such as transportation, water, sewage, schools, parks, and other public requirements; to provide the economic and social advantages resulting from an orderly, planned use of land resources; and to encourage conservation and the consolidation of all public resources and services.

ZONING MAP

The Zoning Map identifies zoning districts within the city at the parcel level. The Zoning Map does not designate the Project site because the Project site is not currently located within the city limit.

## San Joaquin County General Plan

As noted above, state law requires General Plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety.

The San Joaquin County General Plan is comprehensive, long-range, and general. The San Joaquin County General Plan has the following purposes:

- To identify the community's land use, transportation, environmental, economic and social goals and policies as they relate to land use, conservation and development;
- To enable the County Board of Supervisors and the Planning Commission to establish long-range conservation and development policies;
- To provide a basis for judging whether specific private development proposals and public projects are in harmony with these policies; and
- To inform citizens, developers, decision makers, and other jurisdictions of the policies that will guide development and conservation within the County.

## San Joaquin County Municipal Code, Title 9 – Development Title

The purpose of Title 9, Development Title, of the County's Municipal Code is to replace the Planning Title and contain information on zones, development application requirements, and standards and regulations relating to such issues as infrastructure, natural resources, safety, and signs.

## San Joaquin Local Agency Formation Commission

The San Joaquin LAFCo is responsible for coordinating orderly reorganization to local jurisdictional boundaries, including annexations. Annexation of the Plan Area to the City of Tracy is subject to LAFCo approval, and LAFCo will review the proposed annexation for consistency with LAFCo's Annexation Policies and Procedures. An annexation can only be approved if the applicable Municipal Services Review (MSR) and Plan for Services demonstrate that adequate services can be provided to the annexed area. An MSR, produced as part of a LAFCo's regular review of municipal services, consists of a written statement of its determinations regarding infrastructure, growth and population projections, financing, cost avoidance, rate restructuring, shared facilities, government structure options, management efficiency, and local accountability and governance. An annexation proposal must include a Plan for Services consistent with the applicable MSR and must demonstrate that the City is capable of providing the required services. The City must pre-zone the lands to be annexed and subsequent changes to the General Plan land use designation and zoning are prohibited for two years. The latest Tracy MSR was completed in July 2019.

San Joaquin LAFCo has adopted Policies and Procedures for Annexation and Detachment to and from all agencies within their jurisdiction. LAFCo has also adopted Procedures for the California Environmental Quality Act in accordance with the California Code of Regulations (Chapter 3, Title 14 Section 15022), which requires that each public agency adopt objectives, criteria, and specific procedures for administering its responsibilities under CEQA. Below is a brief discussion of San Joaquin LAFCo Policies and Procedures.

## LAFCO CHANGE OF ORGANIZATION POLICIES AND PROCEDURES (INCLUDING ANNEXATIONS AND REORGANIZATIONS) (AS AMENDED 12/14/12)

*General Standards for Annexation and Detachment*

These standards govern San Joaquin LAFCo determinations regarding annexations and detachments to and from all agencies. The annexations or detachments must be consistent with the general policies set forth in these Policies and Procedures.

1. Spheres and Municipal Service Reviews

   The annexation or detachment must be consistent with the internal planning horizon of the sphere of influence. The land subject to annexation shall normally lie within the first planning increment (5 to 10 year) boundary. The annexation must also consider the applicable Municipal Service Review. An annexation shall be approved only if the Municipal Services Review and the Sphere of Influence Plan demonstrates that adequate services can be provided with the timeframe needed by the inhabitants of the annexed area. If detachment occurs, the sphere will be modified. LAFCo generally will not allow spheres of influence to be amended concurrently with annexation proposals.

   Proposed annexations of land that lie outside of the first planning horizon (5 to 10 year) are presumed to be inconsistent with the Sphere Plan. In such a case the agency must first request LAFCo to consider a sphere amendment pursuant to the above policies. If the amendment is approved, the agency may then proceed with the annexation proposal. A change of organization or reorganization will not be approved solely because an area falls within the SOI of any agency.

   As an exception to the presumed inconsistency mentioned above, Master Plan and Specific Plan developments may span several planning horizons of the sphere of influence. Annexation of the entire Project area may be desirable in order to comprehensively plan and finance infrastructure and provide for amenity-based improvements. In these cases, no amendment of the planning horizon is necessary provided Project phasing is recognized in the Sphere of Influence Plan.

2. Plan for Services

   Every proposal must include a Plan for Services that addresses the items identified in Section 56653 of the Government Code. The Plan for Services must be consistent with the Municipal

Service Review of the Agency. Proponents must demonstrate that the city or special district is capable of meeting the need for services.

3. Contiguity

   Territory proposed to be annexed to a city must be contiguous to the annexing city or district unless specifically allowed by statute. Territory is not contiguous if the only connection is a strip of land more than 300 feet long and less than 200 wide, that width to be exclusive of highways. The boundaries of a proposed annexation or reorganization must not create or result in areas that are difficult to serve.

4. Development within Jurisdiction

   Development of existing vacant or non-prime agricultural lands for urban uses within the existing jurisdiction or within the sphere of influence should be encouraged before any proposal is approved which would allow for or lead to the development of existing open space lands for non-open space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency. (Section 56377)

5. Progressive Urban Pattern

   Annexations to agencies providing urban services shall be progressive steps toward filling in the territory designated by the affected agency's adopted sphere of influence. Proposed growth shall be from inner toward outer areas.

6. Piecemeal Annexation Prohibited

   LAFCo requires annexations and detachments to be consistent with the schedule for annexation that is contained in the agency's Sphere of Influence Plan. LAFCo will modify small piece-meal or irregular annexations, to include additional territory in order to promote orderly annexation and logical boundaries, while maintaining a viable proposal. In such cases, detailed development plans may not be required for those additional areas but compliance with CEQA is required.

7. Annexations to Eliminate Islands

   Proposals to annex islands or to otherwise correct illogical distortion of boundaries will normally be approved unless they would violate another provision of these standards. In order to avoid the creation of an island or to encourage the elimination an existing island, detailed development plans may not be required for the remnant areas.

8. Annexations that Create Islands

   An annexation will not be approved if it will result in the creation of an island of unincorporated territory or otherwise cause or further the distortion of existing boundaries. The Commission may nevertheless approve such an annexation where it finds that the

application of this policy would be detrimental to the orderly development of the community and that a reasonable effort has been made to include the island in the annexation but that inclusion is not feasible at this time.

9. Substantially Surrounded

   For the purpose of applying the provisions of the Cortese-Knox-Hertzberg Act regarding island annexation without protest hearings (Section 56375.5), the subject territory of an annexation proposal shall be deemed "substantially surrounded" if it is within the sphere of influence of the affected city and two-thirds of its boundary is surrounded by the affected city.

10. Definite and Certain Boundaries

    All boundaries shall be definite and certain and conform to lines of assessment or ownership. The Commission's approval of boundary change proposals containing split parcels will typically be subject to a condition requiring the recordation of a parcel map, lot line adjustment or other instrument to avoid creating remnants of legal lots.

11. Service Requirements

    An annexation shall not be approved merely to facilitate the delivery of one or a few services to the determent of the delivery of a larger number of services or service more basic to public health and welfare.

12. Adverse Impact of Annexation on the Other Agencies

    LAFCo will consider any significant adverse effects upon other service recipients or other agencies serving the area and may condition any approval to mitigate such impacts. Significant adverse effects shall include the effect of proposals that negatively impact special districts' budgets or services or require the continuation of services without the provision of adequate funding. LAFCo will not approve detachments from special districts or annexations that fail to provide adequate mitigation of the adverse impact on the district. LAFCo may determine an appropriate temporary mitigation, if any, and impose that temporary mitigation to the extent it is within its powers. If the needed mitigation is not within LAFCo's authority and approval would, in the opinion of the Commission, seriously impair the District's operation, the Commission may choose to deny the application.

13. District's Proposal to Provide new, different, or Divestiture of a Particular Function or Class of Services

    In addition to the plan for services specified in Section 2 of these Policies and Procedures any application for a new, different, or divestiture of a service shall also include the requirements outlined in Section 56824.12 of the Government Code. Applications for such request will be considered a change of organization and shall follow the requirements of such an application as outlined in the Cortese-Knox-Hertzberg Act and within these policies and procedures. The factors enumerated in Sections 56668 and 56824.14 of the

Government Code shall be considered by the Commission at the time of consideration of the application for such functions.

14. Disadvantaged Unincorporated Communities

Disadvantaged Unincorporated Communities (DUCs) are those territories shown in Exhibit A or as may be shown in a city municipal service review and sphere of influence plan.

The Commission shall not approve an annexation to a city or any territory greater than 10 acres where there exists a disadvantaged unincorporated community (DUC) that is contiguous to the area of proposed annexation, unless a concurrent application to annex all or a portion of the DUC to the subject city has been filed. An application to annex a DUC shall not be required if either of the following applies:

1. A prior application for annexation of the territory has been made in the preceding five years.

2. The Commission finds, based upon written evidence, that a majority of the registered voters within the DUC are opposed to annexation.

Written evidence can be a scientific survey conducted by an academic institution or professional polling company.

15. Protest Procedures

The Commission delegates the conducting authority functions and responsibilities to the LAFCo Executive Officer pursuant to Government Code Section 57000.

*City Annexations*

1. Annexation of Streets

Annexations shall reflect the logical allocation of streets and rights of way as follows:

- Territory should be included within the annexation to assure that the city reasonably assumes the burden of providing adequate roads to the property to be annexed. LAFCo will require cities to annex streets where adjacent lands that are in the city will generate additional traffic or where the annexation will isolate sections of county road. Cities shall include all contiguous public roads that can be included without fragmenting governmental responsibility by alternating city and county road jurisdiction over short section of the same roadway.

- When a street is a boundary line between two cities the centerline of the street may be used as the boundary or may follow a boundary reached by agreement of the affected cities.

2. Pre-zoning Required

   The Cortese-Knox-Hertzberg Act requires the city to pre-zone territory to be annexed, and prohibits subsequent changes to the General Plan and /or pre-zoning designations for a period of two years after completion of the annexation, unless the city council makes a finding at a public hearing consistent with the provisions of Governments Code Section 56375(e). In instances where LAFCo amends a proposal to include additional territory, the Commission's approval of the annexation will be conditioned upon the pre-zoning of the new territory.

### San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) provides comprehensive measures for compensation and avoidance of impacts on various biological resources, including agricultural land. One of the primary goals of the SJMSCP is to preserve productive agriculture where that goal is compatible with protecting and preserving lands with biological resources and habitat. The SJMSCP is administered by the San Joaquin Council of Governments (SJCOG). The Project applicant will pay fees to SJCOG on a per-acre basis for designated agricultural lands and habitat that are converted to urban use. SJCOG will then use these funds to purchase conservation easements on agricultural and habitat lands in the region. The purchase of conservation easements allows the landowners to retain ownership of the land and continue agricultural operations, essentially preserving such lands in perpetuity. The Project site is designated as Category C/Pay Zone B. This zone consists of "Agricultural Habitat Open Spaces", as described in Chapter 2.2 of the SJMSCP.

The City of Tracy is a permit holder and is responsible for local implementation responsibilities including collection of fees, maintenance of implementing ordinances/resolutions and coordinating with the Joint Powers Authority (JPA) for annual reporting requirements.

## 3.10.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on land use and planning if it will:

- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.10-1: The proposed Project would not conflict with an applicable land use plan, policy, or regulation adopted to avoid or mitigate an environmental effect. (Less than Significant)

Land use plans, policies, and regulations that were adopted to avoid or mitigate and environmental effect include the San Joaquin County General Plan, San Joaquin County Municipal Code, Tracy General Plan, Tracy Municipal Code, San Joaquin LAFCo Policies and Procedures Document, and SJMSCP. Consistency with each of these plans, policies, and regulations are discussed below.

#### SAN JOAQUIN COUNTY GENERAL PLAN AND SAN JOAQUIN COUNTY MUNICIPAL CODE

As noted previously, the Project site is currently within San Joaquin County, and within the City of Tracy's SOI. The San Joaquin County General Plan and San Joaquin County Municipal Code are the current governing documents for the Project site.

The Project site is currently within the City of Tracy's SOI 10-Year Planning Horizon. The proposed Project would result in the annexation of the Annexation Area into the City of Tracy. The EIR analyzes the potential annexation of the parcels into the City of Tracy. Annexation of the Project site is consistent with the growth plans for the City of Tracy. The Annexation Area would include the entire 104.46-acre Project site. Upon annexation of the Project site, the San Joaquin County General Plan and San Joaquin County Municipal Code would not apply to the proposed Project.

#### TRACY GENERAL PLAN

Since general plans often contain numerous policies emphasizing differing legislative goals, a development project may be "consistent" with a general plan, taken as a whole, even though the proposed Project appears to be inconsistent or arguably inconsistent with some individual policies. (*Sequoyah Hills Homeowners Association v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.) The proposed Project is consistent with the key land use issues and development concepts of the Tracy General Plan which provide for logical growth of the City.

The Project site is located adjacent to the city limits, is located within the City's SOI, and will provide for employment-generating uses that will promote employment and economic development. The proposed Project is consistent with the General Plan land use policies that encourage an orderly pattern of development that is contiguous with the city limits, require growth to contribute to a diversified economic base, and balance between employment and housing opportunities.

The Project site currently has a City General Plan land use designation of Industrial. The proposed County General Plan land use changes are shown in Section 2.0, Figure 2.0-5 and proposed City General Plan land use changes are shown in Section 2.0, Figure 2.0-6. The proposed Project is substantially consistent with the Tracy General Plan land use requirements and would have a ***less than significant*** impact relative to the Tracy General Plan. It is noted that consistency with Tracy

General Plan policies and programs related to environmental topics other than land use (aesthetics, agricultural resources, biological resources, cultural resources, geology/soils, hazards, hydrology/water quality, noise, public services, transportation, and utilities) are discussed in the relevant sections of this EIR.

### TRACY ZONING CODE

The Tracy Zoning Code implements the General Plan. The Project site is currently within the jurisdiction of San Joaquin County. The San Joaquin County LAFCo will require the Project site to be pre-zoned by the City of Tracy in conjunction with the proposed annexation. The City's pre-zoning will include the M-1 zoning designation for Project site. The pre-zoning would go into effect upon annexation into the City of Tracy. The proposed pre-zoning for the Project site is shown on Figure 2.0-6.

This proposed zone change would ensure that zoning would be consistent with the General Plan land use designation within the Project site. The zoning ordinance establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Tracy Zoning Code. All existing City development standards and zoning requirements for the proposed zoning are applicable to the proposed activities on the Project site. The City reviews all plans (improvement plans, building plans, site plans, etc.) that are submitted for final approval to ensure that they are consistent with the City's zoning ordinance. Approval of the prezoning by the City would ensure that the proposed Project would be consistent with the Zoning Code and will have a ***less than significant*** impact relative to this topic.

### SAN JOAQUIN LAFCO

The Project site is currently in an unincorporated portion of San Joaquin County adjacent to the City of Tracy's city limits, within the Tracy SOI (as defined in the Tracy General Plan). The proposed Project requires annexation of 104.46 acres of the Project site into the city limits.

LAFCo is serving as a responsible agency for this EIR pursuant to their *LAFCo Procedures for the California Environmental Quality Act (Adopted June 20, 2007).* When LAFCo is a Responsible Agency under CEQA, in order to approve the annexation, the Commission will certify that it has reviewed the Lead Agency's environmental documents and, if required, adopt findings for approval and statements of overriding considerations in accordance with Sections 15091 and 15903 of the CEQA Guidelines. The City of Tracy will consult LAFCo throughout the entitlement process. The consultation process included sending LAFCo a copy of the Notice of Preparation during the 30-day public review period. LAFCo will also be sent a copy of the Draft EIR during the 45-day public review period and the Final EIR for their use in the annexation process. If the Executive Officer determines that the Draft and Final EIR are adequate for their use, they will prepare, or cause to be prepared, "draft" Findings and Statements, findings for approval, and statements of overriding considerations for LAFCo Commission consideration. If the LAFCo Commission approves the annexation, the

Executive Officer will file a Notice of Determination within five working days after deciding to approve the annexation.

The San Joaquin LAFCo will review the proposed annexation for consistency with the *LAFCo Change of Organization Policies and Procedures (Including Annexations and Reorganizations)*. These policies and procedures govern San Joaquin LAFCo determinations regarding annexations to all agencies. The following policies will be reviewed as part of the annexation process by the San Joaquin LAFCo.

**General Standards for Annexation and Detachment**

1. Spheres and Municipal Service Reviews:

   The City's SOI map identifies the Project site as within the SOI and within the 10-year a frame for potential development; therefore, a sphere amendment prior to proceeding with the annexation would not be required.

2. Plan for Services:

   The Draft EIR assesses service capacity and demands for these services. There are no service deficiencies noted by the City of Tracy or contained within this EIR that are anticipated to occur after installation of infrastructure. The Annexation Area is within the Tracy SOI as defined by LAFCo and the City and was assumed for industrial development in the City's 2019 Municipal Service Review.

3. Contiguity:

   The Annexation Area is contiguous to the Tracy city limits along the northern boundary of the Project site.

4. Development within Jurisdiction:

   The Annexation Area is within the SOI and lands within the Project site are designated for development under the General Plan. However, agricultural resources are located adjacent to the Annexation Area. There are no Williamson Act contracts on or adjacent to the Project site. However, the Department of Conservation Farmland Mapping and Monitoring Program (FMMP) delineates important farmland adjacent to the Project site and the Project site as prime farmland. The Annexation Area is not designated by the City of Tracy for agricultural uses. However, the San Joaquin County General Plan designated the Project site for agricultural uses. The proposed Project would result in the development of existing open space lands for non-open space uses. The San Joaquin LAFCo does not impose agricultural mitigation requirements for the conversion of agricultural land to urban uses related to annexations or other applications.

   Impacts related to the development of existing open space lands were analyzed in the Tracy General Plan EIR. The General Plan EIR determined that impacts would be significant and

unavoidable. According to the General Plan EIR, although City and County policies would support continued agricultural uses and would require urban development to fund agricultural conservation easements and other programs, no additional feasible mitigation is available.

5. Progressive Urban Pattern:

   The Annexation Area is within the SOI and is designated for urban development under the General Plan. The proposed Project would develop the Annexation Area (adjacent to the Tracy city limits) and would continue the pattern of urbanization.

6. Piecemeal Annexation Prohibited:

   Annexation of the Project site is contiguous with the city limits.

7. Annexations to Eliminate Islands:

   The proposed annexation includes lands contiguous with the current city limits and parcels within the SOI. Parcels proposed for annexation do not involve the elimination of islands.

8. Annexations that Create Islands:

   The proposed annexation includes lands contiguous with the current city limits and parcels within the SOI. Parcels proposed for annexation would not involve the creation of an island of unincorporated territory.

9. Substantially Surrounded:

   As previously stated, the proposed annexation does not involve island annexation. Therefore, this policy is not relevant to the proposed annexation.

10. Definite and Certain Boundaries:

    The proposed annexation boundaries are definite and certain and conform to lines of ownership.

11. Service Requirements:

    The proposed annexation is not merely to facilitate the delivery of one or a few services to the determent of the delivery of a larger number of services or service more basic to public health and welfare. As stated further in the Section 3.12 (Public Services and Recreation) and Section 3.14 (Utilities), the City has adequate service capacity to serve the proposed Project without reducing the adequacy of services elsewhere. Therefore, the proposed annexation is consistent with this policy.

12. Adverse Impact of Annexation on the Other Agencies:

    This EIR includes an assessment of the impacts of the proposed Project and proposed annexation on service agencies. The proposed industrial development and the proposed annexation would not result in any significant, adverse impacts to any of the service agencies such that it would seriously impair operation.

13. District's Proposal to Provide new, different, or Divestiture of a Particular Function or Class of Services:

    This policy relates to proposals for new, different, or divestiture of services, which is not relevant to the proposed annexation.

14. Disadvantaged Unincorporated Communities: The Project area is not within or contiguous to an area designated as a DUC. This policy is not relevant to the proposed annexation.

**City Annexations**

1. Annexation of Streets:

   The proposed Annexation Area would be annexed into the City, including all proposed streets and roadways.

2. Pre-zoning Required:

   The proposed Project includes the adoption of pre-zoning for the Annexation Area, which will serve to regulate the uses of land and structures within the Project site. The City's pre-zoning will include the M-1 zoning designation for Project site. The proposed Project will be subject to the development standards as described in the Municipal Code. The Municipal Code is proposed to ensure consistency between land use and zoning designations. The proposed annexation is consistent with this policy.

The policies discussed above are intended to ensure orderly reorganization to local jurisdictional boundaries, including annexations. Ultimately, LAFCo will determine whether the proposed annexation would first require an update to the Tracy *Municipal Service Review* (2019) in order to approve the annexation. This LAFCo policy was not specifically adopted to avoid or mitigate an environmental effect, rather it is intended to ensure orderly and logical reorganization to local jurisdiction boundaries, including annexations. The proposed Project is consistent with LAFCo policies adopted to address environmental impacts, with the exception of impacts to agricultural lands. Section 3.2, Agricultural Resources, addresses impacts related to conversion of agricultural land. As such, implementation of the proposed Project will have a ***less than significant*** impact relative to this topic.

### SAN JOAQUIN COUNTY MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

The City's participation in the SJMSCP allows projects within Tracy's jurisdiction to seek coverage under the SJMSCP for impacts to endangered, threatened, and species of special concern. The SJMSCP provides a process to offset impacts to biological resources, conserve open space, maintain the agricultural economy, and allow development within the County. It was also created to obtain the necessary permits from the U.S. Fish and Wildlife Service and the California Department of Fish and Game for the next 50 years in exchange for participating projects paying mitigation fees. Fees are based on the amount and quality of land converted from agricultural or open space uses to urban uses. These fees are used to preserve and create habitats to be managed in perpetuity through the establishment of habitat preserves. Ninety-seven species are covered under the SJMSCP, with the intent to provide comprehensive mitigation pursuant to local, state, and federal regulations for impacts on these species from permitted activities under the Plan. Participation in the SJMSCP confers authorization for activities that result (or may result in) incidental take of covered state-listed species, federally listed species, and other covered.

As described in Section 3.4, Biological Resources, prior to issuance of grading permits, the Project applicant will be required to coordinate with SJCOG and will be responsible for the appropriate coverage, permits, compensatory mitigation or fees, and Project-specific avoidance, minimization, and mitigation measures as defined within the SJMSCP. The proposed Project does not conflict with the implementation of the SJMSCP and has appropriate measures to ensure compliance with payment of mitigation fees. Implementation of the proposed Project would have a ***less than significant*** impact relative to compliance with the SJMSCP.

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This section provides a general description of the existing noise sources in the Project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed Project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts. However, one impact remains significant and unavoidable.

There were no Notice of Preparation comments received regarding this topic. As discussed in the Initial Study (see Appendix A), the proposed Project is not located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The closest airport is the Tracy Municipal Airport, located approximately three and a half miles southeast of the Project site. As such, there is ***no impact*** related to these CEQA topics, and these topics are not relevant to the proposed Project and will not be addressed further in this EIR beyond the discussion and analysis in the Initial Study.

## 3.11.1 ENVIRONMENTAL SETTING

### KEY TERMS

| | |
|---|---|
| **Acoustics** | The science of sound. |
| **Ambient Noise** | The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study. |
| **Attenuation** | The reduction of noise. |
| **A-Weighting** | A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response. |
| **Decibel or dB** | Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared. |
| **CNEL** | Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging. |
| **Frequency** | The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz. |
| **Impulsive** | Sound of short duration, usually less than one second, with an abrupt onset and rapid decay. |
| **$L_{dn}$** | Day/Night Average Sound Level. Similar to CNEL but with no evening weighting. |
| **$L_{eq}$** | Equivalent or energy-averaged sound level. |
| **$L_{max}$** | The highest root-mean-square (RMS) sound level measured over a given period of time. |
| **$L_{(n)}$** | The sound level exceeded a described percentile over a measurement period. For instance, an hourly $L_{50}$ is the sound level exceeded 50 percent of the time during the one-hour period. |
| **Loudness** | A subjective term for the sensation of the magnitude of sound. |

**Noise** Unwanted sound.

**SEL** Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

## FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level ($L_{eq}$), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The $L_{eq}$ is the foundation of the composite noise descriptor, $L_{dn}$, and shows very good correlation with community response to noise.

The day/night average level ($L_{dn}$) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because $L_{dn}$ represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to $L_{dn}$, but includes a +5 dB penalty for evening noise. Table 3.11-1 lists several examples of the noise levels associated with common situations.

***TABLE 3.11-1: TYPICAL NOISE LEVELS***

| *COMMON OUTDOOR ACTIVITIES* | *NOISE LEVEL (DBA)* | *COMMON INDOOR ACTIVITIES* |
|---|---|---|
| | --110-- | Rock Band |
| Jet Fly-over at 300 m (1,000 ft) | --100-- | |
| Gas Lawn Mower at 1 m (3 ft) | --90-- | |
| Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph) | --80-- | Food Blender at 1 m (3 ft)<br>Garbage Disposal at 1 m (3 ft) |
| Noisy Urban Area, Daytime<br>Gas Lawn Mower, 30 m (100 ft) | --70-- | Vacuum Cleaner at 3 m (10 ft) |
| Commercial Area<br>Heavy Traffic at 90 m (300 ft) | --60-- | Normal Speech at 1 m (3 ft) |
| Quiet Urban Daytime | --50-- | Large Business Office<br>Dishwasher in Next Room |
| Quiet Urban Nighttime | --40-- | Theater, Large Conference Room (Background) |
| Quiet Suburban Nighttime | --30-- | Library |
| Quiet Rural Nighttime | --20-- | Bedroom at Night, Concert Hall (Background) |
| | --10-- | Broadcast/Recording Studio |
| Lowest Threshold of Human Hearing | --0-- | Lowest Threshold of Human Hearing |

*SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.*

## EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less

acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

## EXISTING NOISE LEVELS

### Existing and Surrounding Land Uses

The Project site is located at 16000 West Schulte Road in unincorporated San Joaquin County, California (Figures 2.0-1 and 2.0-2). The Project site is within the Tracy Sphere of Influence (SOI) 10-Year Planning Horizon and is immediately adjacent to the Tracy city limits to the north of the site. The site contains undeveloped land previously used for agricultural purposes.

The Project site is immediately south of the intersection of Bud Lyons Way and West Schulte Road. The Project site is bounded on the north by West Schulte Road, on the west by an unnamed driveway serving the adjacent rural residence, on the south by the Delta Mendota Canal, and on the east by vacant agricultural land.

In the vicinity of the Project site, surrounding land uses include mostly vacant and agricultural lands, as well as some existing rural residential and industrial uses. Rural residential uses are located directly west of the Project site. Under the proposed Project, these rural residential land uses will remain outside the boundaries of the City of Tracy, within the boundaries of San Joaquin County.

### Existing Ambient Noise Levels

To quantify the existing ambient noise environment in the Project vicinity, three continuous (24-hour) noise level measurements were conducted near receptors adjacent to the Project site from November 7$^{th}$ to November 8$^{th}$, 2019. A short-term noise level measurement was conducted at one location on the northwestern Project boundary on November 7$^{th}$, 2019. The noise measurement locations are shown on Figure 3.11-1. The noise level measurement survey results are provided in Table 3.11-2. Appendix B of Appendix E shows the complete results of the continuous noise monitoring at sites LT-1, LT-2, LT-3, and ST-1.

***TABLE 3.11-2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA***

| SITE | LOCATION | $L_{DN}$ | AVERAGE MEASURED HOURLY NOISE LEVELS, dB | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | DAYTIME (7AM-10PM) | | | NIGHTTIME (10PM-7AM) | | |
| | | | $L_{EQ}$ | $L_{50}$ | $L_{MAX}$ | $L_{EQ}$ | $L_{50}$ | $L_{MAX}$ |
| CONTINUOUS (24-HOUR) NOISE LEVEL MEASUREMENTS | | | | | | | | |
| LT-1 | Western Project Boundary | 63 | 56 | 52 | 74 | 57 | 54 | 72 |
| LT-2 | Southwestern Project Boundary | 56 | 48 | 44 | 61 | 49 | 48 | 60 |
| LT-3 | Southeastern Project Boundary | 55 | 47 | 42 | 61 | 49 | 47 | 56 |
| SHORT-TERM NOISE LEVEL MEASUREMENTS | | | | | | | | |
| ST-1 | Northwestern Project Boundary | N/A | 72 | 58 | 88 | N/A | N/A | N/A |

*SOURCE: SAXELBY ACOUSTICS, 2019.*

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value ($L_{max}$) represents the highest noise level measured during an interval. The average value ($L_{eq}$) represents the energy average of all of the noise measured during an interval. The median value ($L_{50}$) represents the sound level exceeded 50 percent of the time during an interval.

Larson Davis Laboratories (LDL) Model 812, 820, and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

### EXISTING ROADWAY NOISE LEVELS

To predict existing noise levels due to traffic, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly $L_{eq}$ values for free-flowing traffic conditions. While the newer FHWA traffic noise model (TNM 3.0) is required for use on federally funded highway projects, the FHWA RD-77-108 model is still widely used in the industry and recognized as an accurate screening tool, typically resulting in slight over-predictions in traffic noise levels at typical receptor setback distances.

Traffic volumes for existing conditions were obtained from the traffic data prepared for the proposed Project (Kimley Horn, 2021). Vehicle speeds on the local area roadways were estimated from field observations.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each Project-area roadway segment. Table 3.11-3 shows the existing traffic noise levels in terms of $L_{dn}$ at closest sensitive receptors along each roadway segment. A complete listing of the FHWA Model input data is contained in Appendix C of Appendix E.

***TABLE 3.11-3: EXISTING TRAFFIC NOISE LEVELS AND DISTANCES TO CONTOURS***

| *ROADWAY* | *SEGMENT* | *EXTERIOR TRAFFIC NOISE LEVEL, DB $L_{DN}$* |
|---|---|---|
| Mountain House Pkwy. | North of I-205 | 65.0 |
| Mountain House Pkwy. | South of I-205 | 67.2 |
| Hansen Rd. | South of Old Schulte Rd. | 47.4 |
| Old Schulte Rd. | Hansen Rd. to Bud Lyons Wy. | 51.6 |
| Old Schulte Rd. | West of S. Lammers Rd. | 57.1 |
| S. Lammers Rd. | North of Old Schulte Rd. | 66.3 |
| S. Lammers Rd. | South of Old Schulte Rd. | 66.4 |
| S. Lammers Rd. | South of Western Pacific Wy. | 64.2 |
| S. Lammers Rd. | South of Valpico Rd. | 55.9 |

*SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KIMLEY HORN AND SAXELBY ACOUSTICS, 2021.*

## 3.11.2 REGULATORY SETTING

### FEDERAL

There are no federal regulations related to noise that apply to the proposed Project.

### STATE

#### California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance section.

### LOCAL

The Project site is located within an unincorporated area of San Joaquin County and requires annexation into the City of Tracy. The City of Tracy addresses noise in the Noise Element of the General Plan and in the Tracy Municipal Code.

#### City of Tracy General Plan

The Noise Element establishes standards to provide compatible noise environments for new development or redevelopment projects and to control excessive noise exposure of existing developments. Goals, policies, actions, and standards provided in the Noise Element provide the basis for decision-making on determining land use compatibility with noise sources associated with the proposed Project, as well as mitigation requirements. The following objectives and policies are specfically relavaent to the prposed project:

**Objective N-1.2 Control sources of excessive noise.**

**Policies**

P2. Mitigation measures shall be required for new development projects that exceed the following criteria:

- Cause the Ldn at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the Ldn at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance Limits.

P4. All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. In addition, the following construction noise control measures shall be included as requirements at construction sites to minimize construction noise impacts:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

Figure 9-3 of the Noise Element shows a summary of different land uses in the City and their associated acceptable and unacceptable noise levels. These guidelines state that environments with noise levels ranging up to 60 dBA Ldn are considered "normally acceptable" for residential land uses ; environments with ambient noise levels greater than 60 dBA and up to 75 dBA Ldn are considered "conditionally acceptable" for residential uses.

## City of Tracy Municipal Code

Title 4, Chapter 12, Article 9 of the Tracy Municipal Code also contains guidance with the intent to control noise and vibration to promote and maintain the health, safety, and welfare of its residents. Section 4.12.720 of the Municipal Code generally prohibits certain activities that have the potential to result in loud, excessive, or unreasonable noise levels. According to the general sound level limits for residential districts, no person shall cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced to exceed 55 dBA for any one-hour average period. Specific activities enumerated in the municipal code that could potentially pertain to the proposed project include minor maintenance to or improvement of real property. This limitation prohibits the generation of construction noise, other than between the hours of 7:00 a.m. and 10:00 p.m. on weekdays or between the hours of 7:00 a.m. and 10:00 p.m. on weekends and federal holidays. The noise

ordinance also specifically prohibits the operation of any pneumatic or air hammer, pile driver, steam shovel, derrick, steam or electric hoist, parking lot cleaning equipment, or other appliance, the use of which is attended by loud or unusual noise, between the hours of 10:00 p.m. and 7:00 a.m on weekends and federal holidays.

## San Joaquin County General Plan

Table PHS-2 of the San Joaquin County 2035 General Plan establishes an acceptable exterior noise level standard of 65 dBA $L_{dn}$ and an interior noise level standard of 45 dBA $L_{dn}$ for residential uses exposed to transportation noise sources.

For non-transportation noise sources, the General Plan establishes the standards for sensitive uses. See Table 3.11-4.

***TABLE 3.11-4: SAN JOAQUIN COUNTY GENERAL PLAN NON-TRANSPORTATION NOISE STANDARDS[1,2]***

| *NOISE LEVEL DESCRIPTOR* | *OUTDOOR ACTIVITY AREA[3] DAYTIME (7 A.M. TO 10 P.M.)* | *OUTDOOR ACTIVITY AREAS[3] NIGHTTIME (10 P.M. TO 7 A.M.)* |
|---|---|---|
| Hourly equivalent sound level ($L_{eq}$), dB | 50 | 45 |
| Maximum sound level ($L_{max}$), dB | 70 | 65 |

*NOTES: THESE STANDARDS APPLY TO NEW OR EXISTING RESIDENTIAL AREAS AFFECTED BY NEW OR EXISTING NON-TRANSPORTATION SOURCES.*

*[1] WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE NOISE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN DETERMINING THE EFFECTIVENESS OF NOISE MITIGATION MEASURES, THE STANDARDS SHALL BE APPLIED ON THE RECEIVING SIDE OF NOISE BARRIERS OR OTHER PROPERTY LINE NOISE MITIGATION MEASURES.*

*[2] REFER TO MOUNTAIN HOUSE MASTER PLAN, TABLE 11.2, EXTERIOR NOISE STANDARDS FOR NOISE-SENSITIVE USES AFFECTED BY NON- TRANSPORTATION NOISE SOURCES, PAGE 11.12, FOR MOUNTAIN HOUSE NOISE STANDARDS.*

*[3] EACH OF THE NOISE LEVEL STANDARDS SPECIFIED SHALL BE REDUCED BY 5 DB FOR IMPULSIVE NOISE, SINGLE TONE NOISE, OR NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC.*

*SOURCE: SAN JOAQUIN COUNTY GENERAL PLAN, TABLE PHS-1.*

## San Joaquin County Development Regulations

The San Joaquin County Development Regulations, Section 9-1025.9(b), establish land use noise level standards for new non-transportation or "stationary" noise sources, as outlined below that would be applicable to the proposed Project.

9-1025.9(B) – STATIONARY NOISE SOURCES.

Proposed projects that will create new stationary noise sources shall be required to mitigate the noise levels from these stationary noise sources so as not to exceed the noise level standards specified in Table 9-1025.9(b), Part II (Table 3.11-5).

***TABLE 3.11-5: STATIONARY NOISE SOURCES***

| *NOISE LEVEL DESCRIPTOR* | *OUTDOOR ACTIVITY AREAS[1] DAYTIME[2] (7 A.M. TO 10 P.M.)* | *OUTDOOR ACTIVITY AREAS[1] NIGHTTIME[2] (10 P.M. TO 7 A.M.)* |
|---|---|---|
| Hourly equivalent sound level ($L_{eq}$), dB | 50 | 45 |
| Maximum sound level ($L_{max}$), dB | 70 | 65 |

*NOTES: [1]WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE NOISE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN DETERMINING THE EFFECTIVENESS OF NOISE MITIGATION MEASURES, THE STANDARDS SHALL BE APPLIED ON THE RECEIVING SIDE OF NOISE BARRIERS OR OTHER PROPERTY LINE NOISE MITIGATION MEASURES.*

*[2]EACH OF THE NOISE LEVEL STANDARDS SPECIFIED SHALL BE REDUCED BY 5 DB FOR IMPULSIVE NOISE, SINGLE TONE NOISE, OR NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC.*

*(ORD. 3675; ORD. 4036 § 2(PART), 1999)*

*SOURCE: SAN JOAQUIN COUNTY DEVELOPMENT REGULATIONS.*

## VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Tracy does not have specific policies pertaining to vibration levels. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.11-6 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

***TABLE 3.11-6: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS***

| *P.P.V.* | | *HUMAN REACTION* | *EFFECT ON BUILDINGS* |
|---|---|---|---|
| *MM/SEC.* | *IN./SEC.* | | |
| 0.15-0.30 | 0.006-0.019 | Threshold of perception; possibility of intrusion | Vibrations unlikely to cause damage of any type |
| 2.0 | 0.08 | Vibrations readily perceptible | Recommended upper level of the vibration to which ruins and ancient monuments should be subjected |
| 2.5 | 0.10 | Level at which continuous vibrations begin to annoy people | Virtually no risk of "architectural" damage to normal buildings |

| P.P.V. | | HUMAN REACTION | EFFECT ON BUILDINGS |
|---|---|---|---|
| MM/SEC. | IN./SEC. | | |
| 5.0 | 0.20 | Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations) | Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage |
| 10-15 | 0.4-0.6 | Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges | Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage. |

*SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.*

## 3.11.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact related to noise if it will result in:

- Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; and/or
- Generation of excessive groundborne vibration or groundborne noise levels.

### Determination of a Significant Increase in Noise Levels

#### TEMPORARY CONSTRUCTION NOISE IMPACTS

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Tracy General Plan noise Policy P4, "All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. Per the City of Tracy noise ordinance, construction activities operating between 10 p.m. and 7 a.m. that create a noise disturbance at the property boundary of a residence are prohibited. The more restrictive General Plan hours of 7:00 a.m. to 7:00 p.m. hours will be used in this analysis.

For short-term noise associated with project construction, Saxelby Acoustics recommends use of the Caltrans increase criteria of 12 dBA (Caltrans Traffic Noise Protocol, 2020) to determine whether the construction noise constitutes a significant increase under CEQA. This threshold is applied by comparing the predicted maximum construction noise levels to the existing maximum measured ambient noise levels at the nearest sensitive receptors. If the increase is less than 12 dBA the impact is considered less than significant.

### OPERATIONAL IMPACTS

The noise standards applicable to the proposed Project include the relevant portions of the City of Tracy and County of San Joaquin General Plan and Municipal Code described in the Regulatory Setting section above (Section 3.11.2), and the following standards. Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses.

The potential increase in traffic noise from the proposed Project is a factor in determining significance. Per noise Policy P2, the following test of significance would be applied to operational traffic noise increases:

- Cause the Ldn at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the Ldn at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance Limits.

It should be noted that 60 dBA Ldn is the City's "normally acceptable" noise standard.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.11-1: The proposed Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Significant and Unavoidable)

### Traffic Noise Environment at Off-Site Receptors With and Without the Project

Implementation of the proposed Project would result in an increase in daily traffic volumes on the local roadway network, and consequently, an increase in noise levels from traffic sources along affected segments. Tables 3.11-7 and 3.11-8 show the predicted traffic noise level increases on the local roadway network for Background, Background Plus Project, Cumulative No Project, and Cumulative Plus Project conditions. Appendix C of Appendix E provides the complete inputs and results of the FHWA traffic noise modeling. The Cumulative traffic conditions are dictated by the traffic analysis completed for the Project (Kimley Horn, 2022).

***TABLE 3.11-7: BACKGROUND AND BACKGROUND PLUS PROJECT TRAFFIC NOISE LEVELS***

| ROADWAY | SEGMENT | APPROX. RECEPTOR DISTANCE | NOISE LEVELS ($L_{DN}$, dB) AT NEAREST SENSITIVE RECEPTORS | | | | |
|---|---|---|---|---|---|---|---|
| | | | BACK. | BACK. + PROJECT | CHANGE | CRITERIA | SIGNIFICANT? |
| Mountain House Pkwy. | North of I-205 | 165 | 65.0 | 65.1 | 0.1 | + 3.0 dB | No |
| Mountain House Pkwy. | South of I-205 | 120 | 67.2 | 68.3 | 1.1 | + 3.0 dB | No |
| Hansen Rd. | South of Old Schulte Rd. | 225 | 47.4 | 47.4 | 0.0 | + 5.0 dB | No |
| Old Schulte Rd. | Hansen Rd. to Bud Lyons Wy. | 840 | 51.6 | 55.2 | 3.6 | + 5.0 dB | No |
| Old Schulte Rd. | West of S. Lammers Rd. | 600 | 57.1 | 57.5 | 0.4 | + 5.0 dB | No |
| S. Lammers Rd. | North of Old Schulte Rd. | 85 | 66.3 | 66.4 | 0.1 | + 3.0 dB | No |
| S. Lammers Rd. | South of Old Schulte Rd. | 100 | 66.4 | 66.6 | 0.2 | + 3.0 dB | No |
| S. Lammers Rd. | South of Western Pacific Wy. | 110 | 64.2 | 64.5 | 0.3 | + 3.0 dB | No |
| S. Lammers Rd. | South of Valpico Rd. | 115 | 55.9 | 56.0 | 0.1 | + 5.0 dB | No |

*NOTE: PER NOISE POLICY P2, MITIGATION MEASURES SHALL BE REQUIRED FOR NEW DEVELOPMENT PROJECTS THAT EXCEED THE FOLLOWING CRITERIA:*

- *CAUSE THE LDN AT NOISE-SENSITIVE USES TO INCREASE BY 3 DB OR MORE AND EXCEED THE "NORMALLY ACCEPTABLE" LEVEL.*
- *CAUSE THE LDN AT NOISE-SENSITIVE USES TO INCREASE 5 DB OR MORE AND REMAIN "NORMALLY ACCEPTABLE."*
- *CAUSE NEW NOISE LEVELS TO EXCEED THE CITY OF TRACY NOISE ORDINANCE LIMITS.*

*SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KIMLEY HORN AND SAXELBY ACOUSTICS. 2021.*

***TABLE 3.11-8: CUMULATIVE AND CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS***

| ROADWAY | SEGMENT | APPROX. RECEPTOR DISTANCE | NOISE LEVELS ($L_{DN}$, dB) AT NEAREST SENSITIVE RECEPTORS | | | | |
|---|---|---|---|---|---|---|---|
| | | | CUMULATIVE | CUMULATIVE + PROJECT | CHANGE | CRITERIA | SIGNIFICANT? |
| Mountain House Pkwy. | North of I-205 | 165 | 67.3 | 67.4 | 0.1 | + 3.0 dB | No |
| Mountain House Pkwy. | South of I-205 | 120 | 71.4 | 71.5 | 0.2 | + 3.0 dB | No |
| Hansen Rd. | South of Old Schulte Rd. | 225 | 56.5 | 56.7 | 0.2 | + 5.0 dB | No |
| Old Schulte Rd. | Hansen Rd. to Bud Lyons Wy. | 840 | 55.2 | 56.4 | 1.1 | + 5.0 dB | No |
| Old Schulte Rd. | West of S. Lammers Rd. | 600 | 57.4 | 57.7 | 0.3 | + 5.0 dB | No |
| S. Lammers Rd. | North of Old Schulte Rd. | 85 | 71.1 | 71.2 | 0.0 | + 3.0 dB | No |
| S. Lammers Rd. | South of Old Schulte Rd. | 100 | 70.3 | 70.4 | 0.1 | + 3.0 dB | No |
| S. Lammers Rd. | South of Western Pacific Wy. | 110 | 69.7 | 69.7 | 0.1 | + 3.0 dB | No |
| S. Lammers Rd. | South of Valpico Rd. | 115 | 69.1 | 69.1 | 0.0 | + 3.0 dB | No |

*NOTE: PER NOISE POLICY P2, MITIGATION MEASURES SHALL BE REQUIRED FOR NEW DEVELOPMENT PROJECTS THAT EXCEED THE FOLLOWING CRITERIA:*

- *CAUSE THE LDN AT NOISE-SENSITIVE USES TO INCREASE BY 3 DB OR MORE AND EXCEED THE "NORMALLY ACCEPTABLE" LEVEL.*
- *CAUSE THE LDN AT NOISE-SENSITIVE USES TO INCREASE 5 DB OR MORE AND REMAIN "NORMALLY ACCEPTABLE."*
- *CAUSE NEW NOISE LEVELS TO EXCEED THE CITY OF TRACY NOISE ORDINANCE LIMITS.*

*SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KIMLEY HORN AND SAXELBY ACOUSTICS. 2021.*

## Project-Generated Non-Transportation Noise Environment at Off-Site Receptors

The primary non-transportation noise sources associated with the proposed Project are on-site parking lot circulation and the proposed loading docks. In order to evaluate these noise sources at

the nearest sensitive receptors, Saxelby Acoustics used the SoundPLAN noise prediction model to generate noise level predictions according to the assumptions outlined below.

The SoundPLAN noise prediction model was used to plot noise contours and to calculate noise levels at the sensitive receptors located around the Project site. Inputs to the SoundPLAN model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:1996 (Acoustics – Attenuation of sound during propagation outdoors).

It should be noted that sound power is a measure of the total acoustic energy emitted by a noise source and is irrespective of distance from the source. Sound power is input into the SoundPLAN model as a representation of the total acoustic energy emitted by a specific noise source. Sound power levels in this report are A-weighted decibel levels, noted as "dBA, PWL" per industry standards. The model then corrects for the many factors (i.e., distance, terrain shielding, atmospheric absorption, etc.) which affect sound propagation from the noise source to the receiver location.

### LOADING DOCK NOISE GENERATION

To determine typical noise levels associated with the proposed loading docks, noise level measurement data from a United Natural Foods, Inc. (UNFI) warehouse was used. The UNFI facility is an approximately 400,000 s.f. facility located in Rocklin, California and includes a large cold storage facility for distribution of groceries. The noise level measurements were conducted at a distance of 200 feet from the center of the loading dock and circulation area. Activities during the peak hour of loading dock activities included truck arrival/departures, truck idling, truck backing, air brake release, and operation of truck-mounted refrigeration units.

The results of the UNFI noise measurements indicate that a busy hour generated an average noise level of 61 dBA $L_{eq}$ at a distance of 200 feet from the center of the loading dock truck maneuvering lanes. This analysis assumes that the proposed loading docks would operate at this level of activity in a busy hour during either daytime (7:00 a.m. to 10:00 p.m.) or nighttime (10:00 p.m. to 7:00 a.m.). The data from the UNFI facility was scaled up to represent the larger proposed project. It should be noted that the collected noise measurement data occurred during the week of Thanksgiving which is one of the busiest times of year for the business and included refrigeration trucks.

### PARKING LOT CIRCULATION

Based upon the Project traffic study, the peak hour trips for the proposed Project would be 276 autos and 125 tractor-trailers. Based upon noise measurements conducted of vehicle movements in parking lots, the sound exposure level (SEL) for a single passenger vehicle is 71 dBA at a distance of 50 feet while the SEL of a tractor-trailer is 85 dBA at the same distance.

Saxelby Acoustics used the SoundPLAN noise model to calculate noise levels at the nearest sensitive receptors. Input data included the loading dock and parking lot noise generation, as discussed

above. Figure 3.11-2 shows the results of this analysis for the site layout in terms of the nighttime (10:00 p.m. to 7:00 a.m.) peak hour average ($L_{eq}$). Daytime (7:00 a.m. to 10:00 p.m.) noise levels are expected to be similar to the nighttime scenario. Figure 3.11-3 shows the results of this analysis in terms of the peak hour maximum noise levels ($L_{max}$). Due to the nature of loading dock operation and parking lot circulation, the maximum noise levels are the same for both daytime and nighttime.

## Construction Noise Environment

During the construction of the proposed Project, noise from construction activities would temporarily add to the noise environment in the Project vicinity. As shown in Table 3.11-9, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

***TABLE 3.11-9: CONSTRUCTION EQUIPMENT NOISE***

| *TYPE OF EQUIPMENT* | *MAXIMUM LEVEL, DB AT 50 FEET* |
|---|---|
| Auger Drill Rig | 84 |
| Backhoe | 78 |
| Compactor | 83 |
| Compressor (air) | 78 |
| Concrete Saw | 90 |
| Dozer | 82 |
| Dump Truck | 76 |
| Excavator | 81 |
| Generator | 81 |
| Jackhammer | 89 |
| Pneumatic Tools | 85 |

*SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.*

## Conclusions

### INCREASED TRAFFIC NOISE LEVELS AT EXISTING RECEPTORS

The City of Tracy guidelines specify criteria to determine the significance of traffic noise impacts. Where existing traffic noise levels are less than 60 dB $L_{dn}$, at the outdoor activity areas of noise-sensitive uses, a +5.0 dB $L_{dn}$ increase in roadway noise levels will be considered significant. As noted previously, mitigation measures shall be required for new development projects that exceed the following criteria:

- Cause the $L_{dn}$ at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the $L_{dn}$ at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance Limits.

According to Table 3.11-7 and Table 3.11-8, the maximum increase is traffic noise at the nearest sensitive receptor is predicted to be 3.6 dBA. At this location (Old Schulte Road from Hansen Road

to Bud Lyons Way, the existing ambient noise level is predicted to be approximately 51.6 dBA $L_{dn}$. The predicted noise level at this location as a result of the Project would be 55.2 dBA $L_{dn}$. As such, this increase in noise as a result of the Project is below the +5.0 dB $L_{dn}$ threshold. All other project increases are expected to be less than 1.1 dBA.

Therefore, impacts resulting at existing receptors from increased traffic noise would be considered ***less-than-significant***.

### OPERATIONAL NOISE LEVELS AT EXISTING RECEPTORS

Operational noise levels at the existing residential receptors to the west of the site resulting from the proposed Project are quantified and shown in Figures 3.11-2 and 3.11-3. Figure 3.11-2 shows the average ($L_{eq}$) Project noise contours and Figure 3.11-3 shows the maximum ($L_{max}$) Project noise contours.

Based upon Figure 3.11-2, the proposed Project would generate peak hour noise levels of up to 54 dBA $L_{eq}$ at the outdoor activity areas of adjacent residential uses. The adjacent residential uses would remain outside of the City of Tracy limits, so noise generated by the proposed Project at these locations would be subject to the San Joaquin County noise criteria. The predicted noise levels of up to 54 dBA $L_{eq}$ would exceed the San Joaquin County non-transportation noise limits of 50 dBA $L_{eq}$ during daytime (7:00 a.m. to 10:00 p.m.) hours and 45 dBA $L_{eq}$ during nighttime (10:00 p.m. to 7:00 a.m.) hours.

Based upon Figure 3.11-3, the proposed Project is predicted to generate maximum noise levels of approximately 68 dBA $L_{max}$ at the residential uses to the west of the Project site. This would comply with the San Joaquin County maximum noise level limits of 70 dBA $L_{max}$ during daytime hours but would exceed the County's 65 dBA $L_{max}$ standard during nighttime hours.

In order to reduce project-related noise levels, Saxelby Acoustics used the Sound PLAN noise model to evaluate the use of noise barriers for reducing project-related noise levels at the adjacent residential uses. Figure 3.11-4 shows the exterior noise levels in terms of the peak hour average ($L_{eq}$) noise level, with a 20-foot-tall acoustically absorbent screen wall located along the western boundary of the Project site. The resulting noise levels of up to 50 dBA $L_{eq}$ would comply with the County's 50 dBA $L_{eq}$ daytime standard but would still exceed the County's 45 dBA $L_{eq}$ nighttime noise standard. As such, a sound wall would not result in noise levels at or below the County's nighttime noise standard. Therefore, the County's exterior noise standards would still be exceeded and this would be a ***significant and unavoidable*** impact.

### CONSTRUCTION NOISE

During the construction phases of the proposed Project, noise from construction activities would add to the noise environment in the immediate Project vicinity. Based upon the Table 3.11-9 data, the proposed Project is predicted to generate construction noise levels of up to 90 dBA Lmax at a distance of 50 feet. The closest sensitive receptor to the Project site is approximately 1,300 feet from the center of the Project construction area. At this distance, construction noise would

attenuate to approximately 62 dBA Lmax. Existing ambient noise levels as measured at Site LT-2 were measured to average 61 dBA Lmax in the vicinity of the nearest noise sensitive receptors. This increase of 1 dBA would be less than the 12 dBA test of significance for temporary construction noise impacts.

Compliance with the City's permissible hours of construction, as well as implementing the best management noise reduction techniques and practices (both outlined in Mitigation Measure 3.11-1), would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. Therefore, with implementation of Mitigation Measure 3.11-1, temporary construction noise impacts would be ***less than significant***.

### MITIGATION MEASURE(S)

***Mitigation Measure 3.11-1:*** *To reduce potential construction noise impacts during Project construction, the following multi-part mitigation measure shall be implemented for the Project:*

- *All construction equipment powered by internal combustion engines shall be muffled with manufacturer's mufflers and maintained to not exceed 84 dBA at 50 feet.*
- *Quiet construction equipment, particularly air compressors, shall be selected whenever possible. Air compressors should not exceed 78 dBA at 50 feet.*
- *All stationary noise-generating construction equipment such as generators or air compressors shall be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.*
- *Unnecessary idling, defined as idling for more than 10 seconds while waiting or not using a vehicle, of internal combustion engines shall be prohibited.*
- *The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.*
- *Construction shall be limited to 7:00 a.m. to 7:00 p.m. per General Plan Policy P4.*

*These requirements shall be noted on the Project improvement plans.*

***Mitigation Measure 3.11-2:*** *To reduce potential operational noise impacts during Project operation, a minimum 6-foot tall sound wall and/or landscaped berm shall be constructed along the western Project boundary. Noise barrier walls shall be constructed of concrete masonry units, earthen berms, or any combination of these materials. Should the adjacent west residential use be vacated, demolished, and rezoned to industrial before the proposed Project is completed, a sound wall shall not be required. These requirements shall be included in the improvements plans prior to their approval by the City's Public Works Department.*

## Impact 3.11-2: The proposed Project would not generate excessive groundborne vibration or groundborne noise levels. (Less than Significant)

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage.

The primary vibration-generating activities would be grading, utilities placement, and parking lot construction. Table 3.11-10 shows the typical vibration levels produced by construction equipment.

***TABLE 3.11-10: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT***

| TYPE OF EQUIPMENT | P.P.V. AT 25 FEET (INCHES/SECOND) | P.P.V. AT 50 FEET (INCHES/SECOND) | P.P.V. AT 100 FEET (INCHES/SECOND) |
|---|---|---|---|
| Large Bulldozer | 0.089 | 0.031 | 0.011 |
| Loaded Trucks | 0.076 | 0.027 | 0.010 |
| Small Bulldozer | 0.003 | 0.001 | 0.000 |
| Auger/drill Rigs | 0.089 | 0.031 | 0.011 |
| Jackhammer | 0.035 | 0.012 | 0.004 |
| Vibratory Hammer | 0.070 | 0.025 | 0.009 |
| Vibratory Compactor/roller | 0.210 (Less than 0.20 at 26 feet) | 0.074 | 0.026 |

*SOURCE: TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES. FEDERAL TRANSIT ADMINISTRATION. MAY 2006.*

With the exception of vibratory compactors, the Table 3.11-10 data indicate that construction vibration levels anticipated for the proposed Project are less than the 0.2 in/sec threshold at a distance of 25 feet. Use of vibratory compactors within 26 feet of the adjacent buildings could cause vibrations in excess of 0.2 in/sec. Structures that could be impacted by construction-related vibrations, especially vibratory compactors/rollers, are located approximately 60 feet, or further, from the Project site. Therefore, this is a ***less-than-significant*** impact and no mitigation is required.

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# Tracy Costco Depot

City of Tracy, California

Figure 3.11-1

Noise Measurement Sites

**Legend**

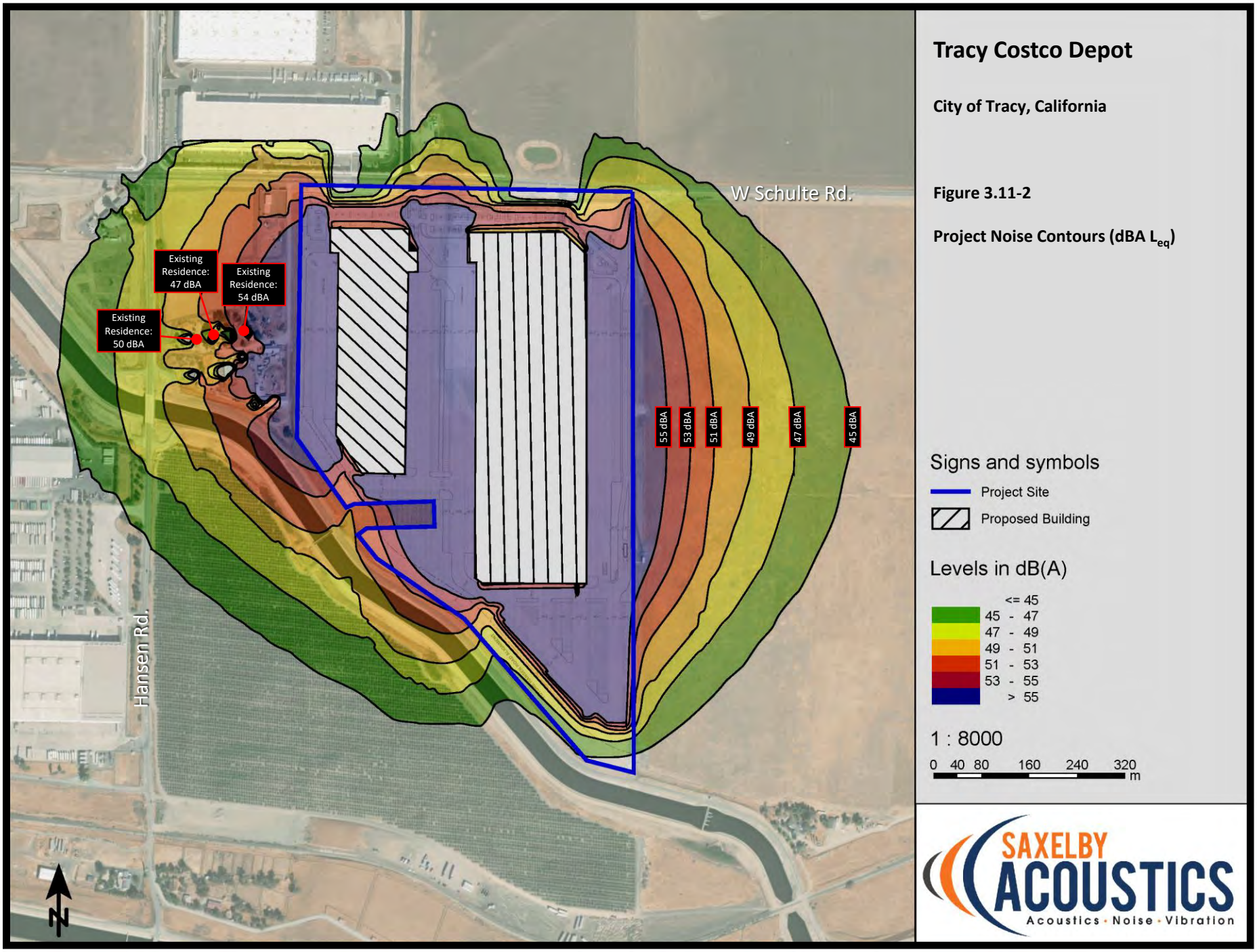
- Project Site
- Noise Measurement Site - Long Term
- Noise Measurement Site - Short Term

0 m 100 m 200 m 300 m

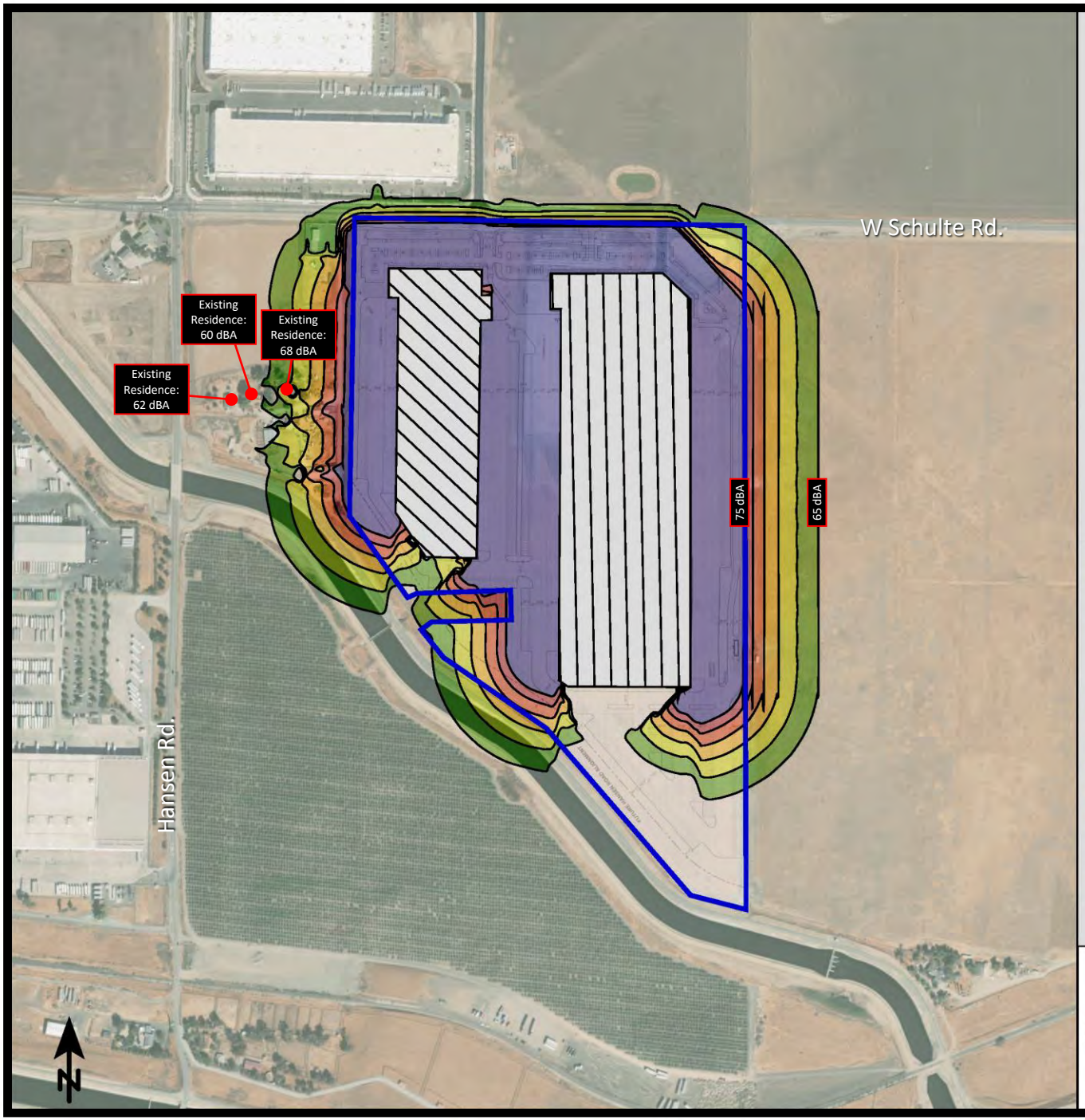
Projection: State Plane (California Zone 3) / NAD83 / meters
Rev. Date: 07/14/2021

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W Schulte Rd.
Hansen Rd.
Existing Residence: 47 dBA
Existing Residence: 54 dBA
Existing Residence: 50 dBA
55 dBA
53 dBA
51 dBA
49 dBA
47 dBA
45 dBA
N
Tracy Costco Depot
City of Tracy, California
Figure 3.11-2
Project Noise Contours (dBA $L_{eq}$)
Signs and symbols
Project Site
Proposed Building
Levels in dB(A)
<= 45
45 - 47
47 - 49
49 - 51
51 - 53
53 - 55
> 55
1 : 8000
0 40 80 160 240 320
m
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# Tracy Costco Depot

**City of Tracy, California**

**Figure 3.11-3**

**Project Noise Contours (dBA $L_{max}$)**

Signs and symbols

- Project Site
- Proposed Building

Levels in dB(A)

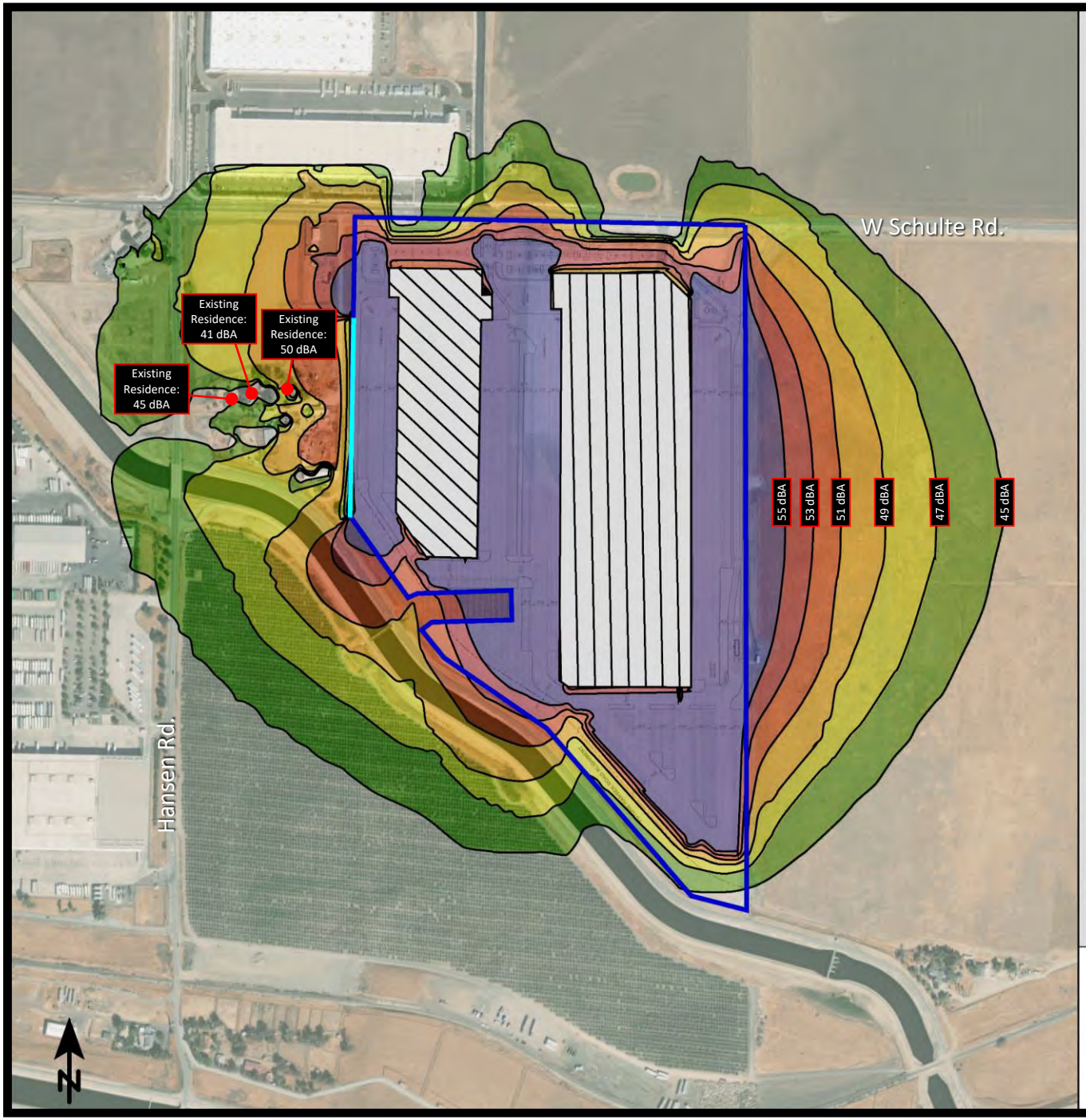
- <= 65
- 65 - 67
- 67 - 69
- 69 - 71
- 71 - 73
- 73 - 75
- > 75

1 : 8000

0 40 80 160 240 320 m

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# Tracy Costco Depot

**City of Tracy, California**

**Figure 3.11-4**

**Project Noise Contours with 20-Foot Wall (dBA $L_{eq}$)**

Signs and symbols

- Project Site
- 20-Foot Wall
- Proposed Building

Levels in dB(A)

- <= 45
- 45 - 47
- 47 - 49
- 49 - 51
- 51 - 53
- 53 - 55
- > 55

1 : 8000

0 40 80 160 240 320 m

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This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, schools, and other public facilities for the proposed Project. The information in this section is primarily derived from the: *City of Tracy General Plan* (City of Tracy, 2011), *City of Tracy General Plan EIR* (City of Tracy, 2011), *2019 Tracy Police Department Annual Report* (City of Tracy, 2020), *California Department of Finance (DOF) Report E-1 Population Estimates for Cities, Counties, and the State* (DOF, May 2020), *South County Fire Authority – Fire Department Standards of Cover Study* (CityGate Associates, May 2017), *Citywide Public Safety Master Plan* (City of Tracy, March 2013), *Citywide Public Facilities Master Plan* (City of Tracy, January 2013), and *Tracy Municipal Services Review* (City of Tracy, July 2019).

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic. Full comments received regarding other comments are included in Appendix A.

As discussed in the Initial Study (see Appendix A), impacts associated with the provision of new or physically altered park and recreation facilities, or the need for new or physically altered park and recreation facilities would be ***less than significant***. As such, these CEQA topics are not relevant to the Project and will not be addressed further.

## 3.12.1 ENVIRONMENTAL SETTING

### CITY OF TRACY SERVICES

The City of Tracy receives funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City and annexed into the City of Tracy, these fees are imposed and collected. The City of Tracy reviews these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of city services. The City's Community Development, Public Works, and Finance Departments are responsible for continual oversight to ensure that the fee structures are adequate. The City reviews the referenced fees and user charges on an annual basis to determine the correct level of adjustment required to reverse any deficits and assure funding for needed infrastructure going forward. The City intends to include discussion of these fees and charges as part of the annual budget hearings.

#### City of Tracy Police Department

The Tracy Police Department (TPD) provides police protection services to the City's residents and businesses, currently serving a population of approximately 95,931. The TPD would provide police services to the Project, upon annexation of the Project Site to the City. The TPD operates out of its headquarters at 1000 Civic Center Drive; there are no satellite offices. Currently the TPD has 96 full-time sworn officers, 59 full-time non-sworn personnel, five part-time reserve officers, and seven part-time professional employees.

The TPD classifies calls for service as priority 1, priority 2, or priority 3. Priority 1 calls are calls where a critical "in-progress" threat is posed to life or property. Priority 2 calls are calls for serious crime against persons and property without imminent threat. Priority 3 calls are for service where

no emergency or serious problem is involved. The average response times by priority call for 2017, 2018, and 2019 are shown in Table 3.12-1. While the TPD has reduced response times for all priority call categories.

***TABLE 3.12-1: TRACY POLICE DEPARTMENT CALL RESPONSE TIMES (2017-2019)***

| *CALL PRIORITY* | *2017* | *2018* | *2019* |
|---|---|---|---|
| Priority 1 Call | 7:32 | 6:52 | 6:36 |
| Priority 2 Call | 17:44 | 16:59 | 15:01 |
| Priority 3 Call | 33:13 | 34:06 | 29:37 |

*SOURCE: TPD 2019 ANNUAL REPORT.*

TPD reports its monthly crime statistics to the Federal Bureau of Investigations (FBI) through the Uniform Crime Reporting Program (UCR). For reporting purposes, criminal offenses are divided into two major groups: Part I offenses and Part II offenses. Part I offenses are known as Index crimes and are considered quite serious, tend to be reported more reliably than others, and the reports are taken directly by the police. Part II offenses are less serious in nature and are tracked, however; only arrest information for these crimes is reported to the Federal Bureau of Investigations.

In Part I, the UCR indexes reported incidents of index crimes which are broken into two categories: violent and property crimes. Aggravated assault, forcible rape, murder, and robbery are classified as violent while arson, burglary, larceny-theft, and motor vehicle theft are classified as property crimes. Table 3.12-2 shows the Part I crime statistics for the City of Tracy between 2017 and 2019; it is noted that 2019 is the most recent data available.

***TABLE 3.12-2: TRACY POLICE DEPARTMENT CRIME STATISTICS (2017-2019)***

| *CATEGORY/CRIME* | *2017* | *2018* | *2019* |
|---|---|---|---|
| *Total Violent Crimes* | *193* | *199* | *166* |
| Homicide | 3 | 4 | 5 |
| Rape | 27 | 31 | 35 |
| Robbery | 77 | 61 | 62 |
| Assault | 86 | 103 | 64 |
| *Total Property Crimes* | *2,179* | *2,331* | *1,843* |
| Burglary | 201 | 261 | 156 |
| Motor Vehicle Theft | 362 | 298 | 276 |
| Larceny | 1,616 | 1,772 | 1,411 |
| Arson | 11 | 17 | 14 |

*SOURCE: FBI CRIME STATISTICS (TABLE 8); HTTPS://UCR.FBI.GOV/.*

## ORGANIZATION

The TPD is organized into three bureaus: Bureau of Field Operations, Bureau of Support Services, and Bureau of Investigations. The following provides a description of the responsibilities of each Bureau.

**Bureau of Field Operations**

The Bureau of Field Operations (BFO) is the largest of the three bureaus of the TPD and contains two divisions: the Patrol Division and the Community Services Division. Commanders in the BFO also oversee several ancillary responsibilities, including SWAT, the Crisis Negotiation Team, K9 program, and the Explorer program. Whether in the Patrol or Community Services divisions, BFO personnel provide front-line services by responding to calls for service or participating in programs that work directly with members of the community. When not answering calls for service, officers are responsible for engaging in self-initiated, proactive citizen interactions.

Patrol Division

The Patrol Division is considered the backbone of the police department and it is staffed by uniformed officers. Organized into six patrol teams each supervised by a sergeant, the division provides 24/7 service and is typically managed by one Captain and four Lieutenants. The primary role of the patrol officer is to respond to calls for service and engage the community during available time. They are assisted in those responsibilities by Community Service Officers, who are trained to handle calls and investigations that do not require immediate suspect contact.

Community Services Division

The Community Services Division is comprised of the Traffic Safety Unit, the Community Preservation Unit, and Volunteers in Police Services. In addition to these units, the Community Services Division is responsible for the coordination of the Police Department's community outreach efforts. The Community Preservation Unit includes two Neighborhood Resources Officers, two Crime Prevention Officers, and the Volunteers in Police Service.

This division not only enforces laws for the safety of the community, but also deals with several quality-of-life issues by working with the school districts, faith-based organizations, and other local service providers. For example, the Community Services Division runs the Drug Abuse Resistance Education (D.A.R.E.) program in coordination with the Tracy Unified School District and community.

**Bureau of Investigations**

The Bureau of Investigations (BOI) has a variety of units that specialize in complex investigations, typically initiated by patrol officers or through crime tips forwarded to the Police Department. Due to time constraints, these types of investigations are not reasonable for the employees of the BFO to complete due to their responsibilities to respond to in progress calls for service. Examples of the types of crime investigated by the BOI include homicide, robberies, gang related crimes, financial crimes, property crimes, narcotics, vice, and human trafficking.

Two units, each with individual missions, staff the BOI: General Investigations Unit and Special Investigations Unit. Additionally, one detective was assigned in 2019 to a regional task force focusing on auto theft. These specially trained employees frequently partner with investigations from the Federal Bureau of Investigations, Alcohol Tobacco and Firearms, Federal Drug Enforcement Agency, Department of Homeland Security, and other federal, state and county law enforcement agencies. The BOI also works closely with the San Joaquin District Attorney's Office to obtain and secure criminal complaints and convictions.

**Bureau of Support Services**

The Bureau of Support Services (BSS) is comprised of the following units: 9-1-1 Communications Unit, Records, Animal Services, Facilities Management, and Fiscal Management.

9-1-1 Communications Unit

The 9-1-1 Communications Unit is staffed with a total of 16 Public Safety Dispatchers, four of which are Lead Dispatchers. The unit is managed by a supervisor who reports to the Bureau of Support Services Manager. The unit is staffed 24 hours a day and 365 days a year. The Public Safety Dispatchers provide the citizens of Tracy with both emergency and non-emergency police services.

Records Unit

The Records Unit is staffed with seven full-time Police Records Assistants. The unit is supervised by the Records Unit Supervisor who oversees the day-to-day operations. The Records Unit is responsible for all aspects of report processing and document control within the Police Department. Records Assistants manage criminal records, connect community members with the appropriate unit or personnel to handle a specific issue, and provide support to police officers.

Animal Services Unit

The Animal Services Unit is comprised of nine employees consisting of a supervisor, three current Animal Services Officers (1 vacant), two Shelter Assistants, and two Administrative Assistants. The Animal Service Officers respond to all animal related calls, including stray animals, vicious animals, dog bites, and nuisance complaints. The Animal Services Officers also enforce any related Penal Code and Tracy Municipal Codes. The Shelter Assistants provide care to all the animals being housed in the facility. These tasks include, but are not limited to cleaning kennels, grooming/bathing animals, providing medicine, and enrichment to all animals.

## South San Joaquin County Fire Authority

The South San Joaquin County Fire Authority (SSJCFA) currently serves the City of Tracy and provides fire protection and emergency medical services within City limits, as well as those areas within its other member's jurisdiction. The City of Tracy and the Tracy Rural County Fire Protection District (Rural Fire District) formed the SSJCFA by entering into a joint exercise of powers agreement, effective July 1, 2018. The SSJCFA is responsible for fire protection services within the entire City limits area, except for a vacant area covered primarily by grassland, located south of the California Aqueduct, west of Interstate 580 adjacent to the Tracy Hills development which is served by CAL FIRE. The SSJCFA also provides Advanced Life Support Emergency Medical Services within the City, in coordination with the San Joaquin Emergency Medical Services (EMS) Agency.

The SSJCFA is a full-service, all-hazard fire agency providing planning, education, fire suppression, emergency medical, hazardous material, technical rescue, and other related fire protection services, with a staff of 97 personnel operating from seven strategically located fire stations and separate headquarters and support facilities. The SSJCFA responds to over 6,800 calls for service annually. Additionally, 24 hour-a-day staffing is provided with seven paramedic engine companies, and one paramedic ladder truck company. Five fire stations are within the incorporated area of the

City of Tracy, and two are in the surrounding rural Tracy area. The Fire Authority maintains a repurposed unstaffed fire station that serves as support for operations and apparatus storage. Fire Stations 92 and 96 relocated in 2014 due to findings of a Standards of Cover study conducted in 2007. The repositioning of these facilities achieves more efficient fire protection coverage to the jurisdictional area of both the City and Rural Fire District.

SSJCFA Station 94/California Department of Forestry and Fire Protection Station 26 is located approximately 850 feet west of the Project site, at the southwest corner of Hansen Road and Old Schulte Road, and would be the primary responder to any fires or other emergency calls within the Project Area. The next closest fire stations are SSJCFA Station 91, located at 1701 W. 11th Street, 2.92 miles from northeast corner of the Project site (and 4.48 miles by roadway), and SCFA Station 97, located at 595 W. Central Avenue, 3.3 miles from the northeast corner of the Project site (and 4.80 miles by roadway).

### RESPONSE TO CALLS FOR SERVICE

The SSJCFA maintains a goal for the initial company of firefighters to arrive on scene for City fire and EMS incidents within six minutes, thirty seconds 90% of the time; this goal applies to the City and annexed areas undetached from the Rural Fire District. The 6:30 minute goal includes 30 seconds for the call to be received at the primary Public Safety Answering Point (PSAP), and information obtained, then measured one minute for dispatch processing, one minute for fire station staff turnout, and four minutes for travel time.

In the rural areas served by the Rural Fire District, the response goal is to arrive on scene within 10 minutes 90% of the time. The 10:00 minute goal includes 30 seconds for the call to be received at the primary PSAP and information obtained, then measured one minute for dispatch processing, one minute for fire station staff turnout, and 7:30 minutes for travel time.

During FY 2017/18, the SSJCFA was dispatched to 8,768 incidents resulting in 12,667-unit responses. Of these calls, 6.34 percent were to fire incidents, 70.31 percent were to EMS incidents, and the remaining calls were to other incident types. In the City and annexed areas undetached from the Rural Fire District, the SSJCFA met the response goal 71% of the time for EMS incidents, 68% of the time for structure fire incidents, and 77% of the time of all other incident types (not EMS or structure fire incidents). Additionally, in the rural areas, the SSJCFA met the response goal 77% of the time for EMS incidents, 83% of the time for structure fire incidents, and 77% of the time for all other incident types (not EMS or structure fire incidents).

Overall, the SSJCFA achieved a 7:24 travel time 90% of the time for its entire service area in FY 2017/18. In the City and annexed areas not detached, 90th percentile travel times were 5:34 for EMS, 5:37 for structure fires, and 6:26 for all other incident types. In the Rural Fire District 90th percentile travel times were 9:05 for EMS, 7:42 for structure fires, and 9:59 for all other incident types. The City travel times of 5:52 for all call types exceed the 4:00 goal. Additionally, the Rural Fire District travel times of 8:55 for all call types also exceed the 7:30 goal.

The *SCFA – Fire Department Standards of Cover Study* concluded that the only way to appreciably lower the travel times is to add more fire stations as revenues permit. Stations 94 and 97 are planned for relocation, which will improve travel times. In addition, the SSJCFA is planning for two additional stations, Stations 95 and 99, which will reduce the service areas and associated travel times of existing stations.

#### ISO RATING

The Insurance Services Office (ISO) Public Protection Classification Program currently rates the City Fire Department as a Class 2, and the Rural Fire District as a Class 03/3Y. ISO ratings are provided on a scale of 1 to 10, with 1 being the highest possible protection rating and 10 being the lowest. The ISO rating measures individual fire protection agencies against a Fire Suppression Rating Schedule, which includes such criteria as facilities and support for handling and dispatching fire alarms, first-alarm response and initial attack, and adequacy of local water supply for fire suppression purposes. The ISO ratings are used to establish fire insurance premiums.

#### FUNDING

The SSJCFA is funded through revenue received from the City of Tracy, and the Tracy Rural Fire Protection District. City General Fund allocations are derived from property taxes, sales tax revenue, and user fees. Tracy Rural revenue allocations are received from property taxes and a special assessment. Additionally, Title 13 of the City of Tracy Municipal Code establishes development impact fees requiring that new development provide a fair share contribution toward the provision of services, in combination with the fee structure set forth in the Citywide Public Safety Master Plan (CPSMP).

## OTHER AGENCY SERVICES

### School Facilities and Services

The Project is located within the Lammersville Elementary School District boundary, which is located in San Joaquin County, northwest of Tracy. Development of the Project is expected to employ up to 400 full time employees and is assumed that some portion of these employees would become Tracy or Mountain House residents and have school-aged children attending either the Tracy Unified School District or Lammersville Unified School District schools depending on where employees choose to live.

#### LAMMERSVILLE JOINT UNIFIED SCHOOL DISTRICT

Lammersville Joint Unified School District (LUSD) is located in the rural, western part of unincorporated San Joaquin County, California. Lammersville Elementary was founded in 1876 as a one-school school district when small communities developed during the construction of the Central Pacific Railroad. Formerly feeding into Tracy Unified School District for high school aged students, Lammersville established its own unified school district in June, 2010, to house high school students in 2014.

LUSD experienced its biggest growth in 2005 when the Mountain House community was established. The area surrounding LUSD continues to experience tremendous growth as the regions served by the district provide affordable housing alternatives to living in the Bay Area. Lammersville Unified School District has future plans for a total of eleven K-8 schools and one comprehensive high school, with anticipated enrollment of up to 10,000 students. Table 3.12-3 contains the LUSD school facility inventory, including the student enrollment for the 2019-2020 school year.

***TABLE 3.12-3: LUSD SCHOOL INVENTORY***

| *SCHOOL* | *GRADES SERVED* | *ADDRESS* | *ENROLLMENT 2019-2020 SCHOOL YEAR* |
|---|---|---|---|
| *ELEMENTARY SCHOOLS* | | | |
| Altamont Elementary School | K-8 | 52 W St Francis Ave., Mountain House | 764 |
| Bethany Elementary School | K-8 | 70 Escuela Dr., Mountain House | 853 |
| Hansen Elementary School | K-8 | 400 South Durant Terrace, Mountain House | 802 |
| Lammersville Elementary School | K-8 | 6555 W. Von Sosten Rd., Tracy | 191 |
| Sebastian Questa Elementary School | K-8 | 85 N Montebello St., Mountain House | 892 |
| Wicklund Elementary School | K-8 | 00 East Legacy Dr., Mountain House | 857 |
| | | *Elementary School Enrollment* | *4,359* |
| *HIGH SCHOOL* | | | |
| Mountain House High School | 9-12 | 1090 South Central Pkwy., Mountain House | 1,556 |
| | | *High School Enrollment* | *1,556* |
| | | **Total Enrollment** | **5,915** |

*SOURCE: LUSD 2019 –2020 SCHOOL ACCOUNTABILITY REPORT CARDS, 2021.*

As shown in Table 3.12-3, the schools in LUSD had a total enrollment of approximately 5,915 students, of which 4,359 were enrolled in elementary and middle school (grades K – 8) and 1,556 were enrolled in high school (grades 9 – 12) during the 2018 to 2019 school year. In addition to the schools listed above, it should be noted that LUSD recently finished development of Julius Cordes Elementary School in August 2020, which is operating for its first year during the 2020 to 2021 school year[1]. The Julius Cordes Elementary School is anticipated to serve between approximately 675 to 897 K-8 students in a traditional calendar year; however, the school can support an ultimate enrollment of 900 students[2].

### TRACY UNIFIED SCHOOL DISTRICT

Tracy Unified School District (TUSD) serves over 17,000 students through three comprehensive high schools, two alternative education high schools, one community school, two middle schools,

[1] LUSD. "Julius Cordes Virtual Ribbon Cutting Ceremony and Campus Tour". August 7, 2020. Access: https://youtu.be/an19-6Pt32k

[2] LUSD. Julius Cordes Elementary School Education Specifications Educational Program [pg. 8]. August 2018.

four K-8 schools, and nine K-5 elementary schools. Table 3.12-4 contains the TUSD school facility inventory, including the student enrollment for the 2019-2020 school year.

***TABLE 3.12-4: TUSD SCHOOL INVENTORY***

| *SCHOOL* | *GRADES SERVED* | *ADDRESS* | *ENROLLMENT 2019-2020 SCHOOL YEAR* |
|---|---|---|---|
| *ELEMENTARY AND MIDDLE SCHOOLS* | | | |
| Art Freiler School | K-8 | 2421 West Lowell Ave., Tracy | 778 |
| Central Elementary School | K-5 | 200 W. Eaton Ave., Tracy | 436 |
| Earle E. Williams Middle School | 6-8 | 1600 Tennis Ln., Tracy | 1,031 |
| George Kelly Elementary School | K-8 | 535 Mabel Josephine Dr., Tracy | 986 |
| Gladys Poet-Christian School | K-8 | 1701 South Central Ave., Tracy | 530 |
| Louis A. Bohn Elementary School | K-5 | 350 East Mt. Diablo Ave., Tracy | 386 |
| Louis J. Villalovoz Elementary School | K-5 | 1550 Cypress Dr., Tracy | 426 |
| McKinley Elementary School | K-5 | 800 West Carlton Ave., Tracy | 424 |
| Melville S. Jacobson Elementary School | K-5 | 1750 West Kavanagh Ave., Tracy | 601 |
| Monte Vista Middle School | 6-8 | 751 West Lowell Ave., Tracy | 914 |
| North School | K-8 | 2875 Holly Dr., Tracy | 762 |
| South/West Park Elementary School | K-5 | 500 West Mount Diablo Dr., Tracy | 890 |
| Wanda Hirsch Elementary School | K-5 | 1280 Dove Dr., Tracy | 499 |
| | | *Elementary and Middle School Enrollment* | *8,663* |
| *HIGH SCHOOLS* | | | |
| Duncan-Russell Continuation High School | 11-12 | 164 West Grant Line Rd., Tracy | 15 |
| John C. Kimball High School | 9-12 | 3200 Jaguar Run, Tracy | 1,516 |
| George/Evelyn Stein Continuation High School | 9-12 | 650 West 10th St., Tracy | 107 |
| Merrill F. West High School | 7-12 | 1775 West Lowell Ave., Tracy | 2,204 |
| Tracy High School | 9-12 | 315 East 11th St., Tracy | 1,957 |
| Willow Community Day School | 7-12 | 164 West Grant Line Rd., Tracy | 30 |
| | | *High School Enrollment* | *5,829* |
| | | **Total Enrollment** | **14,492** |

*SOURCES: TUSD 2019 – 2020 SCHOOL ACCOUNTABILITY REPORT CARDS, 2021.*
*CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2019-20*

As shown in Table 3.12-3, the schools in the TUSD had a total enrollment of approximately 14,492 students, of which 8,663 were enrolled in elementary and middle school (grades K – 8) and 5,829 were enrolled in high school (grades 9 – 12) during the 2019 to 2020 school year.

## Library Services

The Tracy Branch Library, a branch library of the Stockton - San Joaquin County Library system, is the closest library in relation to the Project site, located at 20 E Eaton Avenue approximately 4.5 miles northeast of the Project site. The library offers a circulating collection of books, magazines, CDs, and DVDs in both English and Spanish.

## 3.12.2 REGULATORY SETTING

### STATE

### Police Protection

There are no federal or state regulations related to police protection services applicable to the proposed Project.

### Fire Protection and Emergency Response

#### CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

#### EMERGENCY RESPONSE/EVACUATION PLANS

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

#### FIRE PROTECTION

Chapter 9.06 (Fire Protection and Prevention) of the City of Tracy Municipal Code adopts the California Fire Code. The California Fire Code establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

#### CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

### NATIONAL FIRE PREVENTION ASSOCIATION (NFPA) 1710

The NFPA 1710 Standards are applicable to urban areas and where staffing is comprised of career Firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one (1) minute or less for at least 90 percent of the alarms
- Turnout time of one (1) minute or less for EMS calls (80 seconds for fire and special operations response)
- Fire response travel time of four (4) minutes or less for the arrival of the first arriving engine company at a fire incident and eight (8) minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident
- Eight (8) minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department

### NFPA 1: FIRE CODE

The NFPA 1 Fire Code, formerly known as the International Fire Code, addresses minimum requirements for building construction, operation, and maintenance, fire department access, and hazardous materials necessary to establish a reasonable level of fire safety and property protection in new and existing buildings. NFPA 1 provides fire code officials with a comprehensive package of criteria to ensure public safety on a routine basis.

### INTERNATIONAL FIRE CODE (IFC)

The International Fire Code (IFC) provides fire prevention and safety standards for existing buildings. It covers:

- Preventing fires and eliminating fire hazards
- Fire alarm systems
- Emergency planning
- Fire department access
- Water supplies
- Sprinkler systems
- Maintenance of fire protection equipment

Although it is called the "International Fire Code," these standards are only adopted in the U.S., where they were established. The International Fire Code is not a federally mandated set of codes that apply universally across the U.S. nor is it a law that the federal government requires local governments to adopt. The IFC may be adopted voluntarily and individually by local, territorial, and state jurisdictions. However, the IFC is written using legal language such that it can be adopted "as is" and be a legally binding law.

The International Fire Code states that its purpose "is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide safety to firefighters and emergency responders during emergency operations."

The International Fire Code covers:

- The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices.
- Conditions hazardous to life, property or public welfare in the occupancy of structures or premises.
- Fire hazards in the structure or on the premises from occupancy or operation.
- Matters related to the construction, extension, repair, alteration or removal of fire suppression or alarm systems.
- Conditions affecting the safety of firefighters and emergency responders during emergency operations.

## Schools

### CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State.

### LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill No. 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A", reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- **Level I** fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- **Level II** fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district's bonding

capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.

- **Level III** fees are outlined in Government Code Section 655995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

Both the LUSD and TUSD currently charges Level I fees.

## LOCAL

### City of Tracy Municipal Code

Title 13 of the City of Tracy Municipal Code, referred to as the Impact Fee Ordinance, establishes fees which are imposed upon development projects for the purpose of mitigating the impact that the development projects have upon the City's ability to provide specified public facilities.

### City of Tracy General Plan

POLICIES: SAFETY ELEMENT

- SA-3.1-P1. All development in areas of potential wildland fire hazards shall include the following:
    - Clearance around structures.
    - Fire-resistant ground cover.
    - Fire-resistant roofing materials.
- SA-3.1-P2. Development in areas with steep terrain shall be restricted as necessary in order to ensure fire safety.
- SA-3.1-P3. New developments shall satisfy fire flow and hydrant requirements, street widths and design requirements as established by the City.
- SA-3.1-P4. The City shall incorporate drought-resistant and fire resistant plants in public works projects in areas subject to wildland fires.
- SA-3.1-P5. The South County Fire Authority shall train regularly for urban and wildland firefighting conditions.

POLICIES: PUBLIC FACILITIES ELEMENT

- PF-1.1-P-1. The City shall provide fire and emergency response facilities and personnel necessary to meet residential and employment growth in the City.

- PF-1.1-P-2. The City shall ensure that new development pays a fair and equitable amount to offset the costs for fire and emergency facilities by collecting a Public Buildings impact fee, or by requiring developers to build new facilities.
- PF-1.2-P-2. The City shall build and require roadways that are adequate in terms of width, radius, and grade to facilitate access by City firefighting apparatus, while also maintaining and improving Tracy's neighborhood character and hometown feel
- PF-1.2-P-3. The City shall plan fire station locations to maintain or enhance current response levels
- PF-1.2-P-4. Fire sub-stations shall be constructed in new development areas in order to meet the City's response time requirements.
- PF-1.2-P-5. New developments shall satisfy fire flow and hydrant requirements and other design requirements as established by the City
- PF-1.2-P-6. The City shall use physical site planning as an effective means of preventing wildland fires by requiring the following
    - Drought-resistant native plants incorporated into public works projects.
    - More than one ingress/egress road to any neighborhood in areas subject to wildland fires.
    - Roadways with grades that accommodate emergency vehicles.
    - Structures that are constructed of fire-resistant materials
- PF-2.1-P-1. Maintain adequate police staffing, performance levels and facilities to serve Tracy's existing population as well as any future growth.
- PF-2.1-P-2. The City shall ensure that new development pays a fair and equitable amount to offset the capital costs for police service and expansion by collecting a public facilities impact fee
- PF-2.1-P-4. The City shall continue to provide mutual aid with the County Sheriff's Department when a situation exceeds the capabilities of either department.
- PF-2.2-P-1. Law enforcement hazards shall be identified and mitigated during the project review and approval process.
- PF-2.2-P-3. Police sub-stations shall be constructed in new development areas in order to meet the City's response time requirements.
- PF-3.1-P-1. The City shall coordinate with the school districts serving the City of Tracy to ensure the provision of educational facilities sufficient for the existing and anticipated kindergarten through twelfth grade population, and shall work to ensure that school facilities that serve new development are available concurrent with the need, to the extent allowed by State law
- PF-3.3-P-1. The City, in cooperation with school districts, shall reserve land for purchase by the districts for the construction of new schools or the collection of school impact fees in accordance with State law.

## Citywide Public Safety Master Plan

The City has prepared a Citywide Public Safety Master Plan (CPSMP) to portray a clear statement of community objectives for public safety, establish a vision of the future, and include strategies to achieve that vision. The study area for this CPSMP is the City's 42 square mile Sphere of Influence

area. As set forth in the CPSMP, Tracy is anticipated to have approximately 54,500 new residents and approximately 147,200 new workers. The CPSMP is intended to be used as a guidance document for the identification of public safety facilities needed to serve future land development projects under the build-out condition for the City's Sphere of Influence.

Specifically, with respect to fire protection facilities, to accommodate existing and future planned needs, the CPSMP identifies a total of four new fire stations throughout the service area as well as upgrades to the existing downtown fire administration building to house additional facilities. These facilities are planned to be constructed in phases, over time, as the need arises and as development impact fees are collected.

With respect to law enforcement facilities, to accommodate existing and future planned needs, the CPSMP identifies a new 40,990 square-foot Police Department service center (site to be determined), upgrades to the existing police firing range site to house a joint fire and police training facility, and renovation of the existing Police Department at the Civic Center to operate as a Public Safety Center. Locations for both the new Police Department service center and the telecommunications tower have yet to be determined, although it is anticipated that the telecommunications tower may be located west of Lammers Road and possibly within the Cordes Ranch Specific Plan Area or the Tracy Hills area. These facilities are planned to be constructed in phases, over time, as the need arises and as development impact fees are collected.

### Citywide Public Facilities Master Plan

The City has prepared a Citywide Public Facilities Master Plan (CPFMP) on January 15, 2013 to guide the provision of public facilities needed to serve the existing population and future planned growth in the Tracy community. The CPFMP portrays a clear statement of community objectives for public facilities, establish a vision of the future, and include strategies to achieve that vision. The CPFMP includes an evaluation of current conditions; space standards and functional flow; staff and space need projections; alternative facility plans; and comparative cost estimations. As set forth in the CPFMP, Tracy is anticipated to have approximately 54,500 new residents and approximately 147,200 new workers. Specifically, the CPFMP provides for the development of approximately 126,400 square feet of new public facilities building space, including a new Community Recreation Building, to accommodate the City's planned growth. These facilities are planned to be constructed in phases, over time, as the need arises and as development impact fees are collected.

## 3.12.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on public services if it would result in:

Substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, and/or the need for new or physically altered governmental facilities, the

construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

- Police Protection
- Fire Protection
- Schools
- Other public facilities

It is important to note that, in addressing public service demand issues under CEQA, the appropriate focus is on the environmental effects of whatever steps might be necessary to achieve or maintain adequate service. For example, if proposed new development would create an increased demand for law enforcement or fire protection services, an EIR should inquire as to whether new or expanded physical facilities may be required in order to provide such service. The "impacts" addressed under CEQA are the physical effects of providing service, not any possible failure to provide adequate service under applicable standards. (See *City of Hayward v. Board of Trustees of the Cal. State University* (2015) 242 Cal.App.4th 833, 843 ["[t]he need for additional fire protection services is not an environmental impact that CEQA requires a project proponent to mitigate"]).

## IMPACTS AND MITIGATION MEASURES

### Impact 3.12-1: The proposed Project has the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts. (Less than Significant)

The Project would include the annexation of the 104.46-acre Project Site into the City of Tracy for the construction and subsequent operation of two warehouse buildings that would serve as an annex to the existing Costco Depot located approximately 1.5-miles to the west of the Project and as a Direct Delivery Center. The two buildings (approximately 543,326 sf for Building 1 and 1,201,726 sf for Building 2) total approximately 1,745,052 sf on the Project site. The smaller Building 1 is anticipated to serve as the annex by providing additional storage for high-turnover merchandise processed through the nearby Costco Depot, a pallet repair facility, and a return to vendor facility for large items returned to a Costco warehouse. The larger Building 2 is anticipated to serve as a Direct Delivery Center (DDC), an ecommerce distribution center primarily for large and bulky items ordered online by Costco members for direct delivery through Market Delivery Operations (MDO) located in various smaller cities in the Northern California region. DDC warehouses distribute ordered goods to the MDOs for delivery (by appointment) to the members. The Project also would include the required circulation, parking, and utility improvements. Development of the Project could create up to approximately 150 – 250 full-time jobs at full Project buildout, which does not exceed the employment growth estimates for the site under the City's Industrial land use designation. The Project site is located in the City of Tracy SOI and has a

City land use designation of Industrial; therefore, the employment growth associated with the proposed Project was considered as part of the City's General Plan and associated EIR process.

Upon annexation, the Project would be served by the Tracy Police Department. The City's General Plan includes policies and implementation measures that would allow for the Tracy Police Department to continue providing adequate staffing levels. Below is a list of relevant policies:

- Maintain adequate police staffing, performance levels and facilities to serve Tracy's existing population as well as any future growth (Policy PF-2.1-P-1);
- The City shall ensure that new development pays a fair and equitable amount to offset the capital costs for police service and expansion by collecting a public facilities impact fee (Policy PF-2.1-P-2); and
- The City shall continue to provide mutual aid with the County Sheriff's Department when a situation exceeds the capabilities of either department (Policy PF-2.1-P-3).

To accommodate existing and future planned needs, the CPSMP identifies the need for a new 40,990 square-foot Police Department service center (site to be determined), upgrades to the existing police firing range site to house a joint fire and police training facility, and renovation of the existing Police Department at the Civic Center to operate as a Public Safety Center. Locations for both the new Police Department service center and the telecommunications tower have yet to be determined, although it is anticipated that the telecommunications tower may be located west of Lammers Road and possibly within the Cordes Ranch Specific Plan Area or the Tracy Hills area. It is important to note that the projected growth in the CPSMP assumed buildout of the SOI, consistent with the City's General Plan. The City's General Plan designates the Project site as Industrial and assumed the future annexation and development of the Project site at full buildout. As such, the projected growth identified by the CPSMP includes the Project site and has accounted for the need for new and modified police facilities to support the development.

According to the CPSMP, these facilities are planned to be constructed/upgraded in phases, over time, as the need arises and as development impact fees are collected. Impact fees from new development are collected based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with police services, including the new and modified police facilities outlined in the CPSMP. Therefore, the proposed annexation and development would not require the development of a new facility or modifications of an existing facility at this time. As such, impacts would be ***less than significant***.

## Impact 3.12-2: The proposed Project has the potential to require the construction of fire department facilities which may cause substantial adverse physical environmental impacts. (Less than Significant)

The existing SCFA Station 94/California Department of Forestry and Fire Protection Station 26 located approximately 850 feet to the west of the Project site would primarily serve the Project.

Development of the Project could create up to approximately 150 – 250 jobs at full Project buildout, which does not exceed the employment growth estimates for the site under the City's Industrial land use designation. The Project site is located in the City of Tracy SOI and has a City land use designation of Industrial; therefore, the employment growth associated with the proposed Project was considered as part of the City's General Plan and associated EIR process.

Recognizing the potential need for increases in fire protection and emergency medical services, the Tracy General Plan includes policies and implementation measures that would allow for the Department to continue providing adequate facilities and staffing levels. Below is a list of relevant policies:

- The City shall provide fire and emergency response facilities and personnel necessary to meet residential and employment growth in the City (PF-1.1-P-1).
- The City shall ensure that new development pays a fair and equitable amount to offset the costs for fire and emergency facilities by collecting a Public Buildings impact fee, or by requiring developers to build new facilities (PF-1.1-P-2).
- The City shall build and require roadways that are adequate in terms of width, radius, and grade to facilitate access by City firefighting apparatus, while also maintaining and improving Tracy's neighborhood character and hometown feel (PF-1.2-P-2).
- The City shall plan fire station locations to maintain or enhance current response levels (PF-1.2-P-3).
- Fire sub-stations shall be constructed in new development areas in order to meet the City's response time requirements (PF-1.2-P-4).

The Tracy General Plan policies would be implemented through the review of all new projects within the City, prior to development, and through the collection of development impact fees for the funding of future facilities and equipment. The CPSMP identifies the future development of an approximately 7,400-square foot future fire station to be built in the area of Lammers Road, south of 11$^{th}$ Street, as determined by the SSJCFA. According to the CPSMP, the future fire station would be built over time, as the need arises and as development impact fees are collected to fund the facility. Although the Project itself would not require the construction of new fire department facilities, the Project would be required to pay development impact fees, which would provide its proportionate fair share toward the construction of fire stations and/or equipment for existing fire stations to serve this and other development in the vicinity.

Impact fees from new development are collected based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the Project applicant prior to Project approval, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Project, would fund capital and labor costs associated with fire protection services.

In order to provide adequate fire protection and suppression services to the Project site, the Tracy Fire Department must have access to adequate onsite hydrants with adequate fire-flow pressure available to meet the needs of fire suppression units. The final site plans and development specifications developed for the proposed Project would indicate the location and design specifications of the fire hydrants that would be required within the Project site. Therefore, the impact of the proposed Project on the need for additional fire services facilities is ***less than significant***.

## Impact 3.12-3: The proposed Project has the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts. (Less than Significant)

The Project is located within the Lammersville Elementary School District boundary, which is located in San Joaquin County, northwest of Tracy. Development of the Project is expected to employ up to 150 – 250 full-time employees, and it is assumed that some portion of these employees would become Tracy or Mountain House residents and have school-aged children attending either the Tracy Unified School District or Lammersville Unified School District schools depending on where employees choose to live. However, the Project itself would not require the construction of a new school facility and does not propose the construction of a new school facility which may cause substantial adverse physical environmental impacts.

LUSD and TUSD collect impact fees from new developments under the provisions of SB 50. According to the LUSD 2020 School Facilities Fee Justification Report, LUSD plans to use the collected impact fees to fund the construction of a new K-8 Elementary School facility and expand the capacity of Mountain House High School. Additionally, the TUSD plans to utilize collected impact fees to construct a new elementary school and middle school, as well as expand the existing high school facilities[3]. Under Section 65996 of the California Government Code, the payment of fees under SB 50 is deemed to fully mitigate the impacts of new development on school facilities. Therefore, the impact of the proposed Project on the need for additional school facilities is ***less than significant***.

## Impact 3.12-4: The proposed Project has the potential to have effects on other public facilities. (Less than Significant)

The proposed Project will bring employees and could bring residents to the area which may require the use of other public services such as libraries, etc. To accommodate existing and future planned needs, the CPFMP identifies that Tracy will need approximately 126,400 square feet of new public facilities building space, with 55,800 square feet of that space serving new

[3] TUSD. 2018. Residential Development Fee Justification Study.

development. It is important to note that the projected growth in the CPFMP assumed buildout of the SOI, consistent with the City's General Plan. The City's General Plan designates the Project site as Industrial and assumed the future annexation and development of the Project site at full buildout. As such, the projected growth identified by the CPFMP includes the Project site and has accounted for the need for new and modified public facilities to support the development.

According to the CPFMP, these facilities are planned to be constructed/upgraded in phases, over time, as the need arises and as development impact fees are collected. These impact fees are based upon projected impacts from each development, including impacts on other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with services provided. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with these other public services. Based on the above, the proposed Project would not require the need for new facilities associated with other public services. Additionally, the Project does not propose new facilities for other public services which may cause substantial adverse physical environmental impacts. The proposed Project would not result in the need for new facilities for other public services, thus it will have a ***less-than-significant*** impact relative to this topic.

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This section analyzes the potential impacts of the proposed Project on the transportation system. This section identifies the potential transportation impacts of future buildout of the Project and recommends mitigation measures to lessen their significance. Information in this section is derived primarily from the following (as well as other information described in this section):

- *Costco Direct Delivery Center Traffic Analysis* (Kimley Horn, 2022);
- *City of Tracy General Plan* (2005);
- *Tracy General Plan Environmental Impact Report* (2011);
- State of California, Governor's Office of Planning and Research (OPR), *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, December 2018);
- *Trip Generation Manual, 10th Edition* (ITE, 2017); and
- *Trip Generation Handbook, 3rd Edition* (ITE, 2017).

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic. Full comments received are included in Appendix A.

Senate Bill (SB) 743, whose requirements became effective statewide on July 1, 2020, specified that "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

Therefore, unlike previous Draft EIRs published in Tracy, this Draft EIR uses vehicle miles traveled (VMT) as the primary significance criteria and level of service (LOS) to aid the City of Tracy and Caltrans in the understanding of potential increases in vehicle delay at key signalized intersections (Policy TR-4: Effective Transportation Assessment) and determine improvements to the local and regional transportation system. It is noted that the purpose of this discussion is to examine whether the Project meets General Plan policies related to LOS. Pages 17 through 48 of Appendix F present the results of the Existing and Cumulative operational conditions LOS analysis and any related deficiencies and required improvements to address any LOS deficiencies.

In December 2018, the California Office of Planning and Research (OPR) published final technical guidance for implementing SB 743. On December 28, 2018, the Resources Agency adopted CEQA Guidelines Section 15064.3. Under that guideline, VMT was chosen as the primary metric used to identify transportation impacts under CEQA. Hence, this chapter includes an extensive review of the Project's VMT. This section also addresses many other important transportation-related areas of concern, including pedestrian/bicycle facilities, transit facilities and services, emergency vehicle response, hazardous conditions, and temporary construction-related conditions.

## 3.13.1 ENVIRONMENTAL SETTING

### PROJECT LOCATION

The Project site is located at 16000 West Schulte Road in unincorporated San Joaquin County, California. The Project site is within the Tracy Sphere of Influence (SOI) 10-Year Planning Horizon and is immediately adjacent to the Tracy city limits to the north of the site.

The Project site is immediately south of the intersection of Bud Lyons Way and West Schulte Road. The Project site is bounded on the north by West Schulte Road, on the west by an unnamed driveway serving the adjacent rural residence, on the south by the Delta Mendota Canal, and on the east by vacant land owned by the City.

Surrounding land uses include warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area, located in the City of Tracy), vacant land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

## ROADWAY SYSTEM

Regional access to the site is provided via Interstate 205 (I-205) and Interstate 580 (I-580) via the Mountain House Parkway/International Parkway and the International Parkway/Patterson Pass Road interchanges, respectively. Access to and from the I-205 Mountain House Parkway/International Parkway interchange is provided via International Parkway and West Schulte Road. Access to and from the I-580 International Parkway/Patterson Pass Road interchange is provided via International Parkway to West Schulte Road.

## PEDESTRIAN AND BICYCLE FACILITIES

This section describes the existing pedestrian and bicycle facilities in the vicinity of the Project site.

### Pedestrian Facilities

Due to the rural and partially undeveloped conditions of the study area, limited pedestrian facilities are currently provided. Sidewalks are located on the north side of West Schulte Road near the northwest corner of the site. Sidewalks are not currently located on the south side of West Schulte Road. West of the Delta Mendota Canal where existing industrial development can be found, sidewalks are located on both sides of West Schulte Road. Along Hansen Road located west of the site, sidewalks can be found north of West Schulte Road along both sides of the roadway. Hansen Road south of West Schulte Road does not have sidewalks.

### Bicycle Facilities

Bicycle facilities in Tracy include the following general types:

- **Class I: Shared Use Path** - Referred to as shared-use paths or trails, these are off-street facilities that provide exclusive use for non-motorized travel, including bicyclists and pedestrians. Bike paths have minimal cross flow with motorists and are typically located along landscaped corridors.
- **Class II: Bicycle Lane** - Bicycle lanes provide a restricted right-of-way and are designated for the use of bicycles for one-way travel with a striped lane on a street or highway. Bicycle lanes are generally a minimum of five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.

- **Class III: Bicycle Route** - These facilities are found along streets that do not provide sufficient width for dedicated bicycle lanes. The street is designated as a bicycle route through the use of signage and optional pavement markings where bicyclists travel on the shoulder or share a lane with motor vehicles. Class III bike routes are utilized on low-speed and low-volume streets to connect bike lanes or paths along corridors that do not provide enough space for dedicated lanes.
- **Class IV: Separated Bikeway** - Commonly known as cycle tracks, these are physically separated bicycle facilities that are distinct from the sidewalk and designed for exclusive use by bicyclists. They are located within the street right-of-way, but provide comfort similar to Class I bike paths.

Bicycle facilities in the study area are similar to the pedestrian facilities in the study area. Street frontages that contain recent development have complete sidewalks and bicycle lanes, while areas undeveloped generally lack pedestrian facilities and dedicated bicycle facilities. Bicycle lanes are located along West Schulte Road. West of the Delta Mendota Canal where existing industrial development can be found, bicycle lanes are located on both sides of West Schulte Road. Along Hansen Road located west of the site, bicycle lanes can be found north of West Schulte Road along both sides of the roadway. Hansen Road south of West Schulte Road has bicycle routes.

## TRANSIT SERVICE

The City of Tracy operates fixed-route bus and paratransit services with the TRACER bus system. Additionally, San Joaquin Regional Transit District (SJRTD) operates several routes that pick-up passengers in Tracy. Further, Altamont Commuter Express (ACE) operates commuter trains from San Jose to Stockton, stopping in Lathrop/Manteca, Tracy, Livermore, Pleasanton, Fremont, and Santa Clara before reaching San Jose. The services are described below. The fixed routes all operate in central Tracy, and do not extend into the study area.

### TRACER Bus Services

As the study area is primarily agricultural in character in its present form, no service currently exists to the site. The closest TRACER fixed route to the study area is Route D. The nearest Route D stop to the Project site is located near Kimball High, approximately two miles northeast of the Project site. All routes operate Monday through Friday from 7:00 a.m. to 7:00 p.m., and Saturday from 9:00 a.m. to 5:00 p.m. TRACER does not offer service on Sundays.

The one-way cash fare for the TRACER fixed route service is $1.25 for adults, discounted to $1.00 for students and $0.50 for seniors and the disabled. Additionally, day passes offering unlimited trips in a single day are available for $3.00 for adults ($2.50 for students, $1.25 for seniors and the disabled) as are 10-ride tickets and weekly passes for $12.50 ($10.00 for students, $5.00 for seniors and the disabled).

The commuter routes run both clockwise and counterclockwise throughout the City of Tracy, serving a variety of residential neighborhoods as well as the Tracy Transit Station and the Downtown Civic Center. To the east of the study area, the Commuter route travels along Schulte Road, heading

northwest through the residential areas south of 11th Street. The route then travels along 11th Street, north along Lammers Road, and makes a loop in the residential neighborhood to the east of Lammers. The closest TRACER commuter route to the study area is Route G. The nearest Route G stop to the Project site is located near Kimball High, approximately two miles northeast of the Project site.

The TRACER Paratransit service area incorporates most of the City of Tracy and is generally bounded by Lammers Road to the west, Larch Road and Arbor Avenue to the north, and Chrisman Road to the east. Service is available during the fixed route TRACER service. One-way rides are $1.50 for seniors, disabled individuals, and those on Medicare, and the cash fare increases to $1.75 for the general public living in unincorporated areas and guests and companions of paratransit users. The Paratransit Subsidized Taxi Service is available to TRACER Paratransit users during non-operating hours.

## San Joaquin Regional Transit District (SJRTD)

SJRTD provides intercity fixed route service between Tracy and Stockton. As of January 1, 2012, a one-way fare on an RTD costs $1.50 ($0.75 discounted for seniors or Medicate card-holders). One-day passes are available for $4.00 ($2.00 discounted), and 31-day passes are available for $65.00 ($40.00 for students, $30.00 discounted). Additionally, the RTD-BART Commuter service costs $7.00 each way with monthly fares ranging from $132.00 to $144.00 depending on destination and origin. SJRTD operates the following routes in Tracy:

- **Route 90** — runs from Stockton's Downtown Transit Center along 1-5 to Tracy, where it runs east-west along Grant Line Road, ending at the Wal-Mart just west of I-205. Route 90 operates on weekdays from 9:20 AM to 4:12 PM and weekends from10:27 AM to 5:11 PM. The nearest stop is located downtown at the Tracy Transit Station, approximately 4.5 miles east of the Project site.
- **Route 150 (RTD-BART Commuter)** — runs from Stockton's Downtown Transit Center to the Dublin BART. The route operates from 4:00 AM to 7:20 PM on weekdays. The nearest stop is located at the Tracy Transit Station, approximately 4.5 miles east of the Project site.

## Altamont Commuter Express

The ACE in Tracy is located on the northeast corner of the intersection of West Linne Road and Tracy Boulevard, approximately 4.3 miles southeast of the Project site. In service Monday through Friday, ACE offers three trains in the AM peak period operating from 4:20 a.m. to 8:50 a.m. and three

trains during the PM peak period, operating from 3:35 pm. to 7:45 p.m. ACE does not run on the weekends.

Monthly, weekly, 20-trip, and one-way passes are available and vary in price based on distance traveled. Adult fares range from $6.25 for a one-way trip ($161.25 monthly pass) from Tracy to Tri-Valley to $11.75 for a one-way trip ($299.75 monthly pass) from Tracy to San Jose.

## 3.13.2 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the Project are summarized below. This information provides a context for the impact discussion related to the Project's consistency with applicable regulatory conditions and development of significance criteria for evaluating Project impacts.

### STATE

#### Senate Bill 743

SB 743 added section 21099 to the Public Resources Code, which states that automobile delay, as described by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment. The law directed OPR to amend the CEQA Guidelines to establish new metrics for determining the significance of transportation impacts of projects. The California Natural Resources Agency certified and adopted the amended CEQA Guidelines in December 2018. In the amended CEQA Guidelines, OPR selected VMT as the preferred transportation impact metric and applied its discretion to recommend use of VMT statewide, beginning in July 2020. The amended CEQA Guidelines state that "generally, VMT is the most appropriate measure of transportation impacts."

#### California Department of Transportation

Caltrans is responsible for planning, designing, constructing, operating, and maintaining the State Highway System (SHS). Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the SHS within the study area would need to be approved by Caltrans.

### LOCAL

#### City of Tracy Citywide Roadway & Transportation Master Plan

The City's Citywide Roadway & Transportation Master Plan document serves as an update to the 2012 City of Tracy Transportation Master Plan (TMP). The TMP builds upon the goals and objectives as defined in the Circulation Element of the City's General Plan (February 2011) and the Sustainable Action Plan (SAP) (February 2011). The SAP included feasible measures to achieve sustainability in multiple sectors and reduce GHG emissions. These measures include policies to increase transit usage and opportunities, improve traffic flow in the city, support the development of new bicycle and pedestrian facilities, and other land use policies. The General Plan is based upon a future Horizon Year of 2025 conditions. The TMP looks to a Horizon Year of 2042, to provide the maximum possible infrastructure planning and to be consistent with the planned San Joaquin Council of Governments (SJCOG) Travel Demand Model update to Year 2042. The TMP provides a complete review of the City's transportation system and serves as a comprehensive planning document that can be utilized to identify and implement required improvements to the existing roadway system. In addition, the TMP can serve as the baseline for incorporating expansion or accommodating future development consistent with the General Plan.

According to the Plan, if a significant transportation impact is identified, feasible mitigation measures to avoid or reduce the impact must be identified. CEQA requires that mitigation measures are included in the project's environmental assessment. OPR provides a list of potential measures to reduce VMT but gives the lead agency (the City of Tracy in this case) full discretion in the selection of mitigation measures.

The type and size of the project will determine the most appropriate mitigation strategies for VMT impacts. For large projects such as general plans or specific plans, VMT mitigations should concentrate on the project's density and land use mix, site design, regional policies, and availability of transit, bicycle, and pedestrian facilities. For smaller projects such as an individual development project, VMT mitigations will typically require the preparation of a transportation demand management (TDM) program. A TDM program is a combination of strategies to reduce VMT. The program is created by an applicant for their land use project based on a list of strategies agreed to with the City of Tracy.

## City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to transportation and circulation. General Plan policies applicable to the Project are identified below:

### POLICIES: CIRCULATION

- CIR-1.1-P1. The City should develop context-based street designs that allow for variations based on the expected function and location of the facility, and the surrounding land use context. These context-sensitive designs should have the following aims:
    - Create aesthetically attractive streetscapes.
    - Enhance multi-modal transportation by increasing mobility and improving safety for autos, trucks, transit, pedestrians, and bicyclists.
- CIR-1.1-P2. The City shall preserve rights-of way needed for future roadway and freeway interchange improvements through dedication or acquisition as adjacent properties develop or redevelop.
- CIR-1.1-P3. The City shall continue to apply traffic mitigation fee programs to fund transportation infrastructure, based on a fair share of facility use.
- CIR-1.1-P4. The City should continue to pursue regional, county, and State funding to fund roadway projects. These potential funding sources may include Measure K sales tax revenues, a regional or countywide transportation impact fee, and other existing and future revenue sources.
- CIR-1.1-P5. The City shall continue to participate in regional transportation funding decisions, including Measure K reauthorization, regional or countywide transportation fees, and prioritization of State funded projects.
- CIR-1.1-P6. The Roadway Master Plan update shall identify necessary improvements to various intersections on I-205 and I-580 based on land use designations and with particular attention to Terminal Access Routes in accordance with Surface Transportation Assistance Act of 1982 (STAA).

- CIR-1.2-P1. The City shall ensure that the street system results in a high level of connectivity, especially between residences and common local destinations, such as schools, Village Centers, retail areas, and parks. The standard for roadway (vehicular) connectivity is defined as appropriate spacing of arterials and collectors and local roads as detailed in Section of [the Circulation] Element "Roadway Classifications and Standards".
- CIR-1.2-P2. The City shall implement a connected street pattern with multiple route options of vehicles, bikes, and pedestrians.
- CIR-1.2-P3. New development shall be designed to provide vehicular, bicycle and pedestrian connections with adjacent developments.
- CIR-1.2-P5. New development shall be designed with a grid or modified grid pattern to facilitate traffic flows and to provide multiple connections to arterial streets.
- CIR-1.3-P7. Traffic studies for new developments within the City may be prepared if necessary and appropriate to determine the impacts of the project's traffic on the transportation system.
- CIR-1.3-P8. Access control and minimization of median openings shall be a key consideration in the design of expressways, boulevards, arterials, and major collectors.
- CIR-1.3-P9. The City shall encourage the use of right-turn-in/right-turn-out only turning movements where local and collector streets intersect arterial streets with medians. The purpose is to increase the safety of the roadway and to avoid traffic signals that are spaced too close together.
- CIR-1.6-P2. New development shall implement traffic calming measures where necessary so long as connectivity is not diminished.
- CIR-3.1-P6. New development shall include pedestrian and bicycle facilities internal to the development and that connect to city-wide facilities, such as parks, school, and recreational corridors, as well as adjacent development and other services.
- CIR-3.1-P7. New development sites for commercial, employment, educational, recreational, and park-and-ride land uses shall provide bicycle parking and/or storage facilities.
- CIR-4.1-P5. The City shall require development to provide for transit and transit-related increased modal opportunities, such as adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots and multi-modal transit center through the development and environmental review processes, if appropriate.

## 3.13.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on transportation and circulation if it would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and/or

- Result in inadequate emergency access.

## VMT Significance Criteria

The proposed Project's VMT-related impacts were evaluated using the Draft City of Tracy VMT Policy and Calculator/Tool. The City plans to adopt the VMT Policy in November 2022. For the surrounding industrial land use area, the City's Draft threshold is 9.4 VMT per employee. This threshold is based on existing VMT for countywide employment, reduced by 15% per SB 743 guidelines and the CEQA guidelines. The City of Tracy has developed this Tool for use in SB 743 land use project analysis. The purpose of the tool is to calculate VMT for a land use project and determine whether there is a significant transportation impact based on VMT and the effect of various mitigation options. Broadly, the VMT Analysis Tool provides the following information:

- VMT Threshold Analysis
- Greenhouse Gas (GHG) Estimation
- Transportation Demand Management (TDM) Evaluation

## Other Impacts

Evaluation of potential transportation impacts related to conflict with existing and planned policies, transportation hazards, and emergency access are based on a review of Project changes to the transportation network and a qualitative assessment of whether those changes would conflict with applicable standards or result in detrimental conditions based on the thresholds of significance.

To date, VMT mitigation has relied heavily on TDMs. These measures generally represent two basic approaches: infrastructure and policy. The California Air Pollution Control Officers Association (CAPCOA) guide for Quantifying Greenhouse Gas Mitigation Measures (2010), is one of the primary industry resources for estimating the effects of TDM strategies as mitigation in California. Although this resource is invaluable, the data on which it is based is relatively old, limited in terms of sample size, and based on experiences in highly urbanized areas. As such, many of the mitigation options provided have questionable efficacy in suburban and rural contexts. TDMs are also challenging from the standpoint of mitigation monitoring and are often unpopular with project applicants because they may need to be managed and paid for in perpetuity. These limitations have led jurisdictions, including the City of Tracy, to increasingly consider programmatic approaches to VMT mitigation. Programmatic approaches that rely on collectively funding larger multimodal projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The City of Tracy is developing a programmatic approach to funding VMT mitigation i.e., VMT Mitigation Banking program. The VMT Mitigation Banking Fee forms part of the City of Tracy SB 743 Policy, which has not been adopted at the time of compilation of this document. The mitigation of

VMT impacts is, however, consistent with SB 743 requirements and CEQA guidelines. Under a VMT Mitigation Banking framework, multiple VMT reducing projects are grouped together and their associated VMT reductions are monetized in the form of credits. These credits are then purchased for the purposes of mitigating VMT in excess of determined impact thresholds. The underlying projects may be either regionally or locally beneficial to the area in which the project is located. The City plans to adopt the VMT Policy, including the VMT Mitigation Banking Fee, in November 2022.

## ANALYSIS METHODS

This section provides an overview of the proposed Project components and addresses the proposed Project trip generation, trip distribution, and trip assignment characteristics, all of which were used for the detailed evaluation of Project impacts. The amount of traffic associated with the Project was estimated using a two-step process.

1. Trip Generation – The amount of vehicle traffic entering/exiting the Project site was estimated.
2. Trip Distribution – The direction trips would use to approach and depart the area was projected.

### Project Description

The Project would include the construction and operation of two warehouse buildings that would serve as an annex to the existing Costco Depot located approximately 1.5-miles to the west of the Project and as a Direct Delivery Center. The two buildings (approximately 543,326 sf for Building 1 and 1,201,726 sf for Building 2) total approximately 1,745,052 sf on the 103-acre Development Area. The smaller Building 1 is anticipated to serve as the annex by providing additional storage for high-turnover merchandise processed through the nearby Costco Depot, a pallet repair facility, and a return to vendor (RTV) facility for large items returned to a Costco warehouse. The larger Building 2 is anticipated to serve as a Direct Delivery Center (DDC), an ecommerce distribution center primarily for large and bulky items ordered online by Costco members for direct delivery through Market Delivery Operations (MDO) located in various smaller cities in the Northern California region. The Project would include required circulation, parking, and utility improvements.

#### CIRCULATION IMPROVEMENTS

The design of the site locates the office and ancillary/accessory administrative uses at the far northern portion of each of the two buildings, along West Schulte Road, with the warehousing and truck dock doors located at the center and southern portion of the buildings. Entries to the office and administrative uses are located at the northern end of each building and adjacent to the employee parking areas.

The employee parking lot located on the north side of the site and adjacent to West Schulte includes a 30-foot landscape buffer area consistent with the Cordes Ranch Specific Plan. Landscape buffers would be provided on all sides of the Project site to provide screening of the buildings and dock doors with various shade trees and drought tolerant shrubs and other vegetation.

Vehicle ingress/egress to/from the Project site will occur from three points along West Schulte Road. The main entry and exit point for employee vehicles would be located at the center of the site, at the existing signalized Bud Lyons Way intersection. The Bud Lyons Way driveway would also serve as a secondary exit with security gates for warehouse trucks, and no truck entry would be permitted. The main Bud Lyon Way driveway access would provide a deceleration lane for eastbound traffic and would have full turning movements to enter and exit the site. The deceleration lane at the Bud Lyons Way intersection will allow for the safe entry of employee vehicles to the site and access the parking adjacent to and in front of each building. A second employee entry would be located east of the Bud Lyons Way intersection and would be right-in and right-out only.

The third access driveway located at the Project site's northeast boundary includes a new signalized intersection and a deceleration lane for trucks traveling eastbound on West Schulte Road. This driveway would be the entrance for all truck traffic. A shared accessway to the adjacent parcel to the east is also provided with a left-hand turn pocket to provide access to the parcel. The deceleration lane at the eastern intersection will allow for the safe entry of warehouse trucks to access the loading docks and trailer parking surrounding the buildings. The new intersection provides the only truck access to the site, and also allows for a secondary exit for the warehouse trucks. This truck entrance/exit provides two inbound lanes, each of approximately 2,300-feet, for trucks entering and one lane for trucks exiting the facility and includes a security building and security gates. Approximately 61 trucks could queue within the inbound lanes without spilling back to the new signalized intersection or the shared intersection for the parcel to the east.

It is noted that the 1.46 acres of land along the Delta Mendota Canal (which is within the Project site but outside the Development Area) would be maintained as an access point for Canal-related maintenance and overflow and may be improved with large rocks and landscaping.

## Trip Generation

Trip generation for the proposed Project was calculated using the e-Commerce trip generation rates provided by the *Tracy Costco Depot Transportation Impact Analysis Report* (Kittelson and Associates, August 28, 2017). These rates were then split into passenger car and truck trips based on Institute of Transportation Engineers' (ITE) guidance for high-cube and warehousing facilities. These rates were compared against the City trip rates and ITE trip rates. The e-commerce rates from Costco are higher than the City and ITE trip rates. The trip generation estimates are provided in Table 3.13-1. As shown, the proposed Project is anticipated to generate 401 AM peak hour (377 IN / 24 OUT) and 87 PM peak hour (19 IN / 68 OUT) gross trips.

***TABLE 3.13-1: PROJECT TRIP GENERATION ESTIMATES***

| *LAND USE* | *SIZE* | *AM PEAK HOUR* | | | *PM PEAK HOUR* | | |
|---|---|---|---|---|---|---|---|
| | | *TOTAL* | *IN* | *OUT* | *TOTAL* | *IN* | *OUT* |
| *TRIP GENERATION RATE PER 1,000 SQUARE FEET* | | | | | | | |
| Costco E-Commerce Warehouse[1] | KSF | 0.23 | 94% | 6% | 0.05 | 21% | 79% |
| | *TRIP GENERATION ESTIMATES* | | | | | | |
| **Building 1** | **543.326** | **125** | **118** | **7** | **27** | **6** | **21** |
| *Passenger Cars* | | *86* | *81* | *5* | *21* | *5* | *16* |
| *Trucks* | | *39* | *37* | *2* | *6* | *1* | *5* |
| **Building 2** | **1,201.727** | **276** | **259** | **17** | **60** | **13** | **47** |
| *Passenger Cars* | | *190* | *179* | *11* | *47* | *10* | *37* |
| *Trucks* | | *86* | *80* | *6* | *13* | *3* | *10* |
| ***Total New Project-Generated Trips*** | | ***401*** | ***377*** | ***24*** | ***87*** | ***19*** | ***68*** |
| *Passenger Cars* | | *276* | *260* | *16* | *68* | *15* | *53* |
| *Trucks* | | *125* | *117* | *8* | *19* | *4* | *15* |

*SOURCE: KIMLEY HORN, 2021.*

## Trip Distribution

### PROJECT CONDITIONS

Project trips were distributed on the area road network based on existing and planned truck routes, current travel patterns for trucks and employees, and input from the applicant. The following provides the passenger car distribution for Project Conditions:

- 23% to/from the east along I-580
- 3% to/from the west along I-580
- 2% to/from the west along I-205
- 15% to/from the north along Mountain House Parkway
- 26% to/from the east along I-205
- 6% to/from the north along Lammers Road
- 23% to/from the east along Valpico Road
- 2% to/from the south along Lammers Road

The following provides the assumed truck distribution that was provided by Kittelson and Associates:

- 37% to/from the east along I-580
- 19% to/from the west along I-580
- 11% to/from the west along I-205
- 33% to/from the east along I-205

Refer to Figure 3.13-1 and Figure 3.13-2 for the Project Background Conditions passenger car trip distribution and assignment, respectively. Refer to Figure 3.13-3 and Figure 3.13-4 for the Project Background Conditions truck trip distribution and assignment, respectively.

## METHODOLOGY

This section describes the analysis methods used to determine impacts associated with transportation and circulation as defined by CEQA that would result from implementation of the Project.

### VMT CEQA Guidelines

As discussed previously, VMT is now the primary metric for analyzing traffic impacts. This analysis relies on guidance provided in the OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) to assess the Project's VMT impact. Specifically, this analysis considers the following:

- Does the Project meet one or more of the "screening thresholds" identified in the Technical Advisory, such that a detailed analysis is not necessary?
- If so, what information or data is available to support the conclusion that the Project meets the screening threshold and should be considered to have a less-than-significant transportation impact?

Per OPR guidance, if the Project does not meet one or more of the "screening thresholds," this analysis would proceed to a detailed analysis of the Project's VMT impact. This includes quantifying the Project's VMT generation and determining whether this VMT generation would meet the City recommended thresholds of significance.

As noted previously, the proposed Project's VMT-related impacts were evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.4 VMT per employee. As noted previously, the City plans to adopt the VMT Policy, including the VMT Calculator, in November 2022.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.13-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Significant and Unavoidable)

The proposed Project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.4 VMT per employee. The City's VMT Calculator estimates that the Project would generate 24.8 VMT per employee, and the Project exceeds the threshold by 164 percent. It should be noted that truck trips are exempted from VMT analysis per SB 743.

Per the City's VMT threshold and CEQA guidance per SB 743, this impact would be significant. For projects that would cause a VMT impact, VMT reduction strategies (such as introducing TDM, or additional multimodal infrastructure) can be implemented to reasonably mitigate the VMT impact. The reductions strategies and effectiveness are estimated from research literature and case studies.

However, because the Project exceeds the City threshold by 164 percent, a reduction below the City's VMT threshold is not feasible using solely TDM strategies. Based on empirical data, the California Air Pollution Control Officers Association (CAPCOA) indicates that up to 15 percent of VMT reduction can reasonably be achieved through TDM strategies. Because the City is developing the VMT Mitigation Banking program, assuming the City adopts the program, the applicant will have the option to also pay a fee to "purchase" VMT reductions (i.e., pay to off-set the Project VMT impact) to further reduce the impact beyond the reductions attributable to Project-appropriate TDM measures. For the purpose of this analysis, a maximum of 15 percent banking is assumed, i.e., the project will reduce its VMT impact by 15% using the VMT Mitigation Banking program.

The TDM Program for the proposed Project recommends TDM measures that would individually reduce the Project's VMT and trips with the goal of obtaining a feasible maximum of 15 percent VMT reduction. Table 3.13-2 lists the TDM measures that could partially mitigate the Project's VMT impact. And the table includes a column for those two TDM measures that have been deemed feasible by the applicant. It is noted that not all of the TDM measures listed in the table have been deemed feasible for the proposed Project.

***TABLE 3.13-2: TDM MEASURES***

| *TDM MEASURE* | *DESCRIPTION* | *MAX. VMT REDUCTION* | *MEASURES DETERMINED TO BE FEASIBLE BY THE APPLICANT* | *VMT REDUCTION APPLIED* |
|---|---|---|---|---|
| *PARKING STRATEGIES* | | | | |
| Reduce Parking Supply | Reduce the number of available parking spots provided to employees. | 1% | | 0% |
| Unbundle Parking | Remove free parking at the site, and charge employees for parking. The higher the cost of parking, the higher the reduction. | 1% | | 0% |
| Parking Cash-out | Provide employees a choice of forgoing current parking for a cash payment to be determined by the employer. The higher the cash payment and eligible employees, the higher the reduction. | 2% | | 0% |
| *PARKING STRATEGIES* | | | | |
| Transit Stops | Coordinate with local transit agency to provide bus stop near the site. Real time transportation information displays support on-the-go decision making to support sustainable trip making. | 1% | | 0% |
| Implement Neighbor-hood Shuttle | Implement project-operated or project-sponsored neighborhood shuttle serving residents, employees, and visitors of the project site. | 2% | | 0% |
| Transit Subsidies | Involves the subsidization of transit fare for residents and employees of the project site. This strategy assumes transit service is already present in the project area. | 2% | | 0% |
| | Pays for employees to use local transit. This could either be a discounted ticket or a full-reimbursed transit ticket. | | | |
| *COMMUNICATION & INFORMATION STRATEGIES* | | | | |
| Travel Behavior | Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and | 1% | | 0% |

| *TDM Measure* | *Description* | *Max. VMT Reduction* | *Measures Determined to be Feasible by the Applicant* | *VMT Reduction Applied* |
|---|---|---|---|---|
| Change Program | travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a website that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change programs target individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. | | | |
| Promotions & Marketing | Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program. | 1% | | 0% |
| *Commuting Strategies* | | | | |
| Employer Sponsored Vanpool or Shuttle | Implementation of employer-sponsored employee vanpool or shuttle providing new opportunities for access to connect employees to the project site. | 2% | | 0% |
| Emergency Ride Home (ERH) Program | Provides an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. | 1% | X | 1% |
| Tele-commuting Alternative work schedule | Four-Ten work schedule results in 20% weekly VMT reduction, 10% trip reduction equals 15% VMT reduction. | 7% | | 0% |
| On-site Childcare | Provides on-site childcare to remove the need to drive a child to daycare at a separate location. | 1% | | 0% |
| *Shared Mobility Strategies* | | | | |
| Ride Share Program | Increases vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Need a point person form the business on-site. | 2% | | 0% |
| Employee/ Employer Car Share | Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third-party vendor to extend membership-based service to an area, or implementing a project-specific fleet that supports the residents and employees on -site. | 1% | | 0% |
| Designated Parking Spaces for Car Share Vehicles | Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third-party vendor to extend membership-based service to an area, or implementing a | 1% | X | 1% |

| *TDM Measure* | *Description* | *Max. VMT Reduction* | *Measures Determined to be Feasible by the Applicant* | *VMT Reduction Applied* |
|---|---|---|---|---|
| | project-specific fleet that supports the residents and employees on -site. | | | |
| *Bicycle Infrastructure Strategies* | | | | |
| Bike Share Program | Participate in a bike share program/On site bike share program. | 1% | | 0% |
| Implement/ Improve On-street Bicycle Facility | Implements or provides funding for improvements to corridors and crossings for bike networks identified within a one-half mile buffer area of the project boundary, to support safe and comfortable bicycle travel. | 1% | | 0% |
| Include Bike Parking Per City Code | Implements short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations. | 1% | | 0% |
| Include Secure Bike Parking and Showers | Implements additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel. | 1% | | 0% |
| Bicycle Repair Station/ Services | On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation. | 1% | | 0% |
| *Neighborhood Enhancement Strategies* | | | | |
| Traffic Calming Improve-ments | Implement traffic calming improvements on streets and intersections throughout and around the project site. | 1% | | 0% |
| Pedestrian Network Improve-ments | Implement pedestrian network improvements throughout and around the project site that encourages people to walk. | 2% | | 0% |
| *Miscellaneous Strategies* | | | | |
| Virtual Care Strategies for Hospitals | Implement options for virtual care for health services for hospitals. | 2% | | 0% |
| On-Site Affordable Housing | Provide a percentage of on-site affordable housing for employees that is less than 100%. | 1% | | 0% |
| Job Creation Land Use (e.g. Office) | Provide offices or other job creation land use. Applies to housing projects. | 3% | | 0% |
| | | | **TOTAL VMT REDUCTION APPLIED** | **2%** |

*Source: Kimley Horn, 2022.*

This TDM program aims to achieve a feasible maximum of 2 percent VMT reduction, with the opportunity for 13 percent VMT reduction coming from the VMT Banking Fee Program as discussed below. In the case that the VMT Banking Fee Program is not in place, the TDM program will need to achieve the full 15 percent.

The City of Tracy's Draft VMT Mitigation Banking Fee Program is a programmatic approach to respond to the need for feasible VMT mitigation programs. Programmatic approaches that rely on collectively funding larger projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The Draft VMT Mitigation Banking Fee Program calculate the cost per VMT reduction as $633.11. Therefore, to achieve a 13 percent reduction needed after implementation of the TDM program, the Project would be responsible to pay $510,286.66. Since there are 250 employees, each employee's VMT needs to be reduced by 3.224 VMT at a cost of $633.11 per VMT the calculation is as follows:

*VMT Banking Fee = 250 employees x 3.224 VMT per employee x $633.11 per VMT*.

Mitigation Measure 3.13-1, which requires travel demand management (TDM) strategies, would be required. Implementation of Mitigation Measure 3.13-1 is feasible because it is within the applicant's purview to implement and the TDM measures have been found effective in previous academic studies. However, the precise effectiveness of specific TDM strategies can be difficult to accurately measure due to a number of external factors such as employee responses to strategies and changes to technology.

As part of Mitigation Measure 3:13-1, the proposed Project would be required to monitor and evaluate the effectiveness of the Project's TDM Plan and provide the results to the City of Tracy. Based on the results of the evaluation, modifications to the TDM Plan may be required by the City in order to improve effectiveness toward achieving the home-based work VMT per worker target.

Based on the above, even with the implementation of Mitigation Measure 3.13-1, the impact would remain ***significant and unavoidable*** when compared to the City of Tracy's VMT threshold of significance.

MITIGATION MEASURE(S)

***Mitigation Measure 3.13-1:*** *The Project applicant shall implement feasible Transportation Demand Management (TDM) strategies, which would decrease the VMT generated by the Project by 15 percent. Specific potential TDM strategies include, but are not limited to, the following:*

- *Emergency Ride Home (ERH) Program*
- *Designated Parking Spaces for Car Share Vehicles*

*The TDM Plan shall be submitted to the City for review prior to approval of improvement plans, and the effectiveness of the TDM Plan shall be evaluated, monitored, and revised, if determined necessary by the City. The TDM Plan shall include the TDM strategies that will be implemented during the lifetime of the proposed Project and shall outline the anticipated effectiveness of the strategies. The*

*anticipated effectiveness of the TDM Plan may be monitored through annual surveys to determine employee travel mode split and travel distance for home-based work trips, and/or the implementation of technology to determine the amount of traffic generated by and home-based work miles traveled by employees, which shall be determined in coordination with the City. The frequency and duration of the anticipated effectiveness would depend on the ultimate strategy determined in coordination with the City. Additionally, the Project applicant shall pay any VMT banking fee in effect at the time of building permit issuance to secure VMT credits of a total of 15 percent for the subject building, taking into account the stated percent efficacy for the TDM measures above.*

## Impact 3.13-2: Project implementation would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities (Less than Significant)

Implementation of the proposed Project would not result in a conflict with an existing or planned pedestrian facility, bicycle facility, or transit service/facility. In addition, the Project would not interfere with the implementation of a planned bicycle facility, pedestrian facility, or transit service/facility. The Project would not cause a degradation in transit service such that service does not meet performance standards established by the transit operator.

As described in the Environmental Setting, there is currently no existing pedestrian, bicycle, or transit service/facility within the undeveloped Project area. The City of Tracy General Plan describes an interconnected, hierarchical system of sidewalks, on-street bike lanes, and off-street trails for pedestrians and bicyclists that provides access to this area of the City of Tracy. The Project's transportation and circulation system is designed to accommodate access to and from West Schulte Road and pedestrian/bicycle facilities connecting each of the buildings to these roadways, as well as future emergency access vehicles which may be required from the planned future Hansen Road alignment along the southern boundary of the Project site.

Additionally, as noted previously, the City's TMP builds upon the goals and objectives as defined in the Circulation Element of the City's General Plan (February 2011) and the Sustainable Action Plan (SAP) (February 2011). The TMP provides a complete review of the City's transportation system and serves as a comprehensive planning document that can be utilized to identify and implement required improvements to the existing roadway system. In addition, the TMP can serve as the baseline for incorporating expansion or accommodating future development consistent with the recent General Plan update. The proposed Project does not conflict with the City's TMP. The traffic analysis for the Project was completed consistent with the goals and policies of the TMP, including the required TDM Program.

Overall, this impact would be ***less than significant***.

## Impact 3.13-3: Project implementation would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (Less than Significant with Mitigation)

CONSTRUCTION

Construction of the proposed project would require regular deliveries of equipment and materials to the Project site as well as daily trips by construction workers. Project construction activities, including the extension of utility infrastructure, may result in some temporary lane closures in the area. Furthermore, standard construction traffic control measures would be implemented consistent with applicable Caltrans and City policies, such as Mitigation Measure 3.13-2, which would require the preparation and implementation of a construction traffic control plan that would reduce the potential for construction vehicle conflicts with other roadway users. With implementation of mitigation, this impact would be ***less than significant***.

OPERATION

Implementation of the proposed Project would not result in a geometric design feature that is inconsistent with applicable design standards for the City of Tracy. The Project would not result in a significant change to the vehicle mix or speed of traffic that is not compatible with the design of existing or planned facility design.

As noted previously, vehicle ingress/egress to/from the Project site will occur from three points along West Schulte Road. The main entry and exit point for employee vehicles would be located at the center of the site, at the existing signalized Bud Lyons Way intersection. The Bud Lyons Way driveway would also serve as a secondary exit with security gates for warehouse trucks, and no truck entry would be permitted. The main Bud Lyon Way driveway access would provide a deceleration lane for eastbound traffic and would have full turning movements to enter and exit the site. The deceleration lane at the Bud Lyons intersection will allow for the safe entry of employee vehicles to the site and access the parking adjacent to and in front of each building.

The second access driveway located at the Project site's northeast boundary includes a new signalized intersection and a deceleration lane for trucks traveling eastbound on West Schulte Road. This driveway would be the entrance for all truck traffic. A shared accessway to the adjacent parcel to the east is also provided with a left-hand turn pocket to provide access to the parcel. The deceleration lane at the eastern intersection will allow for the safe entry of warehouse trucks to access the loading docks and trailer parking surrounding the buildings. The new intersection provides the only truck access to the site, and also allows for a secondary exit for the warehouse trucks. This truck entrance/exit provides two inbound lanes, each of approximately 1,600-feet, for trucks entering and one lane for trucks exiting the facility and includes a security building and security gates. Approximately 42 trucks could queue within the inbound lanes without spilling back to the new signalized intersection or the shared intersection for the parcel to the east.

The Project does not propose any new roadways or transportation facilities that would be inconsistent with applicable design standards for the City of Tracy. The Project proposes an increased land use density, which would result in increased travel activity, including vehicle (cars and trucks), bicycle, pedestrian, and potentially transit trips. In order to provide access to and from the Project site, the accesses along West Schulte Road will be designed to serve automobiles, bicyclists, pedestrians, and Surface Transportation Assistance Act (STAA) vehicles. The Project design would also be subject to the City's Engineering Design & Construction Standards, which includes a section for Street Design Standards. These Project-generated trips would be served by existing and planned facilities that are constructed to applicable design standards to serve these travel modes. Therefore, the proposed Project would not result in a change to the vehicle mix or speed of traffic that is not compatible with the design of existing or planned roadways and transportation facilities. This impact would be ***less than significant***.

MITIGATION MEASURE(S)

***Mitigation Measure 3.13-2:*** *Prior to the start of construction, the Project applicant shall prepare and submit a Construction Traffic Control Plan. The Plan shall include the following items. The approved Plan shall be implemented during construction of the Project.*

- *Project staging plan to maximize on-site storage of materials and equipment.*
- *Permitted construction hours.*
- *Location of construction staging.*
- *Provisions for street sweeping to remove construction-related debris on public streets.*
- *A set of comprehensive traffic control measures including scheduling of major truck trips and deliveries to avoid peak-hours; lane closure proceedings; signs, cones, and other warning devices for drivers; and designation of construction haul routes.*
- *Survey of the pavement condition on roadways to be used as part of the haul route(s) or any alternate route(s) that are proposed to be utilized by hauling operation for the Project prior to the commencement of any work on-site. The survey shall include a video tape of the roadways. The Project applicant shall complete any remedial work prior to initiation of use and provide a bond assuring completion of the remediation work triggered by the individual development proposal, the amount which shall be deemed sufficient by the Public Works Department. If the work is completed before the use of the proposed buildings, a bond shall not be required.*

## Impact 3.13-4: Project implementation would not result in inadequate emergency access (Less than Significant)

Implementation of the proposed Project would not create roadway and transportation facilities that impede access for emergency response vehicles. The proposed site accessways, improvements to the West Schulte Road and Bud Lyons Way intersection, and internal transportation network is designed to maintain levels of accessibility for police and fire response times, which ensures vehicles have the necessary access when responding to an emergency.

Several emergency (police and fire) services are located within the Project study area. The internal circulation is designed to meet City code for emergency vehicle access and would maintain high levels of emergency vehicle accessibility and mobility, which ensures vehicles have the necessary access when responding to an emergency. Emergency vehicles arriving from West Schulte Road will have unimpeded access to the Project site. Therefore, this impact would be ***less than significant***.




Figure 3.13-1
Passenger Car Project Trip Distribution
Background Plus Project Conditions

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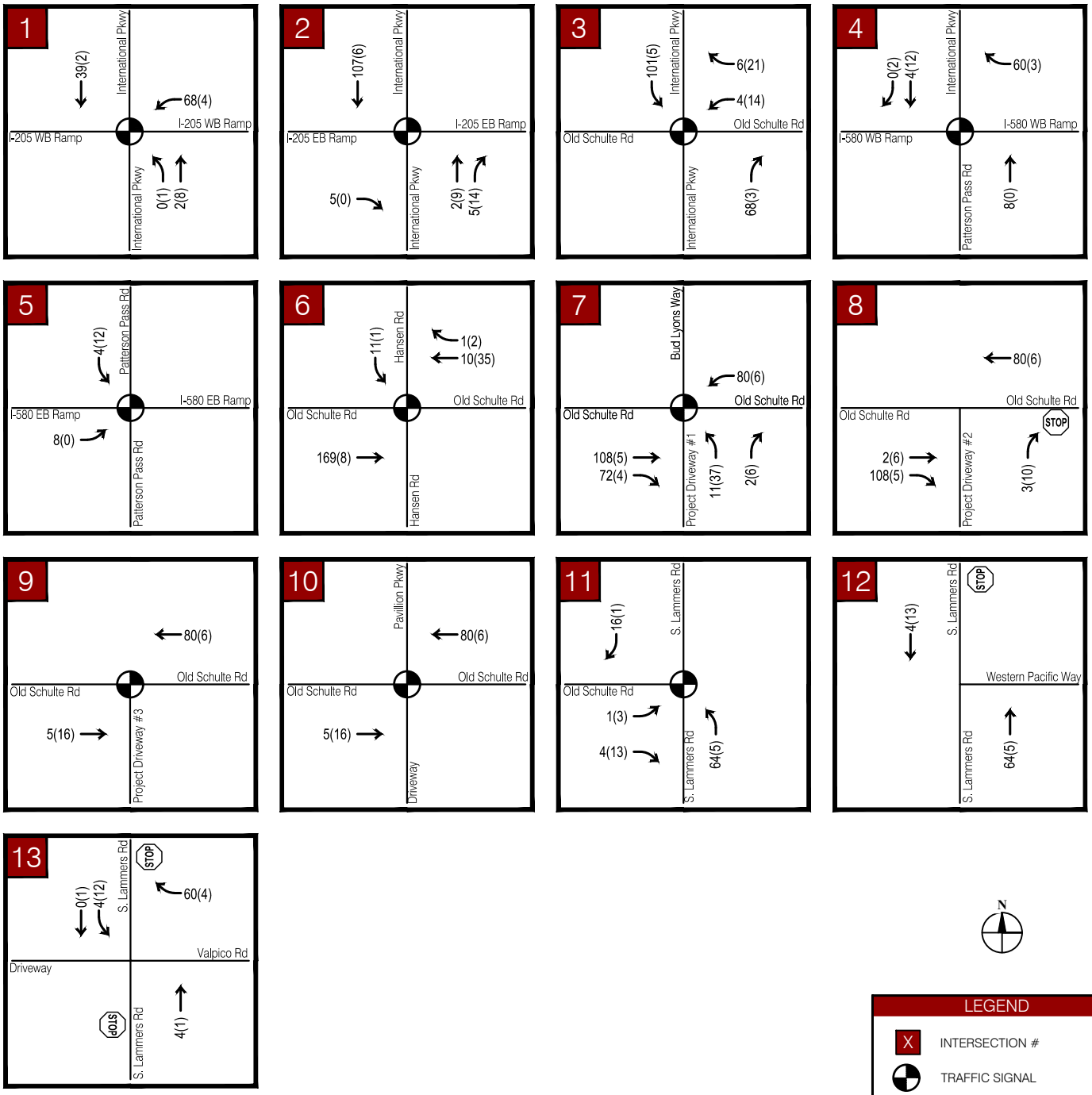



Figure 3.13-2

Passenger Car Background Project Assignment

Background Plus Project Conditions

Kimley»Horn

December 2021

Tracy Costco Direct Delivery Center

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Figure 3.13-3
Truck Project Trip Distribution
Background Plus Project Conditions

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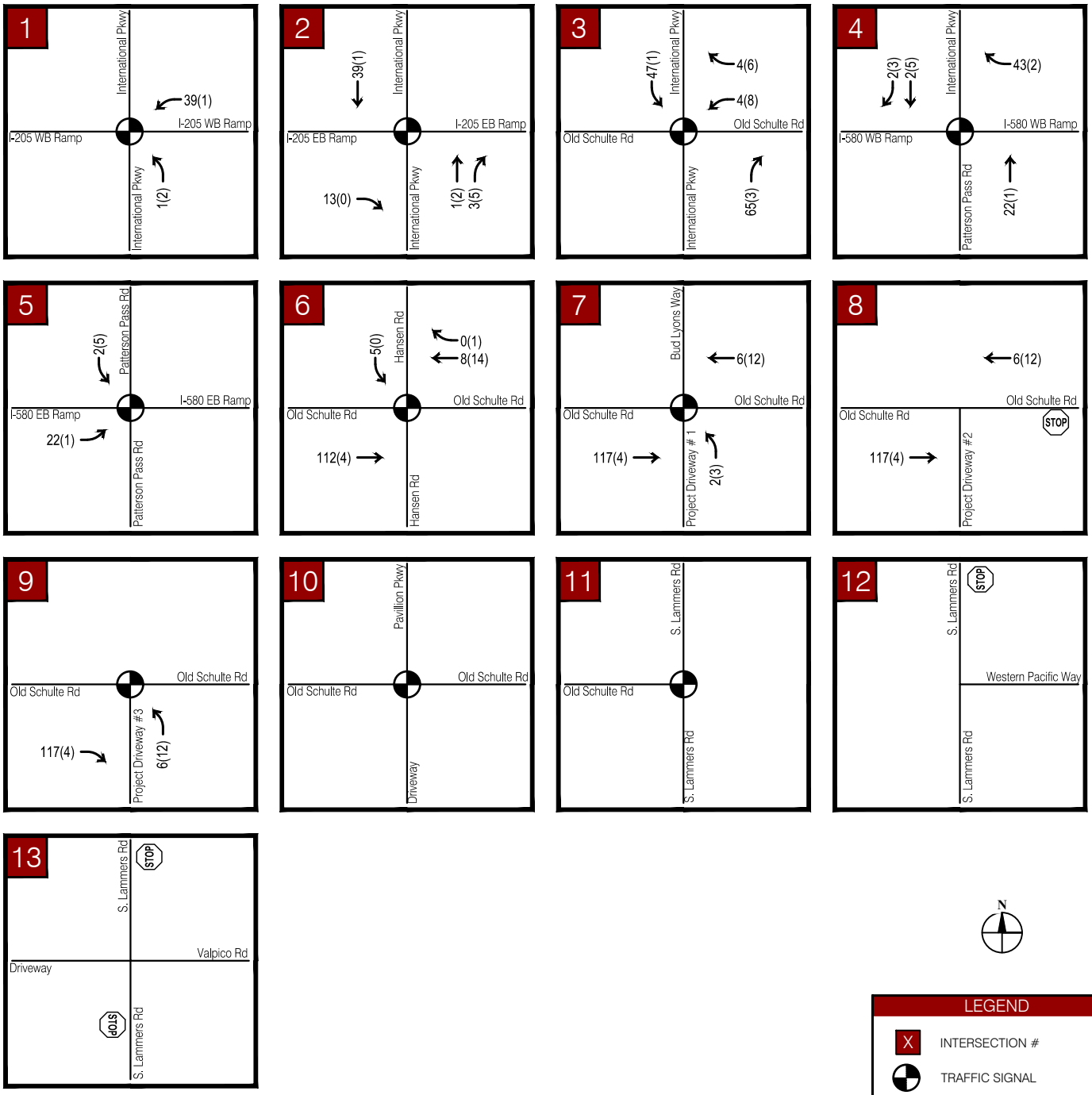



Figure 3.13-4

Truck Background Project Assignment

Background Plus Project Conditions

Kimley»Horn

December 2021

Tracy Costco Direct Delivery Center

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This section describes the regulatory setting, impacts associated with wastewater services, water services, storm drainage, and solid waste disposal that are likely to result from Project implementation, and measures to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities. This section is based in part on the following documents, reports and studies: *California's Groundwater,* CalRecycle *Solid Waste Information System,* CalRecycle *Jurisdiction Diversion/Disposal Rate Summary*, *Urban Water Management Plan* (2020), Citywide *Water System Master Plan* (2012), Citywide *Storm Drainage Master Plan* (2021) *Wastewater Master Plan* (2012), *Citywide Public Facilities Master Plan* (2012), *Tracy Costco Project Water Supply Assessment* (West Yost, 2020), and Tracy Costco Depot (Project) Annexation EIR Support (Carollo Engineers, Inc., 2021).

No comments on the Notice of Preparation (NOP) were received regarding this environmental topic.

## 3.14.1 WASTEWATER SERVICES

### ENVIRONMENTAL SETTING

The City of Tracy's wastewater collection system consists of gravity sewer lines, pump stations and the Wastewater Treatment Plant (WWTP). The City has a municipal wastewater system handling both domestic and industrial wastewater. Wastewater flows toward the northern part of the city where it is treated at the WWTP and then discharged into the Old River in the southern Sacramento-San Joaquin Delta. The City of Tracy (City) is projecting residential and non-residential growth within its sphere of influence (SOI) that will require expansion of existing wastewater conveyance and treatment infrastructure. At the time of commencement of the Wastewater Master Plan, the City's population of approximately 81,000 people generated an average dry weather flow (ADWF) of 9.5 million gallons per day (mgd). This flow is treated at the City's WWTP, which has an ADWF design capacity of 10.8 mgd. Future ADWF within the City's SOI is estimated at 21.1 mgd with the addition of currently proposed development projects.

#### Wastewater Conveyance

The existing wastewater collection system consists of three major interceptor systems. The Eastside collection system conveys wastewater from areas in the southeastern and eastern parts of the city, including the Northeast Industrial Area. The Corral Hollow sewer system conveys wastewater, mainly from residential development, from the southwestern part of the city. The Hansen sewer system conveys wastewater from the western and northern parts of the City including the Patterson Pass Business Park and the West Valley Shopping Center. The downtown area conveys wastewater directly to the WWTP using sewer mains in Holly Drive.

#### Wastewater Treatment

Wastewater from the City is currently treated at the WWTP. The WWTP is located between MacArthur Drive and Holly Drive just north of Interstate 205. The National Pollutant Discharge Elimination System (NPDES) permit CA 0079154 allows for discharge of 10.8 mgd and up to 16 mgd if applicable treatment facilities are constructed. The WWTP provides disinfected tertiary level

treatment meeting Title 22 requirements of the Code of Regulations from the State Water Resource Control Board. The WWTP includes primary clarifiers, activated sludge, secondary clarifiers, flocculation, tertiary filtration, and disinfection.

The City's WWTP currently provides tertiary-level treatment for all flows received within the City's limits. Influent wastewater is primarily from domestic sources with the exception of industrial flows generated by Leprino Foods. Leprino Foods provides pretreatment to their industrial flows and sends it to the main plant for further treatment, entering at the primary clarifier. Treated and disinfected effluent is discharged to Old River via a 3.5-mile outfall pipeline and diffuser system. Stabilized biosolids are dried and hauled offsite for land application. There have been several modifications to the WWTP, with the extensive upgrades completed in 2007. At present, an additional digestor and primary clarifier is under construction to create additional treatment capacity to meet existing demands.

The existing headworks system includes three mechanical screens operating in a duty/ duty/standby configuration with a PWWF flow capacity of 38.7 mgd. Screen openings are 6 millimeters (mm) and provide acceptable trash removal for the current treatment scheme. Three screenings washer compactors are installed to remove organics from the screened material, which are then compacted and discharged to a hopper for disposal to landfill. Primary treatment includes a 90-foot-diameter circular clarifier, and an additional circular clarifier is under construction for future use.

A new activated sludge system was brought online as part of the 2007 construction project to replace the trickling filter activated sludge system. The activated sludge system comprises three 1.69-million-gallon (MG) aeration basins with anoxic selectors. Anoxic selectors comprise approximately 17 percent of the total basin volume and are equipped with mixers to keep solids in suspension. Fine-bubble diffusers are used to distribute the low-pressure air supply to the aerobic zones. Three mixed-liquor return pumps are installed for selector operation and not for enhanced nitrogen removal. Solid separation is provided by three 100-foot diameter secondary clarifiers with a 14-foot-sidewater depth.

Secondary effluent is filtered using conventional deep bed filters with anthracite media. The filtration system includes eight cells with a total filter area of 4,400 square foot ($ft^2$). This results in a hydraulic loading rate of 2.9 gallons per minute per square foot ($gpm/ft^2$) at 16 mgd and 4.9 $gpm/ft^2$ at 27 mgd, with the latter being the current equalized flow rate. A chemical feed and storage system allows the plant to dose polymer upstream of the filters for enhanced performance.

The WWTP's disinfection system comprises chlorination and dichlorination processes. Tertiary effluent is dosed with chloramines and conveyed to chlorine contact basins for pathogen reduction. The current target chlorine concentration entering the chlorine contact basins is 10 mg/L. Chlorine and ammonia injection is achieved using an in-line chemical induction system that allows mixing of the chemical solutions prior to injection to the tertiary effluent. Six chlorine contact basins have a total volume of 1.15 MG, each consisting of a baffled basin to provide plug flow conditions and to prevent short circuiting. Dichlorination is provided using sulfur dioxide to

neutralize the chlorine from the plant effluent before discharging into Old River. Post-aeration is provided to achieve a final effluent dissolved oxygen concentration of 5 mg/L, as required by the NPDES permit.

Solids handling includes thickening, stabilization, and dewatering processes. Waste activated solids (WAS) are currently thickened using two dissolved air floatation thickeners. Thickened WAS is pumped to digestion via progressing cavity pumps. Thickened WAS and primary sludge are stabilized with two 75-foot anaerobic digesters. Digester gas is used to fuel boilers for digester heating as well as produce hot water for use in Headworks screen cleaning with unused gas flared to the atmosphere. Digested solids are centrifuged as well as dewatered in drying beds with a total area of approximately 445,000 ft.

## Planned Infrastructure Upgrades

Both the 2012 Citywide Water System Master Plan and Tracy Wastewater Master Plan included recommended capital improvement projects for the development of the City's recycled water system, including pump station and pipeline facilities to deliver recycled water within the City's service area for use for landscape irrigation and other non-potable uses. To date, the City has spent approximately $85 million on improvements to the City's Wastewater Treatment Plant to allow for the production of tertiary treated wastewater meeting Title 22 requirements for recycled water use for landscape irrigation and other non-potable uses.

In March 2019, the City received an amended order from the State Water Resources Control Board (SWRCB) approving the change in place of use of its treated wastewater. The order allows for the City to change the point of discharge and place of use of treated wastewater by a reduction in discharge to Old River of up to 8.1 mgd, with a maximum annual limit of 5,900 acre-feet per year (AFY) and use the treated wastewater for industrial and irrigation purposes within the service areas of the City's Sphere of Influence, BBID within the City's Sphere of Influence and WSID. The City recently completed construction of a recycled water pump station at the City's WWTP and a recycled water pipeline from the WWTP west to Lammers Road and south to Kimball High School using the Proposition 84 grant funding mentioned above. A second phase of construction will include a second pump station and additional recycled water pipeline to further extend the distribution of recycled water supplies within the City.

Further, the City's Wastewater Master Plan outlines future WWTP improvement projects, prioritized in the following order:

- Upgrade existing facilities to mitigate current capacity deficiencies.
- Upgrade existing facilities to accommodate increased wastewater flows associated with long term planning (2040) and buildout.
- Construct new infrastructure required to serve future users.

## REGULATORY SETTING

### Clean Water Act / National Pollutant Discharge Elimination System Permits

The Clean Water Act (CWA) is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment usually in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before being discharged to surface water.

The City's current NPDES Permit, which regulates the wastewater effluent quantity and quality upon discharge, was issued by the Central Valley Regional Water Quality Control Board and is Order R5-2007-0038.

### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the SWRCB has the authority and responsibility for establishing policy related to the

State's water quality. Regional authority is delegated by the SWRCB to a Regional Water Quality Control Board (RWQCB). The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits.

Under the Central Valley Regional Water Quality Control Board (CVRWQCB) NPDES permit system, all existing and future municipal and industrial discharges to surface water within the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

## City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant wastewater. General Plan policies applicable to the Project are identified below:

POLICIES: PUBLIC FACILITIES ELEMENT

- PF-7.1-P1. The City shall maintain wastewater conveyance, treatment and disposal infrastructure in good working condition in order to supply municipal sewer service to the City's residents and businesses.
- PF-7.1-P2. The City shall expand the existing wastewater treatment plant to the extent possible or pursue a single new west side facility instead of building new facilities at multiple locations to meet future needs.
- PF-7.1-P3. New habitable structures located within the City limits shall connect to the public wastewater collection system.
- PF-7.2-P1. Wastewater collection and treatment facilities shall be designed to serve expected buildout of the areas served by these facilities but constructed in phases to reduce initial and overall costs.
- PF-7.2-P2. The City shall construct new wastewater trunk lines as needed. Individual development projects shall be responsible for construction of all collection lines other than trunk lines.
- PF-7.2-P3. The approval of new development shall be conditioned on the availability of sufficient capacity in the wastewater collection and treatment system to serve the project.
- PF-7.2-P4. "Package" treatment plants shall not be allowed in the City.
- PF-7.2-P5. New development shall fully fund the cost of new wastewater treatment and disposal facilities.
- PF-7.2-P6. Prior to any development approvals within an Urban Reserve, the City shall complete new wastewater master planning and wastewater treatment and disposal studies, particularly for the west side of the city. These studies are to be funded by proponents of new development and must show how adequate wastewater treatment will be provided to the Urban Reserve in question.
- PF-7.3-P1. New wastewater treatment plants should be located to allow for distribution of recycled water to application areas by gravity flow where feasible.
- PF-7.3-P2. The City shall integrate public facilities and wastewater reclamation sites with agricultural and open space preservation programs where feasible.

- PF-7.3-P3. Biosolid disposal shall be managed so as to minimize impacts to the environment and public health.
- PF-7.3-P4. The City shall establish wastewater treatment demand reduction standards for new development and redevelopment to reduce per capita and total demand for wastewater treatment.

### City of Tracy Municipal Code

The City of Tracy Municipal Code (Code), Article 4, Wastewater Discharge Surveys, Permits, Monitoring, and Administration, consists of a number of provisions relating to wastewater, including Section 5.24.390 (Wastewater discharge surveys) which requires that all potential dischargers, as determined by the City, must file an annually updated Discharge Survey Report. Section 5.24.410 (Mandatory Discharge Permits) requires significant industrial users connecting to or discharging into the sewer to obtain a wastewater discharge permit. The application for the wastewater discharge permit must include a baseline monitoring report that details wastewater constituents and characteristics and total, average, and peak wastewater flow rates, spill prevention and control measures, and certification that Pretreatment Standards are being consistently met, in compliance with Section 5.24.440 (Permit application and baseline monitoring report) of the Code. Wastewater Discharge Permits may contain a variety of conditions, as described in Section 5.24.450 (Permit conditions) of the Code, including the average and maximum allowable wastewater constituents and characteristics, limits on rate and time of discharge, specifications for monitoring programs, civil penalties and fees for non-compliance, and specifications as to what waste streams are authorized for discharge. Other sections of the Code relevant to wastewater include Section 5.24.550 (Data Collection) and Section 5.24.560 (Reporting Requirements) which describe the information that wastewater dischargers must provide, how such information will be collected, and the various standards that must be met in order to comply with discharge reporting requirements.

### Utility Master Plans

The City of Tracy maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *Urban Water Management Plan* (2020), *Citywide Water System Master Plan* (2012), *Citywide Storm Drain Master Plan* (2021) *Wastewater Master Plan* (2012), and the *Citywide Public Facilities Master Plan (2012)*.

## THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with Utilities if it will:

- Require or result in the relocation or construction of new or expanded wastewater treatment and/or collection facilities, the construction of which could cause significant environmental effects.

- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the providers existing commitments.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.14-1: The proposed project does not have the potential to result in a determination by the wastewater treatment and/or collection provider which serves the project that the provider does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. (Less than Significant)

WASTE DISCHARGE REQUIREMENTS (WDRS) BOARD ORDER NUMBER NO R5-2007-0036 (NPDES PERMIT NO. CA0079154).

The NPDES permit for the Tracy WWTP was adopted in May 2007 with proposed amendments initiated in 2008 and 2010. Treated wastewater from the Tracy WWTP is discharged to Old River under Order No. R5-2007-0036 (NPDES No. CA0079154). Because, in the opinion of the Water Board, there is a potential impact to groundwater at the facility, the Tracy WWTP's industrial pretreatment ponds, industrial holding ponds, sludge drying beds, and biosolids storage areas of the facility are regulated by separate waste discharge requirements as defined in Order No. R5-2007-0038. The NPDES permit CA 0079154 allows for discharge of 10.8 mgd and up to 16 mgd if applicable treatment facilities are constructed. The WWTP provides disinfected tertiary level treatment meeting Title 22 requirements of the Code of Regulations from the State Water Resource Control Board. The WWTP includes primary clarifiers, activated sludge, secondary clarifiers, flocculation, tertiary filtration, and disinfection.

The City's WWTP currently provides tertiary-level treatment for all flows received within the City's limits. Influent wastewater is primarily from domestic sources with the exception of industrial flows generated by Leprino Foods. Leprino Foods provides pretreatment to their industrial flows + disinfected effluent is discharged to Old River via a 3.5-mile outfall pipeline and diffuser system. Stabilized biosolids are dried and hauled offsite for land application. There have been several modifications to the WWTP, with the most recent and extensive upgrades completed in 2007 and most recently an additional digestor and primary clarifier is under construction to create additional treatment capacity to meet existing demands.

The existing headworks system includes three mechanical screens operating in a duty/ duty/standby configuration with a PWWF flow capacity of 38.7 mgd. Screen openings are six mm and provide acceptable trash removal for the current treatment scheme. Three screenings washer compactors are installed to remove organics from the screened material, which are then compacted and discharged to a hopper for disposal to landfill. Primary treatment includes three sedimentation basins, one 90-foot-diameter circular clarifier, and two 72-foot by 32-foot rectangular clarifiers. Currently, only the circular clarifier is in service, with the rectangular basins on standby.

The City of Tracy's wastewater treatment system is currently in compliance with the WDR requirements of Order No. R5-2007-0036 NPDES NO. CA0079154 ("WDR Order"). The wastewater treatment system options covered under this Order include: City of Tracy WWTP including the collection system, basin/disposal fields, discharge to the Old River, and recycling conveyance and irrigation system.

The City's *Wastewater Quality Master Plan Update* includes projected wastewater generation factors for various land uses. The study includes a reduction of industrial and general commercial wastewater generation factors to reflect historical water use data from local businesses.

The overall collection sewer strategy for the City of Tracy, including the proposed Project, consists of a combination trunk sewer gravity collection system with pump or lift stations located along the collection system to convey wastewater to an influent pump station located at the City WWTP.

According to the City's 2012 Wastewater Master Plan, Industrial uses are estimated to generate 1,500 gallons per gross acre per day. The Development Area includes approximately 103 acres of Industrial uses. Using this rate, the proposed Industrial uses would generate approximately 154,500 gallons per day (gpd) of wastewater. The proposed Project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the WWTP, which has an ADWF design capacity of 10.8 mgd. Additionally, the City is in the process of constructing a project to increase the capacity of the WWTP to manage growth in the future. According to the Wastewater Letter Report completed for the Project (see Appendix H), the existing WWTP has the capacity to treat and dispose of the proposed 0.078 mgd increase in flows from the Costco project. Occupancy of the proposed Project would be prohibited without sewer allocation.

The development of the proposed Project under this permitted option would not exceed the wastewater discharge requirements in the WDR Order. The proposed Project is anticipated to have a ***less than significant*** impact relative to this topic.

## Impact 3.14-2: The proposed Project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

The wastewater collection and conveyance system that will serve the proposed Project will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but generally includes gravity sewers and force mains ranging in size from 8 to 24 inches, and pump stations. Currently, the project site has an existing 8-inch sewer line within Schulte Road which flows into the City's wastewater collection system. The existing facilities have undergone environmental review and have waste discharge permits from the State. The proposed facilities will be located within the bounds of the Project site, or within the adjacent Schulte Road.

New wastewater collection and conveyance infrastructure needed for the proposed Project will require trenching/excavation of earth, and placement of pipe within the trenches at specific

locations, elevations, and gradients. Utility lines within the Project site and adjacent roadways would be extended throughout the Project site. Wastewater lines would be connected via existing lines along West Schulte Road. Eight-inch sanitary sewer lines are currently located along West Schulte Road. These future on-site effluent collection facilities will discharge into the City system at various locations. The applicant will refine the wastewater collection/conveyance infrastructure design through the development of improvements plan which will undergo a review by the Public Works Department to ensure consistency with the City's engineering standards. This improvement plan process will include full engineering design (i.e. location, depth, slope, etc.) of all conveyance infrastructure as well as a review of new sewer pump stations and new force mains if needed. Ultimately, the sanitary sewer collection system will be an underground collection system installed as per the City of Tracy standards and specifications. Sanitary sewer disposal and treatment will be to the City of Tracy WWTP.

Utilizing a flow factor of 750 gpd per acre and the Project site acreage of approximately 104 acres, the ADWF resulting from the project would be 78,000 gpd (or 0.078 MGD). See Appendix H for the Costco Depot Wastewater Letter Report. The City of Tracy WWTP has the capacity to treat and dispose of the proposed 0.078 mgd increase in flows from the Costco project. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

## 3.14.2 WATER SUPPLIES

### ENVIRONMENTAL SETTING

The City receives water supplies from three sources: Central Valley Project via the Delta Mendota Canal (DMC), South County Water Supply Project (SCWSP) via the Stanislaus River, and groundwater from nine wells. The United States Bureau of Reclamation (USBR) is the wholesale supplier for the Central Valley Project water and the South San Joaquin Irrigation District (SSJID) is the wholesale supplier for the South County Water Supply Project. The proposed Project, if approved by the City, is capable of being served by the City from the City's existing and future portfolio of water supplies. The water supply for the proposed Project will have the same water supply reliability and water quality as the water supply available to each of the City's other existing and future water customers.

The following information is contained in the *Tracy Costco Depot Project Water Supply Assessment* (West Yost Associates, 2021). The City's most recently adopted *Urban Water Management Plan* (UWMP) was adopted by the City Council in June 2021. The City's 2020 UWMP included existing and projected water demands for existing and projected future land uses to be developed within the City's Sphere of Influence through 2045. The water demand projections in the City's 2020 UWMP included existing City water demands, future water demands for developments within the existing City limit, and future water demands for future service areas outside the existing City limit.

#### City of Tracy Water Service

This section presents the City's water service area including history and growth information for the City.

##### CITY OF TRACY WATER SERVICE AREA

The City of Tracy is located in San Joaquin County, California, about 68 miles south of Sacramento and 60 miles east of San Francisco. The existing incorporated area of the City encompasses approximately 22 square miles. The City's General Plan includes the area outside of the City limits that the City expects to annex and urbanize in the future. It is the expected physical limit of the City based on the most current information. During the City's recent General Plan update process and in response to Local Agency Formation Commission (LAFCo) policies established in 2007, revisions to the City's SOI were made to more accurately reflect locations where the City may grow in the future and locations where no urban growth is expected. The recently adopted revised SOI encompasses an area of approximately 42 square miles and is 20 square miles larger than the current City limits.

The City's water service area is coterminous with the City limits. As future developments within the SOI, but outside the City Limits, are approved, they will be annexed into the City and served by the City water system. Figure 2-1 illustrates the current City Limits and the SOI. The Proposed Project is located outside the City's existing City Limits, but within the SOI.

### CITY OF TRACY CURRENT AND PROJECTED POPULATION

The State of California Department of Finance (DOF) population estimate for the City as of January 1, 2020 was 95,931 people. In 2020, the City also served 118 residences in the Larch Clover County Services District (CSD), and the average persons per household factor was 3.51 (per DOF). Therefore, the City's total population served in 2020 was estimated to be 96,345.

Future population projections for the City are described in the 2020 UWMP and are summarized as follows. Population growth was rapid in the City over the 15-year period of 1990 through 2005, with the City growing by 139 percent. Between 2005 and 2020, however, growth has slowed relative to historical rates; population increased approximately 68 percent during this 15-year period. The reduction in growth rate has likely been caused by a combination of economic forces, such as the economic downturn of 2008 through 2011, and measures taken by the City to limit growth. In 1987, the City adopted a residential Growth Management Ordinance (GMO), which was amended in 2000 by the voter-initiative Measure A. The objective of the GMO and Measure A is to achieve a steady and orderly growth rate that allows for the adequate provision of services and community facilities and includes a balance of housing opportunities. Under the GMO, builders must obtain a Residential Growth Allotment (RGA) to secure a residential building permit. The GMO limits the number of RGAs and building permits to an average of 600 housing units per year for market-rate housing, with a maximum of 750 units in any single year, although there are exceptions for affordable housing and certain active adult residential uses (General Plan, 2011).

The population estimates for 2020 through 2045 presented in the 2020 UWMP are projected using the methodology used in the City's Water System Master Plan (WSMP) Update, which is currently in draft form. It incorporates assumptions about the number of dwelling units for each proposed development and planning area at buildout, an assumed number of people per dwelling unit (people/du), and the timing of planned development over this time frame. Table 3.14-1 shows the City's projected population in five-year increments to the year 2045.

***TABLE 3.14-1: HISTORICAL AND PROJECTED POPULATION FOR CITY OF TRACY WATER SERVICE AREA***

| *CALENDAR YEAR* | *ESTIMATED POPULATION* |
|---|---|
| 2015 | 85,707 |
| 2020 | 96,345 |
| 2025 | 109,900 |
| 2030 | 120,367 |
| 2035 | 130,833 |
| 2040 | 141,300 |
| 2045 | 166,700 |

*SOURCE: CITY OF TRACY 2020 UWMP, TABLE 3-1, CURRENT AND PROJECTED SERVICE AREA POPULATION.*

## City of Tracy Water Demand

### EXISTING AND PROJECTED WATER DEMAND

The City's water demand has increased significantly in the last 30 years. In 1986, the City's water demand was 8,104 AFY and by 2007 the City's water demand had increased to 19,176 AFY. In

recent years, the City's water demand has decreased as a result of the economic downturn of 2008 through 2011 and water use reductions in response to recent drought conditions. Water demands have rebounded (increased) somewhat in recent years with the end of drought conditions and increased development activity. Table 3.14-2 shows the City's water demand (based on water production) from 2012 to 2020.

***TABLE 3.14-2: HISTORICAL POTABLE WATER DEMAND***

| | *2012* | *2013* | *2014* | *2015* | *2016* | *2017* | *2018* | *2019* | *2020* |
|---|---|---|---|---|---|---|---|---|---|
| Total Water Demand (AFY) | 18,052 | 18,587 | 16,213 | 14,041 | 15,360 | 18,160 | 17,420 | 17,672 | 19,527 |

*SOURCE: CITY OF TRACY 2020 UWMP, TABLE 4-2 CURRENT AND HISTORICAL POTABLE WATER DEMAND AND POPULATION, JUNE 2021.*

The City's water demand is anticipated to continue to increase as approved projects build out and new developments are approved and constructed within the City's water service area in accordance with the City's General Plan. However, as discussed above, the rate of growth within the City's water service area has slowed as a result of the GMO and the slow economic recovery from the economic downturn between 2008 and 2011. Hence, water demands are not anticipated to increase as rapidly as they have in past years. Buildout for the City is not anticipated within the planning horizon of this WSA. However, in the 2020 UWMP and for the purposes of the WSA, buildout is assumed to occur in 2045 to be conservative in the water reliability analysis.

The 2020 UWMP projected water demands, as documented in the City's 2020 UWMP, are shown in Table 3.14-3. The City's projected future water demand was determined based on adopted potable water use factors for various land uses, which were developed based on historical metered water use data, and anticipated timing of future development projects. Buildout of the Proposed Project is included in the 2025 (near-term) water demand projection. A detailed explanation of the adopted demand projection methodology is provided in the City's WSMP Update. The water demand projections include consideration for reduced future water use as a result of new building codes, improved water use efficiency, and implementation of water conservation measures. The projections also include savings from passive conservation which refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs from the City. These savings result primarily from: (1) the natural replacement of existing plumbing fixtures with water-efficient models required under current plumbing code standards, and (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under CALGreen Building Code Standards.

***TABLE 3.14-3: PROJECTED WATER DEMAND, AFY***

| *CONDITION* | *2025* | *2030* | *2035* | *2040* | *2045* |
|---|---|---|---|---|---|
| Potable Water Demand | 20,509 | 23,100 | 25,738 | 28,403 | 33,079 |
| Recycled Water Demand | 1,000 | 2,067 | 3,133 | 4,200 | 6,300 |
| **Total Water Demand** | **21,509** | **25,167** | **28,871** | **32,603** | **39,379** |

*SOURCE: TRACY COSTCO DEPOT WATER SUPPLY ASSESSMENT (WEST YOST ASSOCIATES, 2021).*

DRY YEAR WATER DEMAND

The projected future water demand presented in Table 3.14-3 includes continued implementation of the City's existing water conservation program demand management measures and is based on future normal hydrologic years. In the 2020 UWMP, the additional water conservation which may occur in single dry or multiple dry years was not assumed to happen. This was a conservative assumption as additional water conservation would likely occur as a result of the City's implementation of additional water conservation measures as outlined in the City's Water Shortage Contingency Plan in response to multiple dry years or other water supply shortages. The City's Water Shortage Contingency Plan includes shortage response actions to reduce water demand and manage supply for water shortage conditions of up to and greater than 50 percent.

As shown in Table 3.14-2, the City's 2015 demand was significantly lower than 2014 demand in response to the Governor's April 2015 Executive Order B-29-15 mandating 25 percent water conservation statewide. To reduce water use by 25 percent statewide, the SWRCB adopted a regulation which placed each urban water supplier into one of eight tiers which were assigned a conservation standard, ranging between 4 percent and 36 percent. Each month, the SWRCB compared every urban water suppliers' water use with their use for the same month in 2013 to determine if they were on track for meeting their conservation standard. The City was initially placed into Tier 7 with a water conservation standard of 28 percent as compared to 2013 use (the City's conservation standard was reduced to 25 percent in early 2016).

In response, the Tracy City Council authorized the implementation and amendment of the City's Phase III and IV water restrictions in June 2015 (as defined in Chapter 11.28 of the Tracy Municipal Code) to meet SWRCB emergency drought regulations described above. The City's water conservation efforts and results are an example of the City's ability to implement its Water Shortage Contingency Plan and reduce water demands in the event of an emergency water supply shortage. In May 2016, the City's water demand was 32.6 percent less than in May 2013, and the City's cumulative savings from June 2015 to May 2016 was 27.2 percent as compared to 2013, indicating the responsiveness of the City's residents to the call for water conservation[1].

As described above, in the 2012-2016 statewide drought, the City met (exceeded) its water conservation goals of 25 percent. For purposes of the WSA, the City assumes that dry year potable water demand is the same as normal year demand.

## City of Tracy Potable Water Supplies

The City currently receives water from the following sources:

- Untreated surface water from the Delta-Mendota Canal (Central Valley Project) (treated at the City's John Jones Water Treatment Plant);

[1] SWRCB May 2016 Supplier Conservation Compliance (data from June 21, 2016), SWRCB Water Conservation Portal – Conservation Reporting.

- Surface water from the Stanislaus River via the South County Water Supply Project (delivered by the SSJID);
- Groundwater pumped from nine groundwater wells located within the City; and
- Untreated surface water from the Byron Bethany Irrigation District (BBID) pre-1914 rights (treated at the City's John Jones Water Treatment Plant).

Also, the City has entered into an agreement with the Semitropic Water Storage District for storage of water supplies for use in dry years and has implemented an Aquifer Storage and Recovery (ASR) Program to allow for injection of surface water supplies into the underlying groundwater basin for storage and later extraction. Each of these existing supplies is described below. Summary tables listing the City's existing and additional planned future water supplies, and historical and anticipated future quantities, are provided following the discussion of the City's additional planned future water supplies.

### SURFACE WATER SUPPLY

**Central Valley Project Water via the Delta-Mendota Canal**

The City has contractual entitlements for Central Valley Project (CVP) water as detailed below. In the aggregate, the City's contractual entitlement to the municipal and industrial (M&I) reliability CVP water and assignments of agricultural (Ag) reliability water CVP water from BCID and WSID are referred to as the City's "Existing Contract" with the United States Bureau of Reclamation (USBR). The total quantity of CVP water available to the City under its Existing Contract is 20,000 AFY (10,000 AFY of M&I-reliability water and 10,000 AFY of Ag-reliability water).

The City's CVP water supplies are treated at the City's John Jones Water Treatment Plant (JJWTP), which was originally constructed in 1979, expanded in 1988, and then expanded again in 2008. The JJWTP is located just north of the DMC in the southern portion of the City. With the latest plant expansion, the current treatment capacity of the JJWTP is 30 million gallons per day (mgd) which is sufficient to treat all of the City's CVP water supplies.

The City also treats and serves CVP water purchased by others. Over the period 2010 through 2018, an average of approximately 630 AFY of water from the Plain View Water District's (now BBID's) USBR allocation was treated at the JJWTP and delivered to the Patterson Pass Business Park through the City's water distribution system. A comparable quantity of BBID water is anticipated to be treated and delivered annually to the Patterson Pass Business Park in the future. Neither the water supply nor the demand for Patterson Pass Business Park are included in the City supply and demand estimates because the water supply is BBID's, not the City's, and the City only provides water treatment, delivery and billing services on a contractual basis for the Patterson Pass Business Park; the City does not manage either the supply or the demand.

In July 1974, the City entered into a 40-year contract with the United States Bureau of Reclamation (USBR) for an annual entitlement of 10,000 AFY of surface water from the CVP via the DMC. The original USBR contract expired in 2014; however, since December 2013, the City and USBR have entered into a series of two-year interim renewal contracts to provide water service to the City

while the terms of the long-term contract renewal were negotiated. In November 2021, the Tracy City Council approved a new long-term contract with USBR which became effective on December 1, 2021. The new contract is for 20,000 AFY, which aggregates the City's M&I-reliability supplies and Ag-reliability supplies (discussed below) from the CVP. The new contract does not have a termination date and would continue as long as water is available and delivered.

In 2004, the USBR approved the assignment of 5,000 AFY of Ag-reliability CVP contract entitlement to the City from the Banta Carbona Irrigation District (BCID). Concurrently, the USBR approved the assignment of 2,500 AFY of Ag-reliability CVP contract entitlement water to the City from WSID, with the option to purchase an additional 2,500 AFY of CVP contract entitlement from the WSID. In December 2013, the City and WSID approved the additional assignment in which the City's current assignment of WSID CVP water is 5,000 AFY.

The City's CVP water supplies are subject to allocations determined by the USBR for 'South-of-Delta' contractors. Based on the historical record, the City's long-term average allocation of CVP water pursuant to the contract is anticipated to be at least 85 percent of the total entitlement. However, due to recent environmental concerns in the Delta and potential future impacts due to climate change, the normal year reliability of CVP water was assumed to be 75 percent in the 2020 UWMP. In addition, the City conservatively estimated that it will receive 50 percent of its Ag-reliability contractual entitlement in normal water years.

During dry years, a CVP M&I contractor is typically eligible for a minimum shortage allocation equal to 75 percent of adjusted historical use. Per the CVP M&I Water Shortage Allocation Plan, the minimum shortage allocation may be reduced further when the allocation of Ag-reliability water in that year is reduced below 25 percent of contract entitlement. The component of the City's CVP supply that carries Ag-reliability is subject to more significant reductions and is much more dependent on yearly hydrologic conditions than the City's M&I-reliability allocation.

In February 2017, new guidelines and procedures went into effect associated with the updated CVP Municipal and Industrial Water Shortage Policy. In general, the policy provides for the following:

- When M&I contractor allocations are at 100 percent, the allocation of M&I water will be based on Contract Total.
- When M&I contractor allocations are below 100 percent, the allocation of M&I water will be based on a contractor's historical use of CVP M&I water.
- An M&I contractor's historical use will be determined by calculating the average quantity of CVP water put to beneficial use within the service area during the last three years of water deliveries that were unconstrained by the availability of CVP water.

The City's reliability assumptions in the 2020 UWMP are sufficiently conservative to adhere to the 2017 guidelines. The City's CVP water single dry year reliability is based on adjusted historical use and provided in its 2020 UWMP, and are assumed as 25 percent for M&I CVP water, and 0 percent for Ag CVP water.

Similarly, the City's CVP water multiple dry year reliability is based on adjusted historical use and provided in its 2020 UWMP and are assumed as 40 percent for M&I CVP water, and 0 percent for Ag CVP water.

**Surface Water from BBID Pre-1914 Water Rights**

Part of the proposed Tracy Hills Specific Plan area was annexed into the BBID and is entitled to water service from BBID, using BBID's pre-1914 appropriative water rights. This water is delivered to the City via the DMC and is treated at the City's JJWTP before delivery to the Tracy Hills Specific Plan area. The City anticipates that up to 4,500 AFY of pre-1914 water rights water could be provided by BBID on a year-round basis to serve the Tracy Hills Specific Plan in the BBID service area. However, the volume of water available to the City through this agreement is limited to the demand in the BBID service area portion of the Tracy Hills Specific Plan. The projected potable water demand in this area is estimated to be 3,330 AFY at Buildout. Because the water supply is based on pre-1914 appropriative rights, the supply is considered to be firm and well-established.

**Stanislaus River Water**

The City receives Stanislaus River water, in partnership with the cities of Manteca, Lathrop and Escalon, and the SSJID. This partnership constructed the South County Water Supply Project (SCWSP), which consists of the 36 mgd Nick C. DeGroot Water Treatment Plant (DGWTP) near Woodward Reservoir in Stanislaus County and a transmission pipeline to deliver treated surface water to each city. The water supply source for the SCWSP is based on SSJID's senior pre-1914 appropriative water rights to the Stanislaus River, coupled with an agreement with the USBR to store water in New Melones Reservoir.

As part of the SCWSP, the City was initially allocated up to 10,000 AFY of water based upon SSJID's senior water rights. In 2006, the City entered into a temporary contract with Escalon to purchase Escalon's allocation of 2,015 AFY of SCWSP supply until Escalon constructs the necessary infrastructure to convey the SCWSP water. In August 2013, SSJID and the Cities of Tracy and Lathrop approved a Lathrop-Tracy Purchase, Sale and Amendment Agreement for the sale of a portion of the City of Lathrop's SCWSP supply and capacity to the City of Tracy. The agreement provides the City with an additional 1,120 AFY of SCWSP supply and two mgd of SCWSP capacity. Thus, the City's current contractual amount of SCWSP water is 13,135 AFY in total. Once the agreement with Escalon sunsets (anticipated to occur in 2025), the City's contractual allocation will be reduced to 11,120 AFY. This additional SCWSP supply has the same reliability as the City's original SCWSP supplies.

Treated water deliveries from the SCWSP commenced in July 2005, and deliveries have been essentially uninterrupted since then). Although the City's full allocation was available in the first few years, deliveries to the City were less than its allocation because the full allocation was not needed. However, in some years since 2009 the City has actually received more than its allocation.

Due to the seniority of the water rights underling the SCWSP, SSJID's pre-1914 appropriative rights to Stanislaus River water, the City has historically assigned a high reliability to SCWSP water. However, in December 2018, the SWRCB released amendments to the Water Quality Control Plan

for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) which included significant changes and could result in significant surface water cutbacks. In its 2020 UWMP, SSJID presented a water reliability analysis assuming that the Bay-Delta Plan Amendment will not be implemented given its uncertainties. As an SSJID retail agency customer, the City relies on SSJID for the reliability projections for the Stanislaus River water supply. Consistent with SSJID's approach, the City's 2020 UWMP assumes that the Bay-Delta Plan Amendment will not be implemented. However, to fully assess the potential impacts of the Bay-Delta Plan Amendment and better plan for the potential shortfalls, the City conducted a parallel set of reliability analyses assuming that the Bay-Delta Plan Amendment will be implemented and included it as Appendix G of its 2020 UWMP.

Consistent with the City's 2020 UWMP and for the purposes of the WSA, the City is assumed to receive 100 percent of its SCWSP contractual entitlement in normal years. In future dry years, the City assumed that allocations would be based on the City's contractual entitlement, rather than consumption in a given year. In single dry years, the City expects to receive 76 percent of its SCWSP water supply allocation during 2025, 2030, and 2035 and 56 percent during 2040 and 2045, based on information received from SSJID. In multiple dry years, the City expects to receive 56 to 100 percent of its SCWSP water supply allocation, depending on hydrological conditions. In addition, SCWSP water transferred from Escalon is assumed to be unavailable after 2025.

The anticipated availability and reliability of the SCWSP supply under normal years, single dry years and multiple dry years may be revised based on updated evaluations in conjunction with resolutions of issues associated with the Bay-Delta Plan Amendment. Further, SSJID anticipates the likelihood that more water will be available for local purposes in 2040 based on more efficient water management and urban development displacing irrigated agricultural land uses.

### GROUNDWATER SUPPLY

The City's surface water supply is supplemented by local groundwater. The City overlies a portion of the San Joaquin Valley Groundwater Basin-Tracy Subbasin (Tracy Subbasin). The City currently operates nine groundwater wells, with a total extraction capacity of about 18,300 gallons per minute (gpm), or 26 mgd (GEI, 2015). Four wells (Production Wells 1, 2, 3 and 4) are located near the City's JJWTP and pump directly into the JJWTP clearwells, where the groundwater is blended with treated surface water. The other wells (Lincoln Well, Lewis Manor Well (Well 5), Park and Ride Well (Well 6), Ball Park Well (Well 7) and Well 8) are located throughout the City and pump water directly into the distribution system after disinfection. The City's newest well, Well 8, located near the intersection of Tracy Boulevard and 6th Street, was designed as an ASR well, and has been put into service as an ASR well as permitted by the Central Valley Regional Water Quality Control Board.

**Basin Description.** The City overlies the Tracy Subbasin (Basin; Department of Water Resources [DWR] 5-22.15) of the San Joaquin Valley Groundwater Basin (DWR 5-22). The Tracy Subbasin is not adjudicated, and it is not in a condition of critical overdraft.

The Tracy Subbasin covers an area of approximately 373 square miles. It is bounded on the northwest by the Old River south to the tri-county confluence point and on the south by the Clifton Forebay where it then follows the Contra Costa-Alameda County line to the foothills of the Coastal Range mountains. The northeast boundary follows the San Joaquin River south to the San Joaquin County Line with a slight jog to include the City of Lathrop on the west side of the river. The southern border of the Subbasin generally follows the San Joaquin-Stanislaus County line, with some irregular areas belonging to the Delta-Mendota Subbasin to the south. The western border follows the Coastal Range foothills from the San Joaquin-Stanislaus County line; north to the Contra Costa-Alameda County line. The Subbasin is a mix of Delta islands (mostly agriculture) and waterways along with urban and agricultural communities on the southern edge.

Adjacent to the Tracy Subbasin are the Eastern San Joaquin Subbasin to the east, the Delta-Mendota Subbasin to the south, and the Sacramento Valley Groundwater Basin to the north. The three subbasins, not including the Sacramento Valley Groundwater Basin, are part of the San Joaquin Valley Groundwater Basin. The San Joaquin River and one of its major west side tributaries, Corral Hollow Creek, provide drainage from the Tracy Subbasin. The San Joaquin River flows northward into the Sacramento and San Joaquin Delta and discharges into San Francisco Bay. The Tracy Subbasin is comprised of continental deposits of Late Tertiary to Quaternary age. These deposits include the Tulare Formation, Older Alluvium, Flood Basin Deposits, and Younger Alluvium. The cumulative thickness of these deposits increases from a few hundred feet near the Coast Range foothills on the west to about 3,000 feet along the eastern margin of the subbasin.

**Aquifer Storage and Recovery (ASR).** The City has been implementing an ASR Program to store surplus treated surface water in the confined aquifer beneath Tracy and extract that water to meet peak demands or supplement surface water sources during dry years. The City has one former groundwater extraction well, Well 8, which has been operated as an ASR well since 2013. Well 8 is located near the intersection of Tracy Boulevard and 6th Street and penetrates the Lower Tulare Formation.

The recharge water source of the City's ASR Program is treated SCWSP water. The City's SCWSP water supply is of exceptionally high water quality, with a Total Dissolved Solids (TDS) concentration of approximately 64 milligrams per liter (mg/L). Since the TDS concentration of the recharge water source is much lower than that of the Lower Tulare Formation aquifer's native groundwater, operation of the City's ASR Program reduces the localized salinity of the aquifer, resulting in lower TDS content in water supplies extracted from Well 8 than would be expected in the absence of the ASR Program. Additionally, the reduced salinity in groundwater recovered from Well 8 results in lower salt loading at the City's WWTP, which eventually reduces the salinity of effluent from the WWTP. This helps the City meet its Regional Water Quality Control Board (RWQCB) effluent salinity requirements and provides environmental benefits to the river ecosystems.

Injection of SCWSP water into the ASR well occurs during the winter months (i.e., November through April), when City demands are low. Extraction occurs primarily in the summer months to meet increased demands associated with irrigation needs, and as needed during droughts and water shortage emergencies. It is estimated that between 685 and 915 AFY of potable water could

be injected into the aquifer, assuming a 5-month continuous injection rate of 1.5 to 2.0 mgd at Well 8. The City's strategic plan for ASR operations at Well 8 involves injecting up to 1,000 AFY over six months during the winter and extracting 75 percent of the injection volume during the following summer. These operations would result in net injection into the Lower Tulare Formation aquifer, which will gradually create a "buffer supply" that the City can utilize in dry years or during water shortage emergencies. In 2020, a net volume of approximately 190 af was injected and stored at Well 8 for the following year.

The City plans to implement its ASR Program stages as new ASR wells are constructed. The ASR supply will be available to meet demands in dry years, thereby increasing the reliability of the City's water supply during drought conditions or water shortage emergencies.

**Semitropic Groundwater Storage.** The City has acquired the rights to store and recover water in the Semitropic Groundwater Storage Bank (Semitropic) operated by the Semitropic Water Storage District (Semitropic WSD). The Semitropic facilities are located in Kern County alongside the California Aqueduct and the DMC. The first phase of Semitropic was initiated in the early 1990s and established one million acre-feet of storage for a group of agencies referred to as the Original Banking Partners. In response to increased demand for banking capacity, up to 650,000 af of additional storage was created for the Stored Water Recovery Unit (SWRU). When an agency purchases storage capacity in Semitropic, it is able to recover the volume of water it has banked over a period of three consecutive years (i.e., 3,000 af equates to a maximum recovery rate of 1,000 AFY for three years). The City originally entered into a pilot agreement with Semitropic WSD in June 2006 for 1,000 af of water storage in Semitropic's SWRU. The pilot agreement was intended to establish the procedures for water deposits and withdrawals by the City and was terminated when the permanent agreement was implemented. In 2012, the City entered into a long-term agreement with Semitropic WSD for up to 10,500 af of storage volume. This storage agreement allows the City to withdraw up to 3,500 af of water annually for three years. To store water in Semitropic, the City withdraws less than its available allocation of CVP water from the DMC. This water travels through the DMC where it is diverted by Semitropic and used for local groundwater recharge. When the City wishes to withdraw water that it has banked previously, Semitropic arranges for the City to divert CVP water beyond its allocation from the DMC. This source of water is provided through either an exchange of Semitropic WSD's contractual entitlement to State Water Project (SWP) water or through direct "pump back" of stored groundwater into the California Aqueduct by Semitropic WSD.

Though the City could utilize this supply in any year, it is most valuable during extended drought years when the City's surface water supplies are reduced. The City anticipates that banking water at Semitropic will increase the reliability of the City's water supply and help close the potential future gap between supply and demand during drought conditions or other water supply shortage emergencies. If the City uses water from the Semitropic water bank in any given year, it would manage its supplies during subsequent years such that it could refill the water bank for future use. The City plans to actively maintain storage in Semitropic as feasible.

As of December 2020, the City had 6,887 af of water in storage at Semitropic.

**Groundwater Yield.** Based on a groundwater study the City completed in 2001 (Bookman-Edmonston, 2001), the City is able to withdraw up to 9,000 AFY from the Tracy Subbasin on an average annual basis. However, groundwater production is constrained by the City's well production and treatment capacity, as the infrastructure is aging. Production is further limited by the water quality issues of the City's groundwater supplies, including high TDS concentrations, hardness, and potential formation of chloramines. As the Groundwater Sustainability Plan (GSP) for the Tracy Subbasin is developed and implemented, the City's groundwater supply reliability may be revisited.

A 1990 Kennedy/Jenks/Chilton (K/J/C) study estimated a perennial groundwater yield of 6,700 AFY in the Tracy Sub-basin within the Tracy Study Area. However, in 2001, to determine if additional groundwater resources were available in the Tracy Study Area, the City conducted an updated groundwater analysis. The Estimated Groundwater Yield Study, prepared by Bookman-Edmonston Engineering provided an evaluation of potential groundwater yield and determined that a 2,300 AFY increase of the average annual operational groundwater yield above the groundwater yield recommended in the 1990 K/J/C study could be provided within the estimated safe yield of the Tracy Sub-basin in the Tracy Study Area, without adverse impact to groundwater resources or quality in the Tracy Study Area over a 50-year timeframe. This expansion of groundwater usage to 9,000 AFY would be within the City's estimated 22,000 AFY share of the aquifer's estimated total safe yield of 28,000 AFY (total includes City groundwater usage as well as groundwater usage within West Side Irrigation District, Naglee-Burk Irrigation District, Plain View Water District [now part of the Byron Bethany Irrigation District], and Banta-Carbona Irrigation District). It was also estimated that this expansion of groundwater usage would result in a groundwater level drop of 10 feet but would stabilize at this level.

In 2015, the City had an assessment conducted on what the effects would be if the City were to pump between 16,000 and 22,000 AFY for a single year to meet its demands during a drought emergency when no surface water supplies were available. The assessment considered potential impacts on groundwater levels, groundwater quality, and land subsidence. The approach to this assessment was to estimate drawdown beneath the City, including drawdown caused by well interference, under scenarios wherein all of the City's wells were pumped for a single year at rates needed to meet the above stated demands. Drawdown estimates were made using analytical methods and aquifer hydraulic property data from pumping tests performed at two of the City's wells. Results showed that the City does have capacity to pump its wells to meet these single dry year demands, but that drawdown in the City's wells and at locations proximate to the City would exceed that which has been historically observed. The assessment estimated that groundwater levels would recover from their drawdown within approximately seven years.

**Groundwater Quality.** Groundwater quality in the Tracy Subbasin varies spatially and with depth. In general, the northern part of the Tracy Subbasin is characterized by a sodium water type, and the southern part of the Tracy Subbasin is characterized by calcium-sodium water type (Sorenson, 1981). The northern part of the Tracy Subbasin is also characterized by a wide range of anionic water types, including bicarbonate; chloride; and mixed bicarbonate-chloride. Major anions in the southern part of the Tracy Subbasin include sulfate-chloride and bicarbonate-chloride.

There is also a difference between the water quality in the water-bearing zones above the Corcoran Clay (termed the "semi-confined aquifer") and below the Corcoran Clay (termed the "confined aquifer"). Generally, the water quality of the confined aquifer is better than that of the semi-confined aquifer (Stoddard & Associates 1996).

Constituents present at elevated concentrations throughout the Tracy Subbasin in both the semi-confined and confined aquifers include chloride, nitrate, sulfate, and boron. Elevated chloride occurs in several areas near Tracy and along the San Joaquin River. Areas of elevated nitrate occur in the northwestern part of the Tracy Subbasin and in the vicinity of Tracy. Elevated boron occurs over a large portion of the Tracy Subbasin from south of Tracy extending to the northwest side of the Tracy Subbasin. Sulfate concentrations of up to 500 mg/L have been detected in Tracy Subbasin groundwater. The groundwater near Tracy is considered to be very hard (Stoddard & Associates, 1996). The water quality conditions in groundwater represent conditions for source water, prior to treatment by the City and service to customers.

One water quality concern that the City actively manages is TDS. The City's groundwater supply typically meets the primary maximum contaminant level (MCL) of 1,000 milligrams per liter (mg/L) but frequently exceeds the secondary MCL of 500 mg/L. In 2019, the City's groundwater supply ranged from 386 to 876 mg/L of TDS, with an average concentration of 752 mg/L. Because the TDS concentrations are significantly higher in the groundwater supply than in the City's other water supply sources, in order to meet the secondary MCL in its overall water supply, the City typically scales back its groundwater production from its estimated sustainable yield of 9,000 AFY, particularly in normal rainfall years.

The City continues to rely on groundwater for peaking, and under drought conditions, it typically increases its groundwater production as needed to meet demands when surface water supplies become more limited. Groundwater quality is not expected to impact the reliability of available water supplies in the 2020 UWMP planning horizon.

**Historical Groundwater Use.** Historically, groundwater had accounted for up to 50 percent of the City's water supply. Prior to 2001, groundwater extraction in Tracy totaled less than 6,000 AFY. Between 2001 and 2004, to meet increased demands for water, Tracy began extracting additional groundwater, ranging from 6,878 to 7,717 AFY. In 2005, groundwater extraction decreased to approximately 6,000 AFY because: (1) the SCWSP was completed and the City began receiving Stanislaus River water, and (2) rainfall was above normal, meaning that the City received a high percentage of its DMC/CVP contractual entitlements. From 2006 to 2010, groundwater extraction ranged from 3,672 AFY to 498 AFY, declining as more water was used from SSJID. The City's groundwater production over the last several years is provided in Table 3.14-4.

***TABLE 3.14-4: HISTORICAL GROUNDWATER PRODUCTION, AFY***

| | *2012* | *2013* | *2014* | *2015* | *2016* | *2017* | *2018* | *2019* | *2020* |
|---|---|---|---|---|---|---|---|---|---|
| Total Groundwater Production (AFY) | 252 | 515 | 680 | 519 | 648 | 995 | 817 | 645 | 1,181 |

*SOURCE: CITY OF TRACY 2020 UWMP, TABLE 5-1, CURRENT AND HISTORICAL WATER SUPPLY.*

Other groundwater users in the Tracy area include the West Side Irrigation District, Naglee-Burk Irrigation District, Plain View Water District (now the Byron Bethany Irrigation District), and Banta-Carbona Irrigation District. Although current groundwater pumpage by these users was not available for inclusion in the WSA, the 2001 Estimated Groundwater Yield Study, which established the City's estimated groundwater yield of 9,000 AFY, considered the cumulative groundwater usage in the study area by the City and other users in the Tracy area.

**Project Future Groundwater Use.** The City may sustainably pump up to 9,000 AFY from the local groundwater basin. Since the hard, high TDS groundwater is of lower quality than the City's surface water sources, the City has scaled back its groundwater extraction in most years. However, the City will continue to rely on groundwater for peaking and drought and emergency water supply. Table 3.14-5 shows the anticipated future groundwater production during a normal year and during dry years.

The projected uses of groundwater during droughts shown in Table 3.14-5 are consistent with the City's Groundwater Management Policy (PMC, 2001). In the event that the City is unable to secure additional high-quality surface water supplies in the future, the City is able to expand groundwater production up to 9,000 AFY. In the event of a severe water supply shortage or emergency, the City has the ability to increase production dramatically, up to 22,000 AFY (GEI, 2015).

***TABLE 3.14-5: PROJECTED FUTURE GROUNDWATER PRODUCTION IN NORMAL AND DRY YEARS, AFY***

| | *2020* | *2025* | *2030* | *2035* | *2040* | *2045* |
|---|---|---|---|---|---|---|
| Total Groundwater Production During a Normal Year (AFY) | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 |
| Total Groundwater Production During Dry Years (AFY) | 4,500 | 4,500 | 4,500 | 4,500 | 4,500 | 4,500 |

*SOURCE: CITY OF TRACY 2020 UWMP, TABLE 7-2, PROJECTED POTABLE WATER SUPPLY IN NORMAL YEARS.*

As can be seen in Table 3.14-5, the City anticipates that total extraction during a normal year will be 2,500 AFY through the planning horizon. By reducing groundwater extraction on an average annual basis, the City will: (1) increase the overall quality of its drinking water, thus increasing customer satisfaction and reducing system maintenance and repair caused by the lower-quality groundwater; and (2) recharge the underlying aquifer, effectively increasing the availability of groundwater during a drought or emergency condition (i.e., effectively "banking" groundwater). At the production volumes shown in Table 3.14-5, the City's groundwater supplies are considered to be 100 percent reliable.

## Potable Water Supply Availability and Reliability

The City's surface water and groundwater supply reliability as described in the City's 2020 UWMP is summarized below.

The reliability of each of the City's existing and additional planned water supplies and their projected availability during normal, single dry, and multiple dry years as described in Section 6 of the City's 2020 UWMP, is described below and summarized in Table 3.14-6.

***TABLE 3.14-6: WATER SUPPLY RELIABILITY IN NORMAL, SINGLE DRY AND MULTIPLE DRY YEARS, AFY***

| SUPPLY SOURCE | ANTICIPATED RELIABILITY (% OF ENTITLEMENT) | | |
|---|---|---|---|
| | NORMAL YEARS | SINGLE DRY YEARS | MULTIPLE DRY YEARS |
| *EXISTING WATER SUPPLIES* | | | |
| USBR CVP | | | |
| M&I Reliability Water (Tracy Contract) | 75% | 25% | 40% |
| Ag Reliability Water (BCID & WSID Contract) | 50% | 0% | 0% |
| South County Water Supply Project | 100% | 56-76% | 56-100% |
| Groundwater | 100% | 100% | 100% |
| BBID (pre-1914) | 100% | 100% | 100% |
| Semitropic Water Storage Bank | -- | 0% | 67% |
| Aquifer Storage and Recovery | -- | 100% | 100% |
| *ADDITIONAL PLANNED FUTURE WATER SUPPLIES* | | | |
| USBR CVP (BBID contract) (Ag Reliability Water) | 0% | 0% | 0% |
| Recycled Water Exchange (Potable) | 100% | 100% | 100% |
| Recycled Water (for non-potable uses | 100% | 100% | 100% |

*[A] ALTHOUGH THE CITY CAN SUSTAINABLY EXTRACT UP TO 9,000 AFY OF GROUNDWATER ON A CONTINUOUS BASIS, THE CITY IS PLANNING TO SCALE BACK ITS GROUNDWATER EXTRACTION IN NORMAL YEARS TO INCREASE THE OVERALL QUALITY OF ITS WATER SUPPLY. WITH THESE REDUCED SUPPLY VOLUMES, THE GROUNDWATER RESOURCE IS CONSIDERED 100 PERCENT RELIABLE.*

*[B] DUE TO THE DIFFICULTIES EXPERIENCED BY THE CITY IN ACCESSING STORED WATER VIA THE DMC, THE CITY HAS CONSERVATIVELY ASSUMED THAT 0% OF THE CITY'S SEMITROPIC WATER SUPPLY WILL BE AVAILABLE IN THE FIRST YEAR OF A MULTIPLE DRY YEAR PERIOD AND 100% WILL BE AVAILABLE IN THE SECOND AND THIRD YEAR. THE 67% PRESENTED IN THIS TABLE FOR MULTIPLE DRY YEARS IS THE AVERAGE VALUE FOR A THREE-YEAR PERIOD.*

*[C] ALTHOUGH RECYCLED WATER SUPPLIES ARE CURRENTLY AVAILABLE FROM THE CITY'S WWTP, REQUIRED RECYCLED WATER PIPELINES AND PUMP STATIONS TO CONVEY AND DELIVER THE RECYCLED WATER TO THE RECYCLED WATER USE AREAS HAVE NOT YET BEEN CONSTRUCTED. SEE SECTION 6.3.1 OF THE WSA FOR ADDITIONAL INFORMATION REGARDING THE CITY'S PLAN FOR IMPLEMENTATION OF ITS RECYCLED WATER SYSTEM.*

### NORMAL YEARS

Normal or wet water years are those water years that match or exceed median rainfall and runoff levels. The following describes the availability and reliability of the City's existing and additional planned future water supplies under normal year conditions:

- The City's contract with the USBR for 10,000 AFY of DMC/CVP water is subject to M&I reliability. Based on the historical record, the City's long-term average allocation of DMC/CVP water pursuant to this contract is anticipated to be at least 85 percent of the total entitlement. However, due to recent environmental concerns in the Delta and potential future impacts due to climate change, the normal year supply of DMC/CVP M&I water is assumed to be 75 percent of the City's historical use. Based on a historical use of 5,930 AFY (i.e., the average quantity of CVP water put to beneficial use by the City during the last three years of water deliveries that were unconstrained by the availability of CVP water), the projected normal year supply is 4,448 AFY.

- The City has received acquired assignments from Banta-Carbona Irrigation District (BCID; 5,000 AFY) and West Side Irrigation District (WSID; 5,000 AFY) for a total entitlement of 10,000 AFY of DMC/CVP water. These supplies are subject to Ag-reliability. The City is

conservatively estimating that it will receive 50 percent of its Ag-reliability contractual entitlement, or 5,000 AFY, in normal years.

- The City has acquired up to 4,500 AFY of pre-1914 appropriative water rights water from BBID. These supplies are restricted in their place of use, and therefore the supply is anticipated to be equal to the projected demand within that place of use (i.e., the Tracy Hills area) ranging from 800 AFY in 2025 to 3,300 AFY in 2045. The City anticipates being able to receive 100 percent of this supply in normal years.

- The City has a total contractual entitlement of 13,135 AFY of Stanislaus River water provided through the SCWSP, including 10,000 AFY from its original contract with SSJID, 1,120 AFY purchased from Lathrop, and 2,015 AFY purchased on an interim basis from Escalon. The agreement between Tracy and Escalon is assumed to terminate after 2025. Based on information provided by SSJID, the City expects to receive 100 percent of its SCWSP water supply allocation during a normal water year. As such, the City anticipates being able to receive 13,135 AFY of SCWSP supply in 2025 and 11,120 AFY afterwards, assuming normal year conditions.

- The City is able to withdraw up to 9,000 AFY of groundwater from the Tracy Subbasin. However, due to the aging infrastructure and water quality issues in the City's groundwater supplies, the City is projecting to be able to withdraw up to 2,500 AFY in normal years. This groundwater supply is considered to be 100 percent reliable.

- The City does not anticipate using its Semitropic water or ASR water in normal years.

- The City anticipates that a Recycled Water Distribution Network and Exchange agreement will be executed with the USBR by 2030 to provide additional CVP supplies to the City in exchange for the City discharging a like amount of tertiary-treated recycled water to the DMC. The City assumes that the Recycled Water Distribution Network and Exchange will be implemented as needed to meet future demand conditions and is currently projected to supply an amount ranging from 1,925 AFY in 2030 to 7,500 AFY in 2045. This water supply is considered to be 100 percent reliable.

The City's recycled water supply is expected to be 100 percent reliable. Based on the projected non-potable demands and assuming that the City makes investments in infrastructure and permitting, the City estimates that they will have access to 1,000 AFY of recycled water supply in 2025, increasing to 6,300 AFY in 2045.

### SINGLE DRY YEARS

During a single dry year, all of the City's existing surface water allotments are subject to some level of reduction. Assumed reductions are based on actual reductions in CVP deliveries experienced in the recent drought and the new USBR M&I Reliability Policy adopted in 2017. The actual reductions will vary with the severity of the regional water supply shortage and climatic conditions, and the consideration of contract agreements.

The following describes the availability and reliability of the City's existing and additional planned future water supplies under single dry year conditions:

- The City's contract with the USBR for 10,000 AFY of DMC/CVP water is subject to M&I reliability. During a single dry year, the City estimates to receive 25 percent of the City's historical use. Based on the historical use of 5,930 AFY, the projected supply is 1,483 AFY.

- The City has a total entitlement of 10,000 AFY of DMC/CVP Ag-reliability water. The City anticipates receiving 0 percent of its DMC/CVP Ag-reliability water in a single dry year.

- The City has acquired up to 4,500 AFY of pre-1914 appropriative water rights water from BBID. This supply is restricted with regard to the place of use (Tracy Hills). The City anticipates being able to receive 85 percent of its contractual entitlement in a single dry year (3,825 AFY). As the projected demand is 3,300 AFY in 2045 and is lower than the 3,825 AFY of available supply, the reduction in reliability does not result in a reduction to actual amount of water used. Therefore, the supply in a single dry year is anticipated to be equal to the projected demand within the Tracy Hills area, ranging from 800 AFY in 2025 to 3,300 AFY in 2045.

- The City has a total contractual entitlement of 13,135 AFY of Stanislaus River water provided through the SCWSP. Based on information provided by SSJID, the City expects to receive 76 percent of its SCWSP water supply allocation during 2025, 2030, and 2035 and 56 percent during 2040 and 2045. In addition, the SCWSP water transferred from Escalon is assumed to be unavailable after 2025. As such, the City estimates 9,974 AFY of SCWSP supply in 2025, 8,444 AFY in 2030 and 2035, and 6,177 AFY afterwards.

- During a single dry year, the City anticipates increasing its groundwater production on a short- term basis from the normal year production of 2,500 AFY to 4,500 AFY. The groundwater supply is considered to be 100 percent reliable.

- The City anticipates that 700 AFY of water will be available for use in a single dry year through operation of its ASR well. An additional 300 AFY is estimated to be available by 2040 for a total of 1,000 AFY. This water supply is considered to be 100 percent reliable assuming that the City is consistently able to refill the ASR storage during non-drought years to maintain at least 1,000 af in storage at the beginning of a single dry year.

- The City has acquired 10,500 AFY of storage in Semitropic, which allows the City to withdraw up to 3,500 AFY for three consecutive years. Due to the difficulties experienced by the City in accessing stored water via the DMC on a short timeframe, the City has conservatively assumed that the Semitropic water will not be available in a single dry year.

- The City anticipates that a Recycled Water Distribution Network and Exchange agreement will be executed with the USBR by 2030 to provide additional CVP supplies to the City in exchange for the City discharging a like amount of tertiary-treated recycled water to the DMC. The City assumes that the Recycled Water Distribution Network and Exchange will be implemented as needed to meet future demand conditions and is currently projected

to supply an amount ranging from 1,925 AFY in 2030 to 7,500 AFY in 2045. This water supply is considered to be 100 percent reliable.

- The City's recycled water supply is expected to be 100 percent reliable. Based on the projected non-potable demands and assuming that the City makes investments in infrastructure and permitting, the City estimates that they will have access to 1,000 AFY of recycled water supply in 2025, increasing to 6,300 AFY in 2045.

### MULTIPLE DRY YEARS

During multiple dry years, the City's surface water supplies (from both the CVP and SCWSP) may be significantly reduced. Thus, in the event of drought, the City will have to depend more heavily on conservation efforts, groundwater, and the proposed future supply projects.

The following describes the availability and reliability of the City's existing and additional planned future water supplies under multiple dry year conditions:

- The City's contract with the USBR for 10,000 AFY of DMC/CVP water is subject to M&I reliability. During multiple dry years, the City estimates that it will receive 40 percent of the City's historical use. Based on the historical use of 5,930 AFY, the projected supply is 2,372 AFY. The City has a total entitlement of 10,000 AFY of DMC/CVP Ag-reliability water. The City anticipates receiving 0 percent of its DMC/CVP Ag-reliability water in multiple dry years.

- The City has acquired up to 4,500 AFY of pre-1914 appropriative water rights water from BBID. This supply is restricted with regard to the place of use (Tracy Hills). The City anticipates being able to receive 85 percent of its contractual entitlement in multiple dry years (3,825 AFY). As the projected demand is 3,300 AFY in 2045 and is lower than the 3,825 AFY of available supply, the reduction in reliability does not result in a reduction to actual amount of water used. Therefore, the supply in multiple dry years is anticipated to be equal to the projected demand within the Tracy Hills area, ranging from 800 AFY in 2025 to 3,300 AFY in 2045.

- The City has a total contractual entitlement of 13,135 AFY of Stanislaus River water provided through the SCWSP. Based on information provided by SSJID, the City's SCWSP water supply reliability during multiple dry years range from 56 to 100 percent. In addition, the SCWSP water transferred from Escalon is assumed to be unavailable after 2025.

- During multiple dry years, the City anticipates increasing its groundwater production on a short-term basis from the normal year production of 2,500 AFY to 4,500 AFY. The groundwater supply is considered to be 100 percent reliable.

- The City anticipates that 700 af of water will be available for use in multiple dry years through operation of its ASR well. An additional 300 af is estimated to be available by 2040 for a total of 1,000 af. The City is assumed to be unable to refill the ASR storage during multiple dry years. Therefore, the annual ASR supply available is assumed to equal one

fifth of the total stored volume (i.e., 140 AFY between 2025 and 2035 and 200 AFY between 2040 and 2045). This water supply is considered to be 100 percent reliable assuming that the City is consistently able to refill the ASR storage in non-drought years to maintain at least 1,000 af in storage at the beginning of a multiple dry year sequence.

- The City has acquired 10,500 AFY of storage in Semitropic, which allows the City to withdraw up to 3,500 AFY for three consecutive years. Due to the difficulties experienced by the City in accessing stored water via the DMC on a short timeframe, the City has conservatively estimated that the 0 percent of the City's storage will be available in the first year of a five-consecutive-year drought, and 100 percent will be available over the following four years. Based on the City's current storage at Semitropic of 6,887 af, the amount available in the second to fifth year of a five- consecutive-year drought is assumed to be 1,722 AFY (6,887 af divided by four). A similar reliability estimate is provided for all dry-year sequences under the assumption that the City is consistently able to re-fill the water bank in non-drought years to maintain at least 7,000 AFY in storage at the beginning of a multiple dry year sequence.

- The City anticipates that a Recycled Water Distribution Network and Exchange agreement will be executed with the USBR by 2030 to provide additional CVP supplies to the City in exchange for the City discharging a like amount of tertiary-treated recycled water to the DMC. The City assumes that the Recycled Water Distribution Network and Exchange will be implemented as needed to meet future demand conditions and is currently projected to supply an amount ranging from 1,925 AFY in 2030 to 7,500 AFY in 2045. This water supply is considered to be 100 percent reliable.

- The City's recycled water supply is expected to be 100 percent reliable. Based on the projected non-potable demands and assuming that the City makes investments in infrastructure and permitting, the City estimates that they will have access to 1,000 AFY of recycled water supply in 2025, increasing to 6,300 AFY in 2045.

## Planned Infrastructure Updates

The City anticipates implementation of the following projects for additional future potable water supplies:

- ASR Program Expansion
- Recycled Water Distribution Network and Exchange Program for Additional CVP Water Supplies.
- The City also anticipates increased water supply to meet M&I demands as agricultural land is developed. However, additional water supply through land use conversion has associated constraints that must be resolved.

As described above, the City currently has one ASR well (Well 8) which allows the City to inject excess SCWSP water supplies into the groundwater basin for later extraction when needed. The current injection and extraction capacity is 700 AFY. The City is planning to expand the ASR program with the installation of additional ASR wells. According to the WSMP Update, the City's

ASR Program will be expanded to provide up to 1,000 AFY of water supplies from the existing and new ASR wells by 2040. The ASR supply will be used to meet demands during dry years, thereby increasing the reliability of the City's water supply and helping to close the potential gap between supply and demand during drought conditions or water shortage emergencies.

One constraint with the City's ASR Program is that the permit only allows for SCWSP water to be injected. This means that the City has to shut down the JJWTP and the groundwater wells during the injection period so that only SCWSP supplies are being utilized. A potential alternative to avoid this operational restriction, if the City's ASR permit cannot be modified to allow for other water supplies to be injected, would be to construct a dedicated SCWSP water pipeline to the ASR well(s). Future expansion of the ASR program will need to fully evaluate these operational restrictions and potential alternatives.

The City is evaluating indirect reuse of its recycled water through an exchange agreement with the USBR, where a portion of the City's recycled water would be discharged into the DMC, and a like amount of water would be diverted from the DMC for treatment at the JJWTP for potable use. This project is considered an essential part of the City's projected future water supply portfolio as it provides the following multiple benefits:

- Provides for the beneficial use of recycled water;
- Provides an additional potable water supply for the City;
- Improves water supply reliability and reduces the City's dependence on other imported supplies;
- Builds on the existing wastewater and recycled water infrastructure; and
- Reduces salt loading in the Delta as USBR has to release additional water from the New Melones Reservoir to meet Delta salinity standards.

The Recycled Water Distribution Network and Exchange Program would require development of a project description, National Environmental Policy Act (NEPA) / California Environmental Quality Act (CEQA) review, an exchange agreement with the USBR, and design and construction of a new recycled water pipeline to discharge recycled water to the DMC downstream of the City's JJWTP intake. Assuming such a project is implemented, the City expects that it would initially provide an estimated 1,925 AFY of potable water, and future expansion of the program could be implemented as needed to meet future demands up to 7,500 AFY. This supply would be 100 percent reliable and would not be subject to drought cutbacks.

Additional BBID DMC/CVP water supplies may be available to the City as agricultural land is converted to M&I uses. The land area that could potentially provide this additional water supply includes the portion of BBID's service area that falls within the City's planning areas (excluding the BBID Raw Water Service Area 2). Eligible land area is estimated to be approximately 2,600 acres. While the exact quantity of water that would be available is unknown, a contractual entitlement equal to 3.4 AFY /acre may be available, resulting in a total supply of up to 8,800 AFY (2,600 acres x 3.4 AFY/acre).

The additional water supplies would, however, have agricultural reliability similar to the City's Ag reliability CVP supplies and would be subject to significant cutbacks in dry years. Agreements between the City and BBID, as well as environmental review, would need to occur before such a transaction could take place. Because of the uncertainty associated with the availability and reliability of this supply source, especially in dry years, for purposes of the City's 2020 UWMP and this WSA, this future water supply is assumed to be unavailable to the City.

The City has invested in infrastructure to produce and deliver recycled water. The City's WWTP has sufficient treatment capacity to produce approximately 9.0 mgd of tertiary-treated recycled water meeting the Title 22 requirements, which can be reused for landscape irrigation and other non-potable uses. The City's current recycled water system consists of a pump station at the WWTP and approximately 7.6 miles of recycled water transmission line from the WWTP west to Lammers Road and south to W. Schulte Road. Currently the only service connection is for the Legacy Fields Sports Complex.

The City is planning to expand the existing recycled water system to serve future development areas, as well as a small number of existing parks and irrigated areas. New developments in the City are required to include recycled water distribution systems in accordance with the City's Recycled and Non-Potable Water Ordinance (Tracy Municipal Code, Chapter 11.30). The City's Department of Utilities and Development Services are coordinating planning efforts to connect existing water customers and new development to recycled water.

The City intends to expand the existing recycled water system to serve non-potable water demands in most of the new development areas. Recycled water is planned to be used at: (a) parks, sports fields, and other landscape areas; (b) industrial facilities such as the Tracy Power Plant; (c) fill stations for dust control during construction, street sweeping, and residential emergency landscape irrigation; and (d) the proposed lakes at Tracy Village. The future recycled water use was estimated to be 1,000 AFY in 2025, increasing to 6,300 AFY in 2045 as new development areas build out, based on the adopted unit water demand factors and the future dwelling units or gross acreage.

Several future service areas already have recycled water distribution pipelines installed by developers, including Cordes Ranch, Ellis Specific Plan Phase 1, and Tracy Hills Phase 1. These pipelines are not yet connected to the recycled water mains, but instead are temporarily connected to the potable water system to meet irrigation demands. Once recycled water system construction is complete and the appropriate permitting is completed, the pipelines will be connected to the recycled water system and the temporary connections to the potable water system will be removed.

The City is considering other potential future uses for recycled water. The City is evaluating the use of recycled water in exchange for additional CVP supply through the proposed Recycled Water Distribution Network and Exchange Program.

The City is also considering the potential for direct potable reuse of recycled water in the future. With direct potable reuse, recycled water would be discharged directly into the DMC and then

conveyed to downstream users, including the City. However, the project is in the conceptual evaluation stage and therefore the future recycled water use associated with this potential approach is not quantified.

## REGULATORY SETTING

### Safe Drinking Water Act

The federal Safe Drinking Water Act as passed in 1947 and amended in 1986 and 1996 is the Country's primary law regulating drinking water quality and is implemented by the United States Environmental Protection Agency (US EPA). The Safe Drinking Water Act authorizes the US EPA to set national health-based standards for drinking water and requires actions to protect drinking water and its sources. Additionally, it provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Implementation of the Act, in California, is under the jurisdiction of the California Department of Public Health (CDPH), Division of Drinking Water and Environmental Management. Drinking Water regulations are set forth in the California Code of Regulations (CCR), Titles 7 and 22.

### Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950 – 11954).

Consistent with California Water Code Sections 11950 – 11954, the City has implemented various water conservation efforts, as well as Water Shortage Contingency Plan that identifies actions that can be taken to respond to catastrophic interruption of water supply.

### Senate Bill (SB) 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et seq. The foundation document for compliance with SB 610 is the Urban Water Management Plan (UWMP), which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment required under SB 610.

Water Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand

for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project.

In addition, SB 610 requires the preparation of a Water Supply Assessment if a project meets the definition of a "Project" under Water Code Section 10912 (a). The code defines a "Project" as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A hotel or motel with more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Based on the following assumptions, SB 610 does apply to the proposed Project:

1. The proposed Project is subject to CEQA and an EIR is required.
2. The proposed Project, an industrial building having 1,745,052 of floor space and occupying more than 40 acres, meets the definition of a "Project" as specified in Water Code section 10912(a) paragraph (3) as defined for industrial development.

The proposed Project has not been the subject of a previously adopted Water Supply Assessment (WSA) and has not been included in an adopted WSA for a larger project. Thus, a WSA, as required by these criteria under SB 610, has been prepared for the Project. Water Code sections 10910 through 10915 delineate the specific information that must be included in the WSA. The Water Supply Assessment is included in Appendix G of this EIR.

## California Model Water Efficient Landscape Ordinance

The Water Conservation in Landscaping Act was enacted in 2006, requiring the DWR to update the Model Water Efficient Landscape Ordinance (MWELO). In 2009, the Office of Administrative Law (OAL) approved the updated MWELO, which required a retail water supplier or a county to adopt the provisions of the MWELO by January 1, 2010, or enact its own provisions equal to or more restrictive than the MWELO provisions. Because the City of Tracy is a "local agency" under the MWELO, it must require "project applicants" to prepare plans consistent with the requirements of MWELO for review and approval by the City.

The MWELO applies to new construction with a landscape area greater than 2,500 square feet. The MWELO "highly recommends" use of a dedicated landscape meter on landscape areas smaller than 5,000 square feet, and requires weather-based irrigation controllers or soil-moisture based

controllers or other self-adjusting irrigation controllers for irrigation scheduling in all irrigation systems. The MWELO provides a methodology to calculate total water use based upon a given plant factor and irrigation efficiency.[2] Finally, the MWELO requires the landscape design plan to delineate hydrozones (based upon plant factors) and then to assign a unique valve for each hydrozone (low, medium, high water use).

## City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to utilities and public services. General Plan policies applicable to the Project are identified below:

POLICIES: PUBLIC FACILITIES ELEMENT

- PF-6.1-P1. The City shall promote water conservation by implementing the Best Management Practices contained in the Urban Water Management Plan.
- PF-6.1-P2. The City shall continue to acquire additional sources of water supplies to meet the City's future demands.
- PF-6.1-P3. To the extent feasible, the City shall use surface water supplies to meet daily water needs and reduce reliance on groundwater supplies.
- PF-6.1-P4. The City shall establish water demand reduction standards for new development and redevelopment to reduce per capita and total demand for water.
- PF-6.2-P1. The City shall maintain water storage, conveyance and treatment infrastructure in good working condition in order to supply domestic water to all users with adequate quantities, flows and pressures.
- PF-6.2-P2. Storage reservoirs should be buried or partially buried depending on local groundwater conditions to allow for the joint use of the site with parks or recreational facilities, unless reservoirs are elevated to provide a gravity flow system, in which case the reservoirs shall be screened by landscaping and/or earthen berms.
- PF-6.3-P1. Structures with plumbing that are located within the City limits shall connect to the City water supply system.
- PF-6.3-P2. New developments shall dedicate land for utility infrastructure such as treatment facilities, tanks, pump stations and wells as needed to support the development of their project.
- PF-6.3-P3. The City shall be responsible for constructing new transmission water lines, as needed to meet future needs. Individual development projects shall be responsible for the construction of all water transmission means.

[2] In calculating Estimated Total Water Use, the MWELO requires use of at least a 71% irrigation efficiency factor. Assuming 71% irrigation efficiency, the average plant factor must be 0.50. It would be possible to stay within the water budget if the average plant factor were higher than 0.50 by designing a system with an irrigation efficiency higher than 71%. The relationship between a Plant Factor (PF) and Irrigation Efficiency (IE) in the Applied Water formula is: AW=(ETo*PF)/IE.

- PF-6.3-P4. All new water facilities shall be designed to accommodate expected capacity for buildout of areas served by these facilities but may be constructed in phases to reduce initial and overall costs.
- PF-6.3-P5. The availability of sufficient, reliable water shall be taken into account when considering the approval of new development.
- PF-6.3-P6. Costs for water service expansion shall be distributed among new water users fairly and equitably.
- PF-6.4-P1. Groundwater supplies should be reserved for emergency use during water treatment shutdowns, short-term shortages of surface water supplies or during droughts.
- PF-6.4-P2. Backup emergency power systems shall be provided at all essential water facilities that rely on electric power.
- PF-6.4-P3. Storage reservoir facilities should be located at naturally high topographic locations to capitalize on gravity flow, whenever possible.
- PF-6.4-P4. Future water systems and facilities shall be designed to minimize the likelihood of damage from vandalism or terrorist activity.
- PF-6.5-P1. The City shall provide recycled water systems, including pipelines, pump stations and storage facilities, to serve primarily City-owned facilities, schools and parks as funding becomes available.
- PF-6.5-P2. Recycled water piping systems ("purple pipe") shall be constructed as appropriate in all new development projects to facilitate the distribution and use of recycled water. The specific location and size of the recycled water systems shall be determined during the development review process.
- PF-6.5-P3. Recycled water shall be used for all public properties and large private open spaces or common areas to the extent feasible.
- PF-654-P4. The City shall plan for recycled water infrastructure in the City's Infrastructure Master Plans and, to the extent feasible, recycled water should be utilized for nonpotable uses, such as landscape irrigation, dust control, industrial uses, cooling water and irrigation of agricultural lands.

### Utility Master Plans

The City of Tracy maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *Urban Water Management Plan* (2015), Citywide *Water System Master Plan* (2012), Citywide *Storm Drain Master Plan* (2021) *Wastewater Master Plan* (2012), and the *Citywide Public Facilities Master Plan (2012)*.

## THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project may have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded water treatment facilities, the construction of which could cause significant environmental effects; or

- Have insufficient water supplies available to serve the Project from existing entitlements and resources, or if new or expanded entitlements are needed.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.14-4: The proposed Project has the potential to require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

The provision of public services and the construction of onsite infrastructure improvements will be required to accommodate the development of the proposed Project. Water distribution will be by an underground distribution system to be installed as per the City of Tracy standards and specifications.

The proposed Project would require extension of offsite water conveyance infrastructure to the Project site for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to existing roadways along the perimeter of the Project site, thereby limiting any potential impact to areas that were not already disturbed.

The proposed Project would also require the construction of new onsite water conveyance infrastructure for potable water and irrigation water. All onsite water utility improvements will be within existing agricultural lands, the impacts of which are discussed in Section 3.2, Agricultural Resources. Construction of the onsite potable water infrastructure would not have the potential to induce growth beyond what is proposed because the infrastructure is not oversized to accommodate additional projects or growth.

As described in the Environmental Setting, the City's surface water supplies are treated at the JJWTP. The permitted treatment capacity is 30 million gallons per day, with a potential future expansion to 45 MGD. The proposed Project would increase the amount of water requiring treatment. As shown in Table 3.14-7 below, projected water demands for buildout of the Proposed Project total approximately 158 acre-feet per year (AFY) of which about approximately 114 AFY is industrial demand, approximately 29 AFY is irrigation demand, and approximately 15 AFY is unaccounted-for water. Therefore, the project would require approximately 0.4 percent of available water treatment capacity of the JJWTP to serve the project.

The proposed Project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

## Impact 3.14-5: The proposed Project has the potential to have insufficient water supplies available to serve the Project from existing entitlements and resources. (Less than Significant)

PROJECTED WATER SUPPLY FOR THE PROPOSED PROJECT

Water demands for the Proposed Project will be served using the City's existing and future portfolio of water supplies.

Proponents of the proposed Project will provide their proportionate share of required funding to the City for the acquisition and delivery of treated potable and recycled water supplies to the Proposed Project area.

Recycled water infrastructure will need to be constructed to deliver recycled water supplies to the Proposed Project. The City's WSMP included recommended capital improvement projects for the development of the City's recycled water system. In 2015, the City was awarded a Proposition 84 grant from the California Department of Water Resources (DWR) to fund construction of recycled water distribution facilities. Construction of these facilities is nearly complete. In March 2019, the city received an amended order from the SWRCB approving the change in place of use of its treated wastewater. The order allows for the City to change the point of discharge and place of use of treated wastewater by a reduction in discharge to Old River and use the treated wastewater for industrial and irrigation purposes within the service areas of the City's SOI, Byron Bethany Irrigation District (BBID) within the City's SOI, and West Side Irrigation District (WSID).

PROJECTED WATER DEMAND FOR THE PROPOSED PROJECT

Projected water demands for buildout of the Proposed Project total approximately 158 acre-feet per year (AFY) of which about approximately 114 AFY is industrial demand, approximately 29 AFY is irrigation demand, and approximately 15 AFY is unaccounted-for water. The projected water demand for the Project is shown in Table 3.14-7.

***TABLE 3.14-7: PROJECTED WATER DEMAND FOR BUILDOUT OF THE PROPOSED PROJECT***

| *LAND USE* | *TOTAL AREA, GROSS ACRES[A]* | *POTABLE WATER USE AREA, ACRES[B]* | *LANDSCAPED AREA, ACRES[C]* | *UNIT POTABLE WATER USE FACTORS[D], AF/ACRE/YR* | *ANNUAL POTABLE WATER USE, AFY* |
|---|---|---|---|---|---|
| Industrial | 103.0 | 87.6 | - | 1.3 | 114 |
| Irrigation Demand | - | - | 15.4 | 1.9 | 29 |
| | | | | UAFW[E] | 15 |
| | | | | ***Total Demand*** | ***158*** |

*[A] DATA PROVIDED BY CITY STAFF.*

*[B] CONSISTENT WITH ASSUMPTIONS IN THE 2021 WSMP; 85 PERCENT OF GROSS ACRES ARE ASSUMED TO USE POTABLE WATER.*

*[C] CONSISTENT WITH ASSUMPTIONS IN THE 2021 WSMP; 15 PERCENT OF GROSS ACRES ARE ASSUMED TO BE LANDSCAPED.*

*[D] BASED ON 2021 WSMP*

*[E] UNACCOUNTED-FOR WATER (UAFW) IS EQUAL TO 9.6 PERCENT.*

*SOURCE: TRACY COSTCO DEPOT WATER SUPPLY ASSESSMENT (WEST YOST ASSOCIATES, 2021).*

It is anticipated that the Proposed Project, if approved by the City, would be served from the City's existing and future portfolio of water supplies. The inclusion of existing and planned future water supplies is specifically allowed by Water Code Section 16031(b).

Since recycled water infrastructure may not be initially available to deliver recycled water to the Proposed Project, potable water supplies may be used in the interim period before recycled water becomes available to meet the non-potable water demands associated with the initial phases of the Proposed Project.

## Determination of Water Supply Sufficiency

Water Code section 10910 states:

> *10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.*

Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the *Tracy Costco Depot Project Water Supply Assessment*, the total projected water supplies determined to be available for the proposed Project during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses.

Table 3.14-8 shows the City's existing and planned future potable water supplies and the City's projected water demands in normal, single dry and multiple dry years under the Buildout time frame, which is expected to occur after 2045.

***TABLE 3.14-8: SUMMARY OF BUILDOUT POTABLE WATER DEMAND VERSUS SUPPLY DURING HYDROLOGIC NORMAL, SINGLE DRY, AND MULTIPLE DRY YEARS***

| *HYDROLOGIC CONDITION* | | *SUPPLY AND DEMAND COMPARISON, AFY* |
|---|---|---|
| *NORMAL YEAR* | | |
| Available Potable Water Supply[a] | | 40,168 |
| Total Potable Water Demand (with proposed project) | | 39,379 |
| **Potential Surplus (Deficit)** | | **789** |
| Supply Shortfall, Percent of Demand | | -- |
| *SINGLE DRY YEAR* | | |
| Available Potable and Raw Water Supply[a] | | 30,259 |
| Total Water Demand (with proposed project)[b] | | 39,379 |
| **Potential Surplus (Deficit)** | | **(9,120)** |
| Supply Shortfall, Percent of Demand | | 23% |
| *MULTIPLE DRY YEAR* | | |
| Multiple-Dry Year 1 | Available Potable and Raw Water Supply[a] | 35,292 |
| | Total Water Demand (with proposed project)[b] | 39,379 |
| | **Potential Surplus (Deficit)** | **(4,087)** |
| | Supply Shortfall, Percent of Demand | 10.4% |
| Multiple-Dry Year 2 | Available Potable and Raw Water Supply[a] | 37,014 |
| | Total Water Demand (with proposed project)[b] | 39,379 |
| | **Potential Surplus (Deficit)** | **(2,365)** |
| | Supply Shortfall, Percent of Demand | 6.0% |
| Multiple-Dry Year 3 | Available Potable and Raw Water Supply[a] | 32,071 |
| | Total Water Demand (with proposed project)[b] | 39,379 |
| | **Potential Surplus (Deficit)** | **(7,308)** |
| | Supply Shortfall, Percent of Demand | 18.6% |
| Multiple-Dry Year 4 | Available Potable and Raw Water Supply[a] | 32,071 |
| | Total Water Demand (with proposed project)[b] | 39,379 |
| | **Potential Surplus (Deficit)** | **(7,308)** |
| | Supply Shortfall, Percent of Demand | 18.6% |
| Multiple-Dry Year 5 | Available Potable and Raw Water Supply[a] | 37,014 |
| | Total Water Demand (with proposed project)[b] | 39,379 |
| | **Potential Surplus (Deficit)** | **(2,365)** |
| | Supply Shortfall, Percent of Demand | 6.0% |

[a] *WATER DEMANDS ARE FROM TABLE 5-2 OF THE WSA.*

[b] *NORMAL YEAR SUPPLIES ARE FROM TABLE 6-6 OF THE WSA.*

[c] *SINGLE DRY YEAR SUPPLIES ARE FROM TABLE 6-7 OF THE WSA AND ASSUME A 10 PERCENT DEMAND REDUCTION IN DRY YEARS.*

*MULTIPLE DRY YEAR SUPPLIES ARE FROM TABLE 6-8 OF THE WSA AND ASSUME A 10 PERCENT DEMAND REDUCTION IN DRY YEARS.*

*SOURCE: TRACY COSTCO DEPOT WATER SUPPLY ASSESSMENT (WEST YOST ASSOCIATES, 2021).*

To be conservative, water demands were assumed to be at normal levels. With future planned projects implemented, the results of the assessment show that water supply is sufficient during normal years. However, during a single dry year or a multiple dry year period, the City must depend more heavily on conservation efforts, groundwater, and the proposed future supply projects to overcome the gap between supply and demand. As described in this WSA and the City's 2020 UWMP, these findings are primarily due to projected reduced reliability of the City's CVP supplies and SSJID supplies in dry years. To close the gap between supply and demand during dry

years, the City will need to implement its Water Shortage Contingency Plan to reduce water demands. However, the City has shown that it can achieve its water conservation goals. During the 2012-2016 statewide drought, the City exceeded its water conservation goals of 25 percent. Further, the City must fully implement its proposed future water supply projects, including the Recycled Water Distribution Network and Exchange Program and expansion of the ASR Program. Investments in wet year water supplies will also be needed to refill storage in Semitropic and expand the City's ASR program. Delays in implementing the proposed future water supply projects could result in greater water supply shortages and the need for additional water conservation to meet demands. Significant water supply shortfalls are currently projected in future single and multiple dry years. These projections include numerous sources of uncertainty as summarized below:

- The Bay-Delta Plan Amendment implementation is under negotiation. The SSJID and others are continuing negotiations with the SWRCB on implementation of the Bay-Delta Plan Amendment for water supply cutbacks, particularly during droughts. This is a dynamic situation and the projected drought cutback allocations may need to be revised before the next (i.e., 2025) UWMP depending on the outcome of ongoing negotiations. The City has considered a conservative estimate of the potential impacts of the Bay-Delta Plan Amendment on the SCWSP (and therefore the City), which is provided in Appendix G of its 2020 UWMP.

- The supply yield of the City's development of additional ASR and recycled water supplies are accounted for in current supply projections. However, implementation of these projects will require significant investment by the City. Similarly, investments in wet years supplies will be needed to refill storage in Semitropic and expand the City's ASR program.

- The City continues to work closely with the USBR and SSJID on their rationing policies to ensure that M&I needs can be met. Rationing policies may potentially be revised.

- The City's projected water demands are subject to change in the future based on water conservation policies and regulations for current and future development, and the pace and extent of development.

- Frequency and duration of cutbacks and, therefore, the shortfalls are also uncertain. In addition to the supply volumes, the above listed uncertainties would also impact the projected frequency and duration of shortfalls.

Recycled water is planned to augment non-potable demands that would otherwise be supplied with potable water. Buildout potable water demands could be less than the current projections and therefore the resultant supply shortage will likely be smaller.

The City continues to evaluate the expansion of its existing supply and to obtain new supply sources, including the ASR Program and Recycled Water Distribution Network and Exchange Program. Other potential supply options, such as direct potable reuse of recycled water, are also being considered.

The City has an active water conservation program and continues to implement the demand management measures described in Section 9 of its 2020 UWMP. Further, in response to the anticipated future shortfalls, the City has developed a robust Water Shortage Contingency Plan (WSCP) that systematically identifies ways in which the City can reduce water demands. The WSCP is included in Section 8 of its 2020 UWMP.

The City is currently exploring other policy-based water efficiency tools that other supply-constrained agencies across California have implemented. These policy-based tools are often bundled together and referred to as Water Demand Offset (WDO) or Water Neutrality policies. Through these policies, project developers are generally required to offset the new demand anticipated by the development through some combination of demand mitigation options, such as:

- On-site retrofits. Project developer with existing property reduces total projected water demand by retrofitting existing property with efficient water fixtures. If projected water demand is reduced below baseline for existing property, no off-site WDOs are required. If not, offsite WDOs are required.

- Off-site retrofits. Project developer coordinates and pays for installation of water efficient fixtures at other properties or converts existing irrigation systems to recycled water for other off- site properties, typically those owned by other entities.

- On-site reuse. Larger scale developments are required to implement on-site reuse of water, including rainwater, greywater, stormwater, and blackwater, as has recently been implemented by the cities of San Francisco and Menlo Park.

- Supply augmentation. Project developer secures its own water supply to serve the development, either through direct provision of water to the development or through an agreement to transfer rights to the water supplier.

- WDO fees. Project developer pays fees to implementing entity based on the amount of water offset, and the agency uses the fees to fund water conservation programs. Such conservation programs could include system water loss mitigation projects (e.g., capital improvement, Advanced Metering Infrastructure [AMI] meters, etc.), purchase of water efficient equipment (e.g., NO-DES hydrant flushing machine to recycle water used to flush mains), and recycled water system infrastructure, as well as fixture rebate or retrofit and education-based conservation programs.

Such policies could be designed as a “net neutral” policy wherein the new development is required to offset all new demands associated with the development project and minimize the overall supply reliability impacts for the existing customers.

Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the WSA, the WSA demonstrates that the City’s existing and additional planned future water supplies are sufficient to meet the City’s existing water demands, including those future water demands associated with the Proposed Project, to the year 2045 under all hydrologic conditions (including

Normal Years, Single Dry Years, and Multiple Dry Years), and through Buildout of the General Plan with full development of the proposed Recycled Water Exchange Program. However, during a single dry year or a multiple dry year period, the City may experience a water supply shortfall. To close the gap between supply and demand, the City will need to implement its Water Shortage Contingency Plan to reduce water demands and rely more heavily on groundwater and proposed future supply projects.

Water demand within the City's water service area is not expected to exceed the City's supplies at Buildout under normal hydrologic conditions if the City is able to fully implement its future planned projects, which include Aquifer Storage and Recovery Program Expansion, Recycled Water Distribution Network and Exchange Program for additional Central Valley Project water supplies, and recycled water distribution for non-potable use. During a single dry year or a multiple dry year period, the City must depend more heavily on water conservation efforts, groundwater, and the proposed future supply projects to overcome the gap between supply and demand. Investments in wet year water supplies will also be needed to refill storage in Semitropic and expand the City's ASR program. Delays in implementing the proposed future water supply projects could result in greater water supply shortages and the need for additional water conservation to meet demands.

The dry year shortfalls are based on water supply and demand projections with numerous uncertainties and the situation is dynamic as discussed in 2020 UWMP and the WSA for the Project. The City continues to work on strategies and actions to address the projected water supply shortfall. The City's strategies and actions include the implementation of demand management measures as part of its water conservation program, consideration of net neutral policies to improve water use efficiency community-wide, and implementation of the future water supply projects.

### CONCLUSION

The water demands for buildout of the Proposed Project are included in the projected water demands. Therefore, the City is able to serve the Proposed Project in addition to existing and planned developments with the existing and planned future water supplies including minor reliance on demand reductions or the Recycled Water Exchange Program in Single Dry Years. Depending upon the pace of other developments and timing of development of the Proposed Project, construction of additional infrastructure and acquisition of future water supplies identified in the water Master Plan may be triggered. As identified above, the proposed Project would not result in insufficient water supplies available to serve the Project from existing entitlements and resources. Therefore, the proposed Project would result in a ***less than significant*** impact to water supplies.

# 3.14.3 STORM WATER

## ENVIRONMENTAL SETTING

### Existing City Facilities

The following information was provided in the City of Tracy Citywide Storm Drainage Master Plan (2012). The City of Tracy provides and maintains a system of storm drains, detention basins, and pumping facilities as well as monitoring and control of the operations of the storm drain system. Additionally, the City enforces storm drain regulations established by the US EPA and the State of California.

In general, new development projects will be required to provide site-specific or project-specific storm drainage solutions that are consistent with the overall infrastructure approach presented in the City's Storm Drain Master Plan (SDMP). The City may allow for a reasonable degree of flexibility to be incorporated into specific design approaches as a part of achieving effective solutions, including adjustments to alignments of linear storm drainage conveyance facilities and adjustments to configurations of detention facilities. Modifications and refinement to the storm drainage facilities master plan may be considered by the City during the Specific Plan and development review process for new development. However, any significant modifications to the elements of the SDMP must be approved by the City and will require that a formal "Supplement" be adopted by the City Council.

The City's Public Works Department manages Tracy's storm drainage system. Stormwater drains through open channels, storm drains, and closed conduits that are owned, operated, and maintained by the City and the West Side Irrigation District. The system includes three outfalls: the West Side Irrigation District (WSID) Main Drain; the Westside Channel Outfall System; and the Sugar Cut Outfall. These outfalls carry and discharge storm runoff into the Old River and utilize pump stations to move water over grades; however, the majority of the system is gravity operated.

### Future Storm Drain Master Plan Improvements

The City of Tracy completed the Citywide Storm Drainage Master Plan Mitigated Negative Declaration in November 2012[3]. The Master Plan identified new storm drainage infrastructure needed to serve new development included in the City's General Plan as well as to correct existing deficiencies. The City's General Plan includes future service areas within its sphere of influence.

The City comprises a number of watersheds. The Project site lies within the Lammers Watershed which includes the WSID upper main channel, several large diameter pipes, and a number of detention basins.

[3] City of Tracy, 2012. City of Tracy Citywide Water System Master Plan/Tracy Wastewater Master Plan Initial Study, November 2017.

## REGULATORY SETTING

### Clean Water Act

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The SWRCB and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters including the San Joaquin River, and other waters in the Tracy Planning Area. In the Tracy Planning Area the RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all of the water bodies within the Tracy Planning Area were established by the RWQCB and are listed in its Basin Plan.

### National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm

sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

A Phase II Small Municipal Separate Storm Sewer (MS4) General Permit was adopted by the SWRCB on December 8, 2017 and became effective February 1, 2018. The Permit has numerous components and the City is required to implement these components in stages over the five-year period of the Permit. The Cities of Lathrop, Lodi, Manteca, Patterson, Tracy and San Joaquin County (Partners) collaborated to develop a Multi-Agency Post-Construction Standards Manual to meet the MS4 permit requirement. The SWRCB adopted Order No. 2017-0113-DWQ in 2018, which requires that agencies regulate post-construction development through a number of different program elements. In response to this order, five cities, including Tracy, and San Joaquin County collaborated together to develop a "Multi Agency Post-Construction Stormwater Standards Manual."

## Federal Emergency Management Agency

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources (DWR) to insure the proper implementation of FEMA floodplain management regulations.

## Department of Water Resources

DWR's major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

## California Water Code

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
>
> > (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
> >
> > (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

## Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

## 200-Year Flood Protection in Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after 2015 if "adequate progress" towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use "adequate progress" as a condition to approve development after 2025.

## City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to stormwater and drainage. General Plan policies applicable to the Project are identified below:

POLICIES

- PF-6.1-P1. The City shall promote water conservation by implementing the Best Management Practices contained in the Urban Water Management Plan.
- PF-6.1-P2. The City shall continue to acquire additional sources of water supplies to meet the City's future demands.
- PF-6.1-P3. The extent feasible, the City shall use surface water supplies to meet daily water needs and reduce reliance on groundwater supplies.
- PF-6.1-P4. The City shall establish water demand reduction standards for new development and redevelopment to reduce per capita and total demand for water.
- PF-6.2-P1. The City shall maintain water storage, conveyance and treatment infrastructure in good working condition in order to supply domestic water to all users with adequate quantities, flows and pressures.
- PF-6.2-P2. Storage reservoirs should be buried or partially buried depending on local groundwater conditions to allow for joint use of the site with parks or recreational facilities, unless reservoirs are elevated to provide a gravity flow system, in which case the reservoirs shall be screened by landscaping and/or earthen berms.
- PF-6.3-P1. Structures with plumbing that are located within the City limits shall connect to the City water supply system.
- PF-6.3-P2. New developments shall dedicate land for utility infrastructure such as treatment facilities, tanks, pump stations and wells as needed to support the development of their project.
- PF-6.3-P3. The City shall be responsible for constructing new transmission water lines, as needed to meet future needs. Individual development projects shall be responsible for the construction of all water transmission means.
- PF-6.3-P4. All new water facilities shall be designed to accommodate expected capacity for buildout of areas served by these facilities but may be constructed in phases to reduce initial and overall costs.
- PF-6.3-P5. The availability of sufficient, reliable water shall be taken into account when considering the approval of new development.
- PF-6.3-P6. Costs for water service expansion shall be distributed among new water users fairly and equitably.
- PF-6.4-P1. Groundwater supplies should be reserved for emergency use during water treatment shutdowns, short-term shortages of surface water supplies or during droughts.
- PF-6.4-P2: Backup emergency power systems shall be provided at all essential water facilities that rely on electric power.
- PF-6.4-P3. Storage reservoir facilities should be located at naturally high topographic locations to capitalize on gravity flow, whenever possible.
- PF-6.4-P4. Future water systems and facilities shall be designed to minimize the likelihood of damage from vandalism or terrorist activity.
- PF-6.5-P1. The City shall maintain wastewater conveyance, treatment and disposal infrastructure in good working condition in order to supply municipal sewer service to the City's residents and businesses.

- PF-6.5-P2. The City shall expand the existing wastewater treatment plant to the extent possible or pursue a single new west side facility instead of building new facilities at multiple locations to meet future needs.
- PF-6.5-P3. New habitable structures located within the City limits shall connect to the public wastewater collection system.
- PF-7.1-P1. Areas used for the land application of treated effluent may also be used for agriculture.
- PF-7.2-P1. Wastewater collection and treatment facilities shall be designed to serve expected buildout of the areas served by these facilities but constructed in phases to reduce initial and overall costs.
- PF-7.2-P2. The City shall construct new wastewater trunk lines as needed. Individual development projects shall be responsible for construction of all collection lines other than trunk lines.
- PF-7.2-P3. The approval of new development shall be conditioned on the availability of sufficient capacity in the wastewater collection and treatment system to serve the project.
- PF-7.2-P4. "Package" treatment plants shall not be allowed in the City.
- PF-7.2-P5: New development shall fully fund the cost of new wastewater treatment and disposal facilities.
- PF-7.2-P6. Prior to any development approvals within an Urban Reserve, the City shall complete new wastewater master planning and wastewater and disposal studies, particularly for the west side of the city. These studies are to be funded by proponents of new development and must show how adequate wastewater treatment will be provided to the Urban Reserve in question.
- PF-7.3-P1. New wastewater treatment plants should be located to allow for distribution of recycled water to application areas by gravity flow where feasible.
- PF-7.3-P2. The City shall integrate public facilities and wastewater reclamation sites with agricultural and open space preservation programs where feasible.
- PF-7.3-P3. Biosolid disposal shall be managed so as to minimize impacts to the environment and public health.
- PF-7.3-P4. The City shall establish wastewater treatment demand reduction standards for new development and redevelopment to reduce per capita and total demand for wastewater treatment.
- PF-8.1-P1. Stormwater infrastructure shall be maintained in good condition.
- PF-8.1-P2. Stormwater infrastructure shall minimize local flooding by attaining capacity that conforms with the Storm Drainage Master Plan and City Design Standards.
- PF-8.1-P3. New permanent stormwater infrastructure shall be designed to serve dual purposes to the extent possible. This includes the following: - Drainage facilities integrated into recreation corridors with bike paths, sidewalks and landscaping. - Drainage channels integrated with transportation and environmental corridors. - Storm water detention basins shall incorporate active and passive recreation areas where feasible. These areas shall not count towards parks dedication requirements.

- PF-8.1-P4. When temporary retention or detention facilities are no longer needed after an outfall system is constructed, the sites shall be backfilled and disconnected from the storm drainage system.
- PF-8.1-P5. The City shall ensure a fair and equitable distribution of costs for stormwater system upgrades, expansion and maintenance.
- PF-8.1-P6. Design of storm drainage facilities shall be consistent with State and federal requirements, including NPDES requirements.
- PF-8.1-P7. Planning for stormwater facilities should consider possible future retrofitting needs associated with changing regulations pertaining to storm water quality, including NPDES requirements.
- PF-8.2-P1. To the extent feasible, new development projects shall incorporate methods of reducing storm runoff within the project to reduce the requirements for downstream storm drainage infrastructure and improve stormwater quality.
- PF-8.2-P2. New storm drainage facilities shall meet adopted City standards, including the standards and policies contained in the Storm Water Management Plan, the Storm Drainage Master Plan and the Parkways Design Manual.
- PF-8.2-P3. New development projects shall only be approved if necessary, stormwater infrastructure is planned and is in compliance with environmental regulations.
- PF-8.2-P4. If sufficient downstream stormwater infrastructure has not yet been constructed, new development projects shall be required to implement temporary on-site retention facilities in conformance with City standards.

## City of Tracy Municipal Code

The following chapters of the Tracy Municipal Code relate to stormwater and drainage.

### CHAPTER 9.52 FLOODPLAIN REGULATIONS

This chapter addresses floodplain regulations and requirements for new development and construction within Flood Hazard Areas delineated by Flood Insurance Rate Maps published by FEMA.

### CHAPTER 11.28 WATER MANAGEMENT

This chapter addresses the prevention of waste and unreasonable water use and to promote water conservation as an effective means to manage the local water supply.

### CHAPTER 11.32 STORM AND SURFACE WATER MANAGEMENT ENTERPRISE AND UTILITY

This chapter addresses the need to provide effective management of the City's storm drainage facilities.

### CHAPTER 11.34 STORMWATER MANAGEMENT AND DISCHARGE CONTROL

This chapter addresses City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system,

eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, reducing pollutants in urban stormwater discharges to the maximum extent practicable.

#### CHAPTER 11.30 - RECYCLED AND NON-POTABLE WATER

This chapter addresses the use of recycled water within the city for non-potable uses. Specifically, this chapter requires new developments in the city to include recycled water distribution systems.

#### SECTION 11.34.210 DESIGN STANDARDS

According to section 11.34.210 Design Standards of the City's Municipal Code, all construction of public stormwater conveyance system infrastructure shall conform to design criteria, standard plans and specifications and the inspection and testing procedures set forth in the applicable City public improvement design standards.

### Utility Master Plans

The City of Tracy maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *Urban Water Management Plan* (2015), *Citywide Water System Master Plan* (2012), *Citywide Storm Drain Master Plan* (2021) *Wastewater Master Plan* (2012), and the *Citywide Public Facilities Master Plan (2012)*.

## THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction of which could cause significant environmental effects.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.14-6: The proposed Project has the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant with Mitigation)

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater. The Project site is not located within the 100 or 200-year floodplain as delineated on the most recent flood plain maps for Tracy.

Because the proposed project increases impervious surface area from an existing undeveloped and predominately previous site, the Project site could increase runoff significantly, Project impacts to stormwater are considered potentially significant. Onsite storm drainage would be installed to

serve the proposed Project. Development of the proposed Project would include construction of a new storm drainage system, including a drainage collection system, and detention basins. All on-site storm drainage runoff will be collected through drain inlets and catch basins along the streets, and conveyed via surface swales and underground trunk lines to detention and water quality basins. The storm water drainage detention basins will be constructed to meet the City of Tracy Standards. Discharge from the basins will be conveyed through controlled flow pumping facilities to existing City of Tracy and main storm drain laterals. It is anticipated that the detention basin identified as LW-11 located on the adjacent City land east of the Project site as planned in the Storm Drain Master Plan would also be utilized in the future.

Pursuant to section 11.34.210 Design Standards of the City's Municipal Code, installation of the Project's storm drain system would be required to conform to the design criteria, standard plans and specifications and the inspection and testing procedures set forth in the applicable City public improvement design standards. Thus, the proposed storm drainage collection and detention system will be subject to the SWRCB and City of Tracy regulations, including: Tracy Municipal Code, Tracy Storm Drain Master Plan, 2012; Phase II, NPDES Permit Requirements; NPDES-MS4 Permit Requirements; and LID Guidelines.

The following mitigation measure requires the Project applicant to install a drainage system that meets this performance standard and, prior to issuance of grading permits, provide a drainage plan and report to the City of Tracy for review and approval. The proposed Project would participate in the implementation of the storm drainage Master Plan through the payment of fees and/or the construction of Master Plan facilities with corresponding credits. With the implementation of the following mitigation measure, drainage impacts would be reduced to ***less than significant***.

### MITIGATION MEASURE(S)

***Mitigation Measure 3.14-1****: Prior to the issuance of a building or grading permit, the Project applicant shall submit a drainage plan to the City of Tracy for review and approval. The plan shall include an engineered storm drainage plan that demonstrates attainment of pre-Project runoff requirements prior to release at the outlet canal and describes the volume reduction measures and treatment controls used to reach attainment consistent with the Tracy Storm Drain Master Plan.*

## 3.14.4 SOLID WASTE

### ENVIRONMENTAL SETTING

The City of Tracy contracts with Tracy Disposal Service, a private company, for solid waste collection and disposal. Solid waste is taken to the Tracy Material Recovery Facility (MRF) and Transfer Station on South MacArthur Drive before being sent to the Foothill Sanitary Landfill on Shelton Road. The MRF, which is operated by Tracy Material Recovery and Solid Waste Transfer, Inc., has a daily intake capacity of 1,800 tons and on average takes in 580 tons per day from Tracy. The transfer station site is approximately 80 acres.

Presently, the permitted capacity of the Foothill Landfill is 102 million cubic yards. The remaining capacity of the facility is approximately 95 million cubic yards. Current permits indicate a closure in 2054. There are no plans to expand the Foothill Landfill or build a new one to accommodate Tracy's waste since the Foothill Landfill is expected to meet the City's needs for the foreseeable future.

According to the California Department of Resources Recycling and Recovery (CalRecycle), in 2019, Tracy disposed of approximately 103,647 tons of solid waste. CalRecycle provides an average per-capita solid waste disposal rate for residents and business. In Tracy, CalRecycle identified solid waste disposal rates of 6.1 tons per resident per year and 18.0 tons per employee per year in 2019 (CalRecycle Jurisdiction Diversion/Disposal Rate Summary, 2019).

The City of Tracy, in coordination with Tracy Disposal Service, also provides recycling services to city residents and businesses. The City provides curbside residential collection of recyclable materials. Acceptable materials include glass containers, all plastics, tin and aluminum cans, plastic milk cartons, newsprint, boxboard, corrugated cardboard, bond paper and magazines. Residents may also recycle some materials at buy-back centers. Special recycling programs include an electronics waste program; a tire recycling program, which collects about 60 tons of tires per year; and a twice-per-year residential cleanup program on large items and debris. There are also opportunities to recycle construction and demolition waste.

The California Integrated Waste Management Act (CIWMA) of 1989, also commonly known as Assembly Bill (AB) 939, requires local agencies to implement source reduction, recycling, and composting (see discussion under "Regulatory Setting" below). To comply with the CIWMA, the City adopted Ordinance Article IV Chapter 74, the Business and Multi-family, commercial and industrial recycling programs in May 2003. The program requires businesses and multifamily residential properties to keep recyclable materials separate from all other solid waste, to provide signs and labeled containers for the storage and collection of recyclable materials, and to either self-haul or enter into a written service agreement with a franchise hauler (Tracy Disposal Service) for the collection and subsequent delivery of recyclable materials to an authorized recycling facility. Businesses and multifamily residential property owners and operators must prepare a recycling plan that provides information on the types of on-site recyclable materials and verifies that labeled containers, signs, and a disposal service are available to ensure compliance with the ordinance.

## REGULATORY SETTING

### California's Integrated Waste Management Act of 1989 (AB 939)

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

### 75 Percent Solid Waste Diversion

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to recycle 75 percent of the solid waste generated in the state by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by July 1, 2012, and also streamlines various regulatory processes.

### Construction and Demolition Waste Materials Diversion

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the California Integrated Waste Management Board (CIWMB, which is now CalRecycle) to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

### California Green Building Standards Code (CALGreen)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects (CALGreen Section 5.713).

### California Organic Waste Regulations (SB 1383)

SB 1383 was adopted to reduce organics waste landfill disposal by 75% (from 2014 levels) by 2025. This means diverting more than 20 million tons from landfills. The legislation aims to slow climate change by diverting organic materials from landfills, recovering 20% of edible food and redirecting it to food-insecure Californians.

Beginning January 1, 2022, residences and businesses are required to sort and separately collect food scraps, yard debris and food-soiled paper from trash and recycling and subscribe to an organic waste collection service.

## City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to solid waste. General Plan policies applicable to the Project are identified below:

POLICIES: PUBLIC FACILITIES ELEMENT

- PF-5.1-P1. Promote redesign, reuse, composting and shared producer responsibility of discarded materials.
- PF-5.1-P2. The City shall strive to meet or exceed the State's goal of diverting 50 percent of all solid waste from landfills.
- PF-5.1-P3. The City shall encourage local businesses to expand their recycling efforts and to reduce packaging of products manufactured in the city.
- PF-5.1-P4. Public buildings shall be designed or improved with onsite storage facilities for recycled materials.
- PF-5.1-P5. Salvage and reuse of construction and demolition materials and debris is encouraged at all construction projects in the city.
- PF-5.1-P6. City buildings shall be rehabilitated and reused when feasible.
- PF-5.1-P7. The City shall encourage the use of post-consumer recycled paper and other recycled materials in all City operations.
- PF-5.1-P8. Residential, industrial, commercial and retail buildings should be designed or improved to accommodate an increase in the amount and type of recycled materials.

## City of Tracy Municipal Code, Chapter 5.20

Chapter 5.20 of the Municipal Code regulates the collection, transportation, and disposal of refuse and solid waste of all kinds, and the collection, transfer and recovery of recyclable and organic waste material in order to promote community welfare, convenience, health, and safety.

# THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with Utilities if it will:

1. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or.
2. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.14-7: The landfills that would serve the proposed Project have sufficient permitted capacity to accommodate the Project's solid waste disposal needs, and the proposed Project will comply with federal, State, and local statutes and regulations related to solid waste (Less than Significant)

The City of Tracy contracts with Tracy Disposal Service, a private company, for solid waste collection and disposal. Based on the waste generation factors provided by CalRecycle, the proposed Project is expected to generate approximately 5,584 pounds per day of solid waste upon full buildout, which is equivalent to 2.8 tons per day; refer to Table 3.14-9.

***TABLE 3.14-9: ESTIMATED SOLID WASTE GENERATION***

| *LAND USE* | *GENERATION FACTOR[(1)]* | *PROJECT* | *ESTIMATED SOLID WASTE (LBS/DAY)* |
|---|---|---|---|
| Supermarket | 3.12 lb./1,000 s.f./day | 1,745,052 s.f. | 5,584 |

[(1)] CalRecycle 2019

Currently, the permitted capacity of the Foothill Landfill is 102 million cubic yards. The remaining capacity of the facility is approximately 95 million cubic yards. As noted previously, the remaining capacity of the facility is approximately 95 million cubic yards. Current permits indicate a closure in 2054. There are no plans to expand the Foothill Landfill or build a new one to accommodate Tracy's waste since the Foothill Landfill is expected to meet the City's needs for the foreseeable future. The addition of the volume of solid waste associated with the proposed Project to the Foothill Landfill would not exceed the landfill's remaining capacity.

#### CONCLUSION

The proposed Project would be required to comply with applicable State and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. The City would coordinate development of the proposed project with Tracy Disposal Service. Furthermore, the addition of the volume of solid waste associated with the proposed Project, approximately 2.8 tons per day, would increase the total tons of solid waste to the MRF to approximately 357 tons per day; however, this increase would not cause an exceedance of the landfill's remaining capacity. Therefore, the proposed Project would not generate solid waste in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, or exceed any State or local standards associated with solid waste. This is a ***less than significant*** impact.

The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, and significant and unavoidable impacts associated with the proposed Project.

## 4.1 CUMULATIVE CONTEXT IMPACT ANALYSIS

### INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed Project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

The cumulative context uses growth projections listed in various planning documents and Department of Finance statistics. Table 4.0-1 shows growth projections.

***TABLE 4.0-1: GROWTH PROJECTIONS***

| *CALENDAR YEAR* | *ESTIMATED POPULATION (TRACY)* | *ESTIMATED POPULATION (SAN JOAQUIN COUNTY)* | *ESTIMATED POPULATION (CALIFORNIA)* |
|---|---|---|---|
| 2020 | 95,040 | 775,819 | 40,619,346 |
| 2025 | 102,236 | 829,426 | 42,373,301 |
| 2030 | 109,492 | 883,484 | 44,085,600 |
| 2035 | 118,130 | 947,835 | 45,747,645 |
| 2040 | 127,933 | 1,020,862 | 47,233,240 |

*SOURCES: CALIFORNIA DEPARTMENT OF FINANCE (2020), SJCOG 2018 RTP/SCS (2018).*

In addition to those cumulative growth projections listed above, this EIR uses a list of past, present, and probable future projects within the City of Tracy to determine cumulative growth in the area. The list of past, present, and probable future projects used for this cumulative analysis is restricted to those projects that are planned to occur within the City of Tracy. The approved and/or pending projects are listed in the City's Project Pipelines Reports (August 2022)[1].

## CUMULATIVE EFFECTS OF THE PROJECT

The geographic context is identified under each cumulative impact analysis. The geographic context varies among topical impact areas because the geographic area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative Project impacts are addressed and summarized below.

### Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. CEQA Guidelines Section 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the

[1] Available at: https://www.cityoftracy.org/our-city/departments/planning

environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. As noted previously, this EIR uses a list of past, present, and probable future projects within the City of Tracy to determine cumulative growth in the area. The list of past, present, and probable future projects used for this cumulative analysis is restricted to those projects that are planned to occur within the City of Tracy. The approved and/or pending projects are listed in the City's Project Pipelines Reports (August 2022).

## Project Assumptions

The proposed Project's contribution to environmental impacts under cumulative conditions is based on development of the Project site consistent with the development assumptions identified in Chapter 2.0, Project Description. See Chapter 2.0, Project Description, for a complete description of the proposed Project.

## Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general, qualitative terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities, noise and air quality (the latter two of which are associated with traffic volumes and operations associated with the proposed land uses), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed Project may result in the following cumulative impacts.

### AESTHETICS AND VISUAL RESOURCES

The geographic context for aesthetics is the City of Tracy and surrounding areas of San Joaquin County.

#### *Impact 4.1: Cumulative Damage to Scenic Resources within a State Scenic Highway (Less than Significant)*

As described in Section 3.1, Aesthetics and Visual Resources, one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 580 (I-580) from Interstate 5 to Interstate 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. This Designated Scenic Highway is located approximately 0.65 miles southwest of the Project site. The views from I-580 to the Project site are limited because of small hills, commercial buildings along I-580, and high speeds of travel.

However, new development proposed by the Project in the viewsheds would have the potential to adversely affect a State-designated route.

Cumulative development in the city would not impact a State Scenic Highway. As such, impacts relative to scenic resources -would be a ***less than significant***.

### *Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region (Significant and Unavoidable and Cumulatively Considerable)*

Project implementation would introduce industrial uses, as well as supporting infrastructure into an area that is currently undeveloped and is primarily occupied by agricultural uses. The proposed Project would include visual components that would assist in enhancing the appearance of the site following site development. Landscaping improvements, such as new street trees and other vegetation landscaping, would be provided throughout the Project site, including along the site boundary. The landscape design and plant palette would complement the existing street and building/development landscape character established by Prologis and the International Park of Commerce providing visual relief from the proposed improvements. Additionally, the proposed Project would also include landscaping buffer zones, pursuant to General Plan Policy OSC-2.2-P1, at the interface of urban development and farmland in order to minimize conflicts between the uses and provide a visual shield. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

There would be two significant unavoidable visual quality impacts under the proposed General Plan for the Tracy Planning Area and under cumulative conditions in the region as a whole. Despite policies in the General Plan to preserve open space and agricultural lands and community character, policies in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) and the City's Agricultural Mitigation Fee Ordinance, development occurring within the City and its Sphere of Influence would result in a change in visual character from an agricultural appearance to a more urban appearance.

Under cumulative conditions, buildout of the General Plans for Tracy and the surrounding jurisdictions could result in changes to the visual character and quality of the City of Tracy through development of undeveloped areas and/or changes to the character of existing communities. Development of the proposed Project, in addition to other future projects in the area, would change the existing visual and scenic qualities of the City. It is noted that although the Project site is undeveloped and was previously used for agricultural uses, the General Plan designates the site for Industrial uses. Additionally, the surrounding areas to the north, east, south, and west are designated for urban uses (including mainly Industrial uses) by the General Plan. As such, the General Plan and associated EIR anticipated development of the Project area for similar uses as proposed by the Project.

Development within the City would be required to be consistent with the General Plan policies and City Municipal Code, both of which cover aesthetics and visual characteristics. Further, the Municipal Code contains development standards that address the visual character of a development project, such as building height, massing, setbacks, lighting, and landscaping. Although implementation of these requirements would reduce the impacts associated with development, the impacts would

remain significant and unavoidable. As such, this is a ***significant and unavoidable*** impact, and the Project's contribution to this impact would be ***cumulatively considerable***.

### *Impact 4.3: Cumulative Impact on Light and Glare (Less than Significant)*

Implementation of the proposed Project would introduce new sources of light and glare into the vacant Project site. Compliance with the lighting plan required by Mitigation Measure 3.1-1 would ensure that the Project's proposed lighting is reviewed by the Tracy Public Works Department for compliance with street light and light illumination standards to ensure the Project is properly shielding and protecting against light spillover onto adjacent properties. Adherence to City of Tracy Standard Plan #140 and Section 10.08.400of the Municipal Code of the City Municipal Code would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare.

Future projects within Tracy, Lathrop, and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. These regulations are designed to minimize potential light and glare impacts of new development. Implementation of these regulations would ensure that future projects minimize their potential light and glare impacts resulting in a ***less than significant*** cumulative impact relative to this environmental topic.

## AGRICULTURAL RESOURCES

The geographic context for agriculture and forest resources is all of San Joaquin County. According to the Department of Conservation, the County had 784,800 acres of crop land in 2018, the majority of which is identified as Prime Farmland. The remaining agricultural land is comprised of Farmland of Statewide Importance (11 percent), Unique Farmland (11 percent), Farmland of Local Importance (9 percent), and Grazing Land (18 percent).

### *Impact 4.4: Cumulative Impact on Agricultural Resources (Significant and Unavoidable and Cumulatively Considerable)*

As described in Section 3.2, Agricultural Resources, development of the proposed Project would result in a permanent conversion of 101.78 acres of Prime Farmland to non-agricultural use. The loss of Important Farmland as classified under the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) is considered a potentially significant environmental impact.

Tracy Municipal Code Chapter 13.28 establishes the City's Agricultural Mitigation Fee Program, which authorizes the collection of development impact fees to offset costs associated with the loss of productive agricultural lands converted for private urban uses. In addition to the City's agricultural mitigation fee program, the SJMSCP requires development to pay fees on a per-acre basis for impacts to agricultural lands that function as habitat for biological resources. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the Project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land. As such, the Project fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

The purchase of conservation easements and/or deed restrictions through the City's agricultural mitigation fee program and the SJMSCP allows the landowners to retain ownership of the land and continue agricultural operations, and preserves such lands in perpetuity. Future projects would be subject to the City's agricultural mitigation fee program and the SJMSCP.

While the proposed Project, as well as future projects in the City and County, will contribute fees toward the purchase of conservation easements on agricultural lands, as required by Mitigation Measure 3.2-1, those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. As such, the loss of Important Farmland would be a ***significant and unavoidable*** impact. The Project's contribution to this significant impact would be ***cumulatively considerable***.

### AIR QUALITY

The geographic context for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

#### *Impact 4.5: Cumulative Impact on the Region's Air Quality (Significant and Unavoidable and Cumulatively Considerable)*

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of Nonattainment for ozone, $PM_{10}$ and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the State and Federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project is in conformance with the AQAP, based on these criteria, as follows:

- *Determination that an AQAP is being implemented in the area where the project is being proposed.*

The SJVAPCD has implemented the current, modified 2016 8-hour AQAP as approved by CARB and approved by USEPA for the 2008 8-hour $O_3$ standard.

- *The proposed project must be consistent with the growth assumptions of the applicable AQAP.*

The SJCOG RTP/SCS growth projections provide for future employment/population factors. The development of the SJVAPCD AQAP is based in part on the land use general plan projections of the various cities and counties that constitute the Air Basin. The City of Tracy General Plan Land Use Element designates the Project site as Industrial, which is intended to accommodate flex/office space, manufacturing, warehousing and distribution, and ancillary uses for workers' needs. Therefore, the proposed Project, which involves the development of light industrial, warehouse and distribution and related uses, is considered consistent with the site's General Plan land use

designation and its traffic would be included in volumes projected for analysis of the General Plan. The SJVAPCD AQP is based on the growth assumptions of the City of Tracy General Plan and SJCOG RTP/SCS. Since the Project is consistent with the SJCOG RTP/SCS, and SJCOG RTP/SCS projections are incorporated into the SIP, the Project is also consistent with the SIP.

- *The project must contain in its design all reasonably available and feasible air quality control measures.*

The Project incorporates various policy and rule-required implementation measures that would reduce related emissions, including all of the current Air District rules and regulations.[2] For example, the proposed Project would be required to implement Air District Rule 9510, which ensures that the Project would fulfill the Air District's emissions reduction commitments in the relevant $PM_{10}$ and Ozone Attainment plans. In addition, the Project would comply with all applicable stationary source permitting rules implemented by SJVAPCD, which further confirms the Project would not cause or contribute to any ambient air quality standard exceedances.

As discussed in Impact 3.3-2, the proposed Project, without mitigation, would not exceed the SJVAPCD thresholds of significance for construction criteria pollutants. Additionally, as shown in Table 3.3-9, the proposed Project would not exceed the daily mass screening criteria thresholds during Project construction. Additionally, under the unmitigated scenario, the proposed Project's operational emissions would not exceed any of the daily mass screening criteria thresholds. Proposed Project mitigated operational emissions are shown in Table 3.3-12 based on implementation of SJVAPCD Rule 9510. While compliance with SJVAPCD Rule 9510 is regulatorily required, the rule itself is an indirect source rule designed to achieve emission reductions from development projects. Thus, it is included here to represent the SJVAPCD regulatory requirement to mitigate the operational emissions.[3] The proposed Project would also be required to implement Mitigation Measure 3.3-1, as provided under Impact 3.3-1. However, due to the difficulty in modeling the emissions (i.e. NOx emissions) reductions that would occur due to implementation of Mitigation Measure 3.3-1, and for the sake of a conservative analysis, the emissions reductions associated with Mitigation Measure 3.3-1 were not modeled. There are no further mitigation measures identified and thus Table 3.3-12 provides a conservative estimate of the operational emissions results for the proposed Project. Therefore, this impact would be significant and unavoidable.

Additionally, as discussed in Impact 3.3-3 of Section 3.3, a health impact analysis has been prepared for the proposed Project to analyze the potential health risks associated with increased trucks to the Project site and surrounding roadways associated with the development and operation of the proposed industrial and commercial uses. The source of TACs for this type of Project can be attributed to diesel exhaust from the trucks (including from truck refrigeration units, or TRUs). As shown in Table 3.3-10 in Section 3.3, the proposed Project, in and of itself, would not result in a

[2] See here for further detail: https://www.valleyair.org/rules/1ruleslist.htm

[3] The NOx emissions were adjusted to reflect the 33.3% reduction required, per compliance with Air District Rule 9510.

significant increased exposure of receptors to localized concentrations of TACs. Risk of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SJVAPCD thresholds.

The increase in industrial and commercial/office square footage anticipated with buildout of the Project is generally consistent with growth projections assumed in the Tracy General Plan for the same time horizon. While the proposed Project, as well as future projects in the City and County, will be subject to the requirements of the SJVAPCD, even with the application of the mitigation measures included in Section 3.3, emissions levels would remain above the defined threshold of significance for NOx, since Mitigation Measure 3.3-1 may not be feasible to implement in full. As such, cumulative impacts on the region's air quality would be a ***significant and unavoidable*** impact. The Project's contribution to this significant impact would be ***cumulatively considerable***.

### BIOLOGICAL RESOURCES

The geographic context for biological resources includes the Project site and the greater San Joaquin County region. Development associated with implementation of the local General Plan(s) would contribute to the ongoing loss of natural and agricultural lands in San Joaquin County, including the Project site. Cumulative development would result in the conversion of existing habitat to urban uses. The local General Plan(s), in addition to regional, State and federal regulations, includes policies and measures that mitigate impacts to biological resources associated with General Plan buildout. Additionally, local land use authorities in San Joaquin County require development to participate in the SJMSCP, which is a habitat conservation plan and natural community conservation plan for San Joaquin County that provides a mechanism for compensatory mitigation for habitat and species loss in accordance with federal and State laws.

#### *Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Less than Significant )*

Under cumulative conditions, buildout of the General Plan(s) within San Joaquin County will result in impacts to biological resources associated with new development. The General Plan(s) includes policies that are designed to minimize impacts to the extent feasible and the SJMSCP has been established to provide a mechanism for compensatory mitigation and standardized avoidance and minimization measures as needed.

As described in Section 3.4 Biological Resources, construction in the Project site has the potential to result in impacts to special-status species in the region. The California Natural Diversity Database (CNDDB) currently contains records for California red-legged frog, San Joaquin kit fox, big tarplant, caper-fruited tropidocarpum, burrowing owl, and tricolored blackbird in the vicinity of the Project site. The Project site provides potential habitat for several species, including those discussed in Section 3.4.

Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes the payment of fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted and addresses both the Project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the

SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage.

The ongoing operational phase of the proposed Project requires discharge of stormwater into the City storm drainage system, which ultimately discharges into the Delta. The discharge of stormwater could result in indirect impacts to special status fish and wildlife if stormwater was not appropriately treated through BMPs prior to its discharge to the Delta. The Project is subject to the requirements of Chapter 11.34 of the Tracy Municipal Code – Stormwater Management and Discharge Control. This chapter is intended to assist in the protection and enhancement of the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Water Pollution Control Act (Clean Water Act, 33 USC Section 1251 et seq.), Porter- Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) and National Pollutant Discharge Elimination System ("NPDES") Permit No. CAS000004, as such permit is amended and/or renewed. The management of water quality through BMPs is intended to ensure that water quality does not degrade to levels that would interfere or impede fish or wildlife.

The Project would result in impacts to biological resources including habitats and special status species. The City has evaluated urban development in the Project area through the General Plan process, and subsequently determined that urban development in this location is appropriate. The proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within San Joaquin County), would not be expected to cause any significant cumulative impacts. Implementation of the regulations contained in the SJMPSCP and the various General Plans within San Joaquin County would ensure that future projects minimize their potential biological resources. For these reasons, cumulative impacts on the loss of biological resources are ***less than significant***.

### CULTURAL AND TRIBAL RESOURCES

The geography of cultural resources impacts can be defined by region, by political subdivision or by the geography of the cultural resources present in an area, where sufficient inventory data is available to define it. The geographic context for cultural resources includes all of the San Joaquin County. There are extensive cultural sites located in the region.

#### *Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural and Tribal Resources (Less than Significant)*

Cumulative development anticipated in the City of Tracy, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.5, Cultural and Tribal Resources, the Project site does not contain buildings or structures. A California Historic Resources Information System (CHRIS) search was requested from the Central California Information Center (CCIC), which included the Project area and a one-half mile radius (CCIC File #11244L). The results of the CCIC records search indicated that the Project site does not contain any recorded buildings or structures listed on the State Office of Historic Preservation Historic Property Directory (which includes listings of the California Register of Historic Resources, California State Historical Landmarks, California State Points of Historical Interest, and the NRHP).

The records search also noted that the General Land Office Survey Plat does not reference any historic features in the Project area.

Any previously unknown cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

All future projects in the regional vicinity would be subject to their respective General Plans (i.e., City of Tracy, City of Lathrop, and San Joaquin County), each of which have policies and measures that are designed to ensure protection of undiscovered cultural resources. In addition, all discretionary projects in these jurisdictions would require environmental review per regulations established in CEQA. As such, impacts related to cultural resources would result in a ***less than significant***.

GEOLOGY AND SOILS

Impacts related to geology and soils are not inherently cumulative. Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and building authority. For these reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Tracy and vicinity.

### *Impact 4.8: Cumulative Impact on Geologic and Soils Resources (Less than Significant)*

As discussed in Section 3.6, Geology and Soils, a Geotechnical Review was prepared to review readily-available geotechnical and geologic information in order to identify potential geotechnical-related risks associated with the Project site. According to the Geotechnical Review, the proposed Project is geotechnically feasible and concerns related to ground rupture, ground shaking, liquefication, or landslides were not identified; refer to the discussion below regarding expansive soils. However, mitigation measures provided in Section 3.6 ensure impacts related to soil hazards will be less than significant.

Additionally, the nearest earthquake fault zoned as active by the CGS is the Black Butte Fault, located approximately 1.1 miles to the south of the Project site. However, this fault is not considered an active fault that would trigger evaluation under the Alquist-Priolo Earthquake Fault Zoning Act. While the City is not within an area known for its seismic activity, there will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Additionally, the Project would be required to comply with Mitigation Measure 3.6-1, which requires a final geotechnical evaluation be prepared and design recommendations identified to address any soil conditions within the Project site. Design in accordance with the

Building Code and final geotechnical evaluation would reduce any potential impact to a less than significant level.

Geologic and soils impacts tend to be site-specific and Project-specific. With the mitigation measure presented in Section 3.6, implementation of the proposed Project would not result in increased risks or hazards related to geologic conditions in the cumulative area, nor would it result in any off-site or indirect impacts. Overall, impacts related to geologic and soil resources would result in a ***less than significant***.

### GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY

As the California Supreme Court has reasoned, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself. The challenge for CEQA purposes is to determine whether the impact of the project's emissions of greenhouse gases is cumulatively considerable, in the sense that 'the incremental effects of [the] individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.'" (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219.) "'With respect to climate change, an individual project's emissions will most likely not have any appreciable impact on the global problem by themselves, but they will contribute to the significant cumulative impact caused by greenhouse gas emissions from other sources around the globe. The question therefore becomes whether the project's incremental addition of greenhouse gases is "cumulatively considerable" in light of the global problem, and thus significant.'" (*Ibid*.)

The geographic context for greenhouse gas (GHG) emissions and climate change impacts for this analysis is San Joaquin County, which is the boundary for the California Air Resources Board's (CARB) regional greenhouse gas emissions reduction targets.

#### *Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions (Less than Significant)*

GHG emissions from a single Project will not cause global climate change; however, GHG emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile State Executive Orders issued by the last two

Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Jerry Brown issued Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. Senate Bill 350 (Stats. 2015, ch. 547) added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

As presented in Table 3.7-1 in Section 3.7, short-term construction emissions of GHGs are estimated to be 3,206 metric tons of carbon dioxide equivalents ($MTCO_2e$) per year. As shown in Table 3.7-2, the annual GHG emissions associated with the proposed Project would be approximately 12,273 MT $CO_2e$. The proposed Project would be consistent with all relevant plans, policies, and regulations associated with GHGs, including the SB 32 2017 Scoping Plan Update, and the SJCOG's 2018 RTP/SCS.

Taking into account the proposed Project's emissions, and the progress being made by the State toward reducing emissions in key sectors such as transportation, industry, and electricity, the Project would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment. Therefore, a ***less than significant*** cumulative impact relative to this environmental topic would result.

### HAZARDS AND HAZARDOUS MATERIALS

The geographic context for the analysis of cumulative hazards and human health impacts is San Joaquin County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e., Stockton, Lathrop, and San Joaquin County). As discussed in Section 3.8, Hazards and Hazardous Materials, implementation of the proposed Project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.8.

#### *Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials (Less than Significant)*

The Project is not proposing the use of any hazardous materials. In the event that hazardous materials are discovered during construction, a Soils Management Plan (SMP) will need to be submitted and approved by the San Joaquin County Department of Environmental Health, as required by Mitigation Measure 3.8-1. Any operations that involve the use of hazardous materials would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. To further ensure the safety of employees, and reduce the potential for accidental release of hazardous materials into the environment, the applicant must submit a HMBP to San Joaquin County Department of Environmental Health (CUPA) for review and approval prior to bringing hazardous materials onsite, as required by Mitigation Measure 3.8-2.

As part of the Phase I ESA (see Appendix D), a limited Phase II ESA was conducted to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. Soil samples were collected pursuant to the Department of Toxic Substances Control (DTSC) Interim Guidance for Sampling Agricultural Properties (Third Revision) and were analyzed for organochlorine pesticides (OCPs) using US Environmental Protection Agency (EPA) Method 8081A and arsenic using US EPA Method 6010B. The soil sample analytical results indicated that OCPs were not present above laboratory detection limits in shallow soils at the site and arsenic concentrations ranged from 2.3 milligrams per kilogram (mg/kg) to 4.3 mg/kg. Arsenic concentrations did not exceed the arsenic California Code of Regulations (CCR) Title 22 Total Threshold Limit Concentration of 500 mg/kg, 10 times the arsenic CCR Title 22 Soluble Threshold Limit Concentration value of 5 milligrams per liter (mg/L) (50 mg/kg), or 20 times the arsenic Federal Toxicity Characteristic Leaching Procedure threshold of 5 mg/L (100 mg/kg). Therefore, arsenic concentrations at the Site do not exceed thresholds that would classify soils as Federal or California hazardous wastes.

Additionally, Crimson Oil operates a crude oil pipeline beneath the Project site and PG&E operates two natural gas pipelines, which both run across the northeastern portion of the Project site. While the *Phase I ESA* notes no incidental/accidental releases in the Project vicinity have been reported along the pipelines to date, the presence of natural gas pipelines and the potential for undocumented leaks to occur from the crude oil pipeline represents a Recognized Environmental Condition (REC). Undocumented leaks that could occur on-site would result in the release of hazardous materials into the environment contaminating the site and potentially exposing employees and the public to hazardous materials. The *Phase I ESA* notes that Crimson Pipeline, L.P. (or the current pipeline operator at the time of the leak) would be responsible for subsurface contamination as a result of leaks from this pipeline; therefore, the site cleanup from the subsurface contamination would be the responsibility of Crimson Pipeline, L.P. (or the current pipeline operator at the time of the leak). Mitigation Measure 3.8-3 would require the Project applicant to notify the San Joaquin County Department of Environmental Health in the event that contaminates are found on the Site, who would facilitate the site cleanup.

The proposed Project, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the City's General Plan. Cumulative development would include continued operation of, or development of, new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers), as hazard-related impacts tend to be site-specific and Project-specific.

Implementation of the proposed Project, in combination with and past, present, and probable future projects, would not result in significant increased risks of hazards in the cumulative area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. For these reasons, cumulative impacts associated with hazards and hazardous materials would be ***less than significant***.

### HYDROLOGY AND WATER QUALITY

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or in the case of groundwater, in the context of a groundwater basin. Because water resources are highly interconnected, the geographic context is based on San Joaquin County which is located in the San Joaquin River Hydrological Region. Cumulative development in this region, including the proposed Project, would impact the water quality and hydrological features of the San Joaquin River Hydrologic Region. The City of Tracy and much of the surrounding area is located in the San Joaquin

Valley Groundwater Basin. This groundwater subbasin covers approximately 345,000 acres in San Joaquin and Alameda counties, primarily between the eastern extent of the Coast Ranges on the south and the San Joaquin River on the east. Any matter that may affect water quality draining from the Project site will eventually end up in the Delta or within the groundwater basin.

### *Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Project site (Less than Significant)*

Implementation of the proposed Project would increase the amount of impervious surfaces in the Project site, which could increase peak stormwater runoff rates and volumes on and downstream of the Project site. However, the proposed Project includes an extensive system of on-site stormwater collection facilities to accommodate the increased stormwater flows that would originate in the Project site.

The Project site includes seven drainage areas: Area 1 (12.07 acres located along the western boundary of the site), Area 2 (36.50 acres located in the center of the site), Area 3 (2.46 acres located along the northwestern boundary of the site), Area 4 (2.00 acres located along the northern boundary of the site) Area 5 (34.26 acres located in the eastern portion of the site), Area 6 (1.64 acres located along the northern boundary of the site), and Area 7 (5.68 acres located along the eastern boundary of the site). Stormwater runoff from each of the seven drainage areas would be routed to a series of stormwater treatment/detention basins and stormwater bioretention treatment planters, located throughout the Project site, mainly in the proposed landscaped areas and along West Schulte Road.

The overall design of the drainage infrastructure, including the proposed detention basins, will be required to comply with the Multi-Agency Post Construction Stormwater Standards Manual, which includes existing and enhanced program control measures for controlling the discharge of pollutants to the municipal storm drain system to the maximum extent practicable (MEP). Additionally, the Multi-Agency Post Construction Stormwater Standards Manual requires new development to employ low impact development (LID) approaches that conserve natural areas and reduce impervious areas. The term LID means a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. The Project would be required to integrate LID measures throughout the Project site to provide stormwater quality treatment. As such, BMPs would be applied to the proposed development to limit the concentrations of constituents in any site runoff to acceptable levels. Stormwater flows from the Project site would be directed to the proposed stormwater treatment basins, treatment planters, and bioretention areas by a new stormwater conveyance system on the Project site. Stormwater runoff would not be allowed to discharge directly to the existing storm drains in West Schulte Road without first discharging to the bioretention areas. The landscaping plan includes stormwater treatment plantings in the treatment/detention basins. Additionally, erosion and sediment control measures would be implemented during construction.

According to the Multi-Agency Post Construction Stormwater Standards Manual, the Project is considered a Hydromodification Management Project as it would result in the development of one acre or more of impervious surface. Hydromodification Management Projects are required to

prepare and submit a Project Stormwater Quality Control Plan that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. In particular, the Project Stormwater Quality Control Plan will need to specify BMPs the Project will use and design specifications for selected BMPs. The Project Stormwater Quality Control Plan must be submitted for review and approval by the City of Tracy, as required by Mitigation Measure 3.9-2. Implementation of Mitigation Measure 3.9-2 would require the Project to be consistent with regulatory requirements.

The same is true of other foreseeable development in the City, which would similarly be bound to comply with strict federal, state, and local laws and regulations. For example, present and probable future development projects in the City would be required to comply with the City's stormwater runoff regulations, including but not limited to those found in the Multi-Agency Post Construction Stormwater Standards Manual and Municipal Code.

With the design and construction of flood control improvements, the proposed Project would not increase peak stormwater runoff. Overall, a ***less than significant*** cumulative impact relative to this environmental topic would occur.

### *Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality (Less than Significant)*

The proposed Project, along with several of the related projects within the City of Tracy, would ultimately discharge stormwater runoff to the nearby Delta waterways. This would potentially degrade the water quality of the system.

Construction of the proposed Project would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. Cumulative development in the Tracy area, including the proposed Project, would also result in increased impervious surfaces that could increase the rate and amount of runoff, thereby potentially adversely affecting existing surface water quality through increased erosion and sedimentation. The primary sources of water pollution include: runoff from roadways and parking lots; runoff from landscaping areas; non-stormwater connections to the drainage system; accidental spills; and illegal dumping. Runoff from roadway and parking lots could contain oil, grease, and heavy metals; additionally, runoff from landscaped areas could contain elevated concentrations of nutrients, fertilizers, and pesticides.

The proposed Project will be required to comply with Mitigation Measure 3.9-1 which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include Best Management Practices (BMPs) to regulate stormwater quality for the Project site which will be designed in accordance with the City of Tracy's NPDES issued by the Regional Water Quality Control Board (RWQCB).

While there are no assurances that other projects in the County would incorporate the same degree or methods of treatment as the proposed Project, several of the projects within the City of Tracy would phase out existing agricultural runoff discharges from their respective sites and, similar to the proposed Project, could provide some level of water quality improvement. Also, each related Project

that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality. Therefore, while a greater quantity of urban runoff may be discharged to the Delta system with implementation of the related projects, because of an increase in impervious surfaces, the associated surface water quality impacts would be expected to be less than significant because of improved or similar quality of runoff compared to existing conditions.

Compliance with City and County water quality protection regulations, approval from the RWQCB, and Mitigation Measure 3.9-1 would ensure that the proposed Project minimizes impacts to surface water quality. Overall, a ***less than significant*** cumulative impact relative to this environmental topic would occur.

### *Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge (Less than Significant)*

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

As previously stated, the Project site is located in the Lower Aquifer of the Tracy Subbasin and the Tracy Subbasin is not designated as a critically overdrafted basin. Much of the groundwater recharge sources within the Lower Aquifer are limited to precipitation and perennial streams. Precipitation in the region is 13.81 inches, most of which falls between November through April. However, only a small portion of this annual rainfall infiltrates the soil and groundwater basin because of the Corcoran Clay underlaying the majority of the Lower Aquifer area. While the proposed Project would reduce the amount of pervious surfaces within the Project site, the Project site is not located within a known recharge area for the Lower Aquifer due to the presence of Corcoran clay under the Project site[4]. Therefore, development of the Project site would not substantially interfere with groundwater recharge.

Six Groundwater Sustainability Agencies (GSAs) have formed in the Tracy Subbasin to collaboratively develop one Groundwater Sustainability Plan (GSP) for the Subbasin, including the Banta-Carbona Irrigation District, Byron-Bethany Irrigation District, San Joaquin County, City of Lathrop, City of Tracy, and Stewart Tract. The Tracy Subbasin GSP is required to be provided to the State by January 31, 2022. A draft Groundwater Sustainability Plan was made available for public review from August 9 to September 9, 2021. The Plan was then revised to address public comments provided during the public comment period. The City of Tracy City Council adopted the Final GSP at a public hearing held on November 16, 2021. All six GSAs must adopt the Final GSP before it can be submitted to the California Department of Water Resources (DWR) for review. The Final GSP must be submitted to

[4] Tracy Subbasin GSAs. June 2020. Draft Tracy Subbasin Groundwater Sustainability Plan: Chapter 4 [Figure 4-33].

DWR no later than January 31, 2022. After the GSP is submitted, the GSAs will submit annual reports to DWR and update the GSP every five years.

Additionally, Mitigation Measure 3.9-1 requires the preparation of a SWPPP, and structural BMPs. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the Project. Additionally, as described under Impact 3.9-1, the Project will be required to submit a Project Stormwater Quality Control Plan (see Mitigation Measure 3.9-2) that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. The Project will be required to comply with Chapter 11.34 of the Tracy Municipal Code, Stormwater Management and Discharge Control, which outlines the City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable.

For the reasons mentioned above, the proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. Implementation of the proposed Project, in combination with and past, present, and probable future projects, would have a ***less than significant*** impact relative to this topic.

### LAND USE

The geographic context for land use impacts is the City of Tracy.

#### *Impact 4.14: Cumulative Impact on Communities and Local Land Uses (Less than Significant)*

Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and Project-specific. The land uses, as proposed, are consistent with the General Plan.

The Project site is currently within the jurisdiction of San Joaquin County. The Project site is designated as Agriculture by the County's General Plan Land Use Map and is zoned as AG-40 Agriculture by the County. The site currently has a City General Plan land use designation of Industrial (I).

Additionally, the San Joaquin County Local Agency Formation Commission (LAFCO) will require the Project site to be pre-zoned by the City of Tracy in conjunction with the proposed annexation. The City's pre-zoning will include the Light Industrial (M-1) zoning designation for Project site. The pre-zoning would go into effect upon annexation into the City of Tracy. Additionally, the Project is

requesting a Conditional Use Permit to allow for food processing and canning in the proposed M-1 zoning district. The proposed pre-zoning for the Project site is shown on Figure 2.0-6 in Chapter 2.0.

This proposed zone change would ensure that zoning would be consistent with the General Plan land use designation within the Project site. The zoning ordinance establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Zoning Code. All existing City development standards and zoning requirements for the proposed zoning are applicable to the proposed activities on the Project site. The City reviews all plans (improvement plans, building plans, site plans, etc.) that are submitted for final approval to ensure that they are consistent with the City's Zoning ordinance. Approval of the prezoning by the City would ensure that the proposed Project would be consistent with the Zoning Code.

Further, the proposed Project is consistent with LAFCo policies adopted to address environmental impacts, with the exception of impacts to agricultural lands. Section 3.2, Agricultural Resources, addresses impacts related to conversion of agricultural land.

Lastly, the proposed Project does not conflict with the implementation of the SJMSCP and has appropriate measures to ensure compliance with payment of mitigation fees.

The City will review each component of the proposed Project as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Zoning ordinance. Overall, the proposed Project, in combination with and past, present, and probable future projects, will have a ***less than significant*** impact relative to this topic.

### NOISE

The geographic context for noise impacts consists of the existing and future noise sources that could affect the Project site or surrounding uses.

#### *Impact 4.15: Cumulative Exposure of Existing Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development (Significant and Unavoidable and Cumulatively Considerable)*

Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. The total noise impact of the proposed Project would be fairly small and would not be a substantial increase to the existing future noise environment. Thus, the proposed Project would result in a less-than-significant cumulative impact.

Operational Noise: Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways and on-site activities resulting from operation of the proposed Project. The primary non-transportation noise sources associated with the proposed Project are on-site parking lot circulation and the loading docks. Table 3.11-9 in Section 3.11, Noise, shows cumulative traffic noise levels with and without the proposed Project. Additionally, operational noise levels at the existing residential receptors to the west of the site resulting from the proposed Project are

quantified and shown in Figures 3.11-2 and 3.11-3. Figure 3.11-2 shows the average ($L_{eq}$) Project noise contours and Figure 3.11-3 shows the maximum ($L_{max}$) Project noise contours.

As discussed in Section 3.11, based upon Figure 3.11-3, the proposed Project is predicted to generate maximum noise levels of approximately 68 dBA $L_{max}$ at the property line of the residential uses to the west of the Project site. This would comply with the San Joaquin County maximum noise level limits of 70 dBA $L_{max}$ during daytime hours but would exceed the County's 65 dBA $L_{max}$ standard during nighttime hours. In order to reduce project-related noise levels, Saxelby Acoustics used the Sound PLAN noise model to evaluate the use of noise barriers for reducing project-related noise levels at the adjacent residential uses. Figure 3.11-4 shows the exterior noise levels in terms of the peak hour average ($L_{eq}$) noise level, with a 20-foot-tall acoustically absorbent screen wall located along the western boundary of the Project site. The resulting noise levels of up to 50 dBA $L_{eq}$ would comply with the County's 50 dBA $L_{eq}$ daytime standard but would still exceed the County's 45 dBA $L_{eq}$ nighttime noise standard. As such, a sound wall would not result in noise levels at or below the County's nighttime noise standard. Therefore, the County's exterior noise standards would still be exceeded. Because the County's exterior noise standards would still be exceeded as a result of operational noise at the Project site, the proposed Project would have a ***significant and unavoidable*** cumulative impact relative to this environmental topic. As such, impacts related to cumulative operational noise would result a ***cumulatively considerable contribution***.

Construction Noise: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Compliance with the City's permissible hours of construction, as well as implementing the best management noise reduction techniques and practices (both outlined in Mitigation Measure 3.11-1), would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors.

The proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within the County), would not be expected to cause any significant cumulative construction noise impacts. The proposed Project would not have cumulatively considerable impacts associated with construction noise. Implementation of the proposed project would have a ***less than significant cumulative impact*** and ***less than cumulatively considerable*** incremental contribution to cumulative impacts on construction noise

Cumulative Conclusion: The operational noise from the proposed Project is expected to produce noise levels that would exceed County standards. Consequently, the total noise impact of the proposed Project would be a substantial increase to the future noise environment. Consequently, the proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within the County), would be expected to cause ***significant and unavoidable*** cumulative impacts. The proposed project would have ***cumulatively considerable*** impacts associated with noise.

### PUBLIC SERVICES

The geographic context includes all areas covered by the service areas of the South San Joaquin County Fire Authority (SSJCFA), Tracy Police Department (TPD), the Lammersville Elementary School District, and any other relevant public services.

***Impact 4.16: Cumulative Impact on Public Services (Less than Significant)***

Implementation of the proposed Project, in combination with and past, present, and probable future projects, would contribute toward an increased demand for public services and facilities within the City of Tracy. It has been determined that the project-level impacts to the police, fire, schools, and other public services would be less-than-significant. The proposed Project would be subject to all fees that are paid toward the enhancement of public services within the region. Payment of the applicable development fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would assist in maintaining existing fire, police, schools, and other services.

Under cumulative conditions, past, present, and probably future projects would result in increased demand for public services and recreational facilities. The impact fees developed and reviewed by the City will recover future development's proportionate share of City-related capital asset costs. Fees, as applied only to new development, represent future development's proportionate share of public services and facilities capital costs. It is important to note that impact fees may not be used to correct existing deficiencies, but may be used to pay for increased demand for public facilities or increased demand upon existing capital facilities provided that those facilities are needed to serve additional development and have the capacity to do so, given relevant level-of-service standards. The construction of public facilities to serve past, present, and probably future projects may be required, which could cause substantial adverse physical environmental impacts. The construction and operation of future public facilities required to serve cumulative development could potentially cause cumulatively significant impacts, but such physical impacts cannot be fully defined at this time because the exact facilities are not proposed or known. Any future public facility would undergo its own environmental review to determine physical environmental impacts once it is contemplated, and proposed for construction.

Implementation of the proposed Project, in combination with and past, present, and probable future projects, would have a ***less than significant*** cumulative impact relative to this environmental topic.

### TRANSPORTATION AND CIRCULATION

The geographic context for this analysis includes the City of Tracy Sphere of Influence (SOI) and nearby areas of San Joaquin County. The analysis models the overall change in vehicle-miles-traveled (VMT) in Tracy as a result of forecast development, with the addition of the proposed Project. The intent is to understand how the proposed Project will influence travel behavior in light of future conditions, and to identify possible significant future impacts.

### *Impact 4.17: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Significant and Unavoidable and Cumulatively Considerable)*

The proposed Project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.2 VMT per employee. The City's VMT Calculator estimates that the Project would generate 24.8 VMT per employee, and the Project exceeds the threshold by 164 percent. Because the Project exceeds the City threshold by 164 percent, a reduction below the City's VMT threshold is not feasible.

Mitigation Measure 3.13-1, which requires travel demand management (TDM) strategies, would be required. Implementation of Mitigation Measure 3.13-1 is feasible because it is within the applicant's purview to implement and has been found effective in previous academic studies. However, the precise effectiveness of specific TDM strategies can be difficult to accurately measure due to a number of external factors such as types of tenants, employee responses to strategies, and changes to technology.

In order for a specific project to have a less than significant impact related to VMT, the project must demonstrate that per capita VMT would be 15 percent below the regional average. Because future development would likely be equal to the regional average, or above average (or less than average but not fully 15 percent less than average), impacts relate to VMT would be ***significant and unavoidable***. Exceptions to this would be infill projects, or small projects which include VMT reducing strategies. Due to the size of the Project and the fact that the Project exceeds the City threshold by 164 percent, the incremental contribution to this cumulative VMT impact would be ***cumulatively considerable***.

### *Impact 4.18: Under Cumulative conditions, the proposed Project would not adversely affect pedestrian, bicycle, or transit facilities (Less than Significant)*

Implementation of the proposed Project would not result in a conflict with an existing or planned pedestrian facility, bicycle facility, or transit service/facility. In addition, the Project would not interfere with the implementation of a planned bicycle facility, pedestrian facility, or transit service/facility. The Project would not cause a degradation in transit service such that service does not meet performance standards established by the transit operator.

The proposed Project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Stanislaus County), would not be expected to cause any significant cumulative pedestrian or bicycle facilities impacts. The proposed Project would not have cumulatively considerable impacts associated with pedestrian or bicycle facilities. Implementation of the proposed Project, in combination with and past, present, and probable future projects, would have a ***less than significant*** impact relative to this topic.

#### UTILITIES AND SERVICE SYSTEMS

The geographic context includes all areas covered in the service areas of the City's wastewater system, water system, stormwater system, and the solid waste collection and disposal services.

Under General Plan buildout conditions, the City would see an increased demand for water service, sewer service, solid waste disposal services, and stormwater infrastructure needs.

***Impact 4.19: Cumulative Impact on Wastewater Utilities (Less than Significant)***

The City of Tracy's wastewater collection system consists of gravity sewer lines, pump stations and the Wastewater Treatment Plant (WWTP). The NPDES permit for the Tracy WWTP was adopted in May 2007 with proposed amendments initiated in 2008 and 2010. Treated wastewater from the Tracy WWTP is discharged to Old River under Order No. R5-2007-0036 (NPDES No. CA0079154). Because, in the opinion of the Water Board, there is a potential impact to groundwater at the facility, the Tracy WWTP's industrial pretreatment ponds, industrial holding ponds, sludge drying beds, and biosolids storage areas of the facility are regulated by separate waste discharge requirements as defined in Order No. R5-2007-0038. The NPDES permit CA 0079154 allows for discharge of 10.8 million gallons per day (mgd) and up to 16 mgd if applicable treatment facilities are constructed. The WWTP provides disinfected tertiary level treatment meeting Title 22 requirements of the Code of Regulations from the State Water Resource Control Board. The WWTP includes primary clarifiers, activated sludge, secondary clarifiers, flocculation, tertiary filtration, and disinfection.

The City of Tracy's wastewater treatment system is currently in compliance with the WDR requirements of Order No. R5-2007-0036 NPDES NO. CA0079154. The wastewater treatment system options covered under this Order include: City of Tracy WWTP including the collection system, basin/disposal fields, discharge to the Old River, and recycling conveyance and irrigation system. The development of the proposed Project under this permitted option would not exceed the wastewater discharge requirements in this Order as described under Impact 3.14-1 in Section 3.14.

The overall collection sewer strategy for the City of Tracy, including the proposed Project, consists of a combination trunk sewer gravity collection system with pump or lift stations located along the collection system to convey wastewater to an influent pump station located at the City WWTP.

New wastewater collection and conveyance infrastructure needed for the proposed Project would require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. All onsite wastewater utility improvements would be within existing agricultural lands or land currently developed with roadways (i.e., Schulte Road), the impacts of which are discussed in Section 3.2 Agricultural Resources and throughout this EIR.

According to the City's 2012 Wastewater Master Plan, Industrial uses are estimated to generate 1,500 gallons per gross acre per day. The Project site includes 103 acres of Industrial uses. Using this rate, the proposed Industrial uses would generate approximately 154,500 gallons per day (gpd) of wastewater. The proposed Project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the WWTP, which has an ADWF design capacity of 10.8 mgd. Therefore, the project would allocate approximately 1.4 percent of available wastewater capacity of the WWTP to serve the project. Occupancy of the proposed Project would be prohibited without sewer allocation

The Project by itself does not exceed the existing capacity of the wastewater treatment plant. The Project and any future cumulative projects would be required to secure adequate wastewater treatment capacity/allocation prior to occupancy of any building which would require wastewater treatment services. Implementation of the proposed Project, in combination with and past, present, and probable future projects, would have a ***less than significant*** impact relative to this topic.

### *Impact 4.20: Cumulative Impact on Water Utilities (Less than Significant)*

The provision of public services and the construction of onsite infrastructure improvements will be required to accommodate the development of the proposed Project. Water distribution will be by an underground distribution system to be installed as per the City of Tracy standards and specifications. The proposed Project would require extension of offsite water conveyance infrastructure to the Project site for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to existing roadways along the perimeter of the Project site, thereby limiting any potential impact to areas that were not already disturbed.

Projected water demands for buildout of the Proposed Project total approximately 156 acre-feet per year (AFY) of which about approximately 114 AFY is industrial demand, approximately 29 AFY is irrigation demand, and approximately 15 AFY is unaccounted-for water. The Water Supply Assessment completed for the proposed Project demonstrates that the City's existing and available potable water supplies are sufficient to meet the City's existing and projected future potable water demands to the year 2040 under all hydrologic conditions. Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

### *Impact 4.21: Cumulative Impact on Stormwater Facilities (Less than Significant)*

Because the proposed project increases impervious surface area from an existing undeveloped and predominately previous site, the Project site could increase runoff significantly, Project impacts to stormwater are considered potentially significant. Onsite storm drainage would be installed to serve the proposed Project. Development of the proposed Project would include construction of a new storm drainage system, including a drainage collection system, and detention basins. All on-site storm drainage runoff will be collected through drain inlets and catch basins along the streets, and conveyed via surface swales and underground trunk lines to detention and water quality basins. The storm water drainage detention basins will be constructed to meet the City of Tracy Standards. Discharge from the basins will be conveyed through controlled flow pumping facilities to existing City of Tracy and main storm drain laterals.

Installation of the Project's storm drainage system will be subject to current City of Tracy Design Specifications and Standards. The proposed storm drainage collection and detention system will be subject to the SWRCB and City of Tracy regulations, including: Tracy Storm Drain Master Plan, 2012; Phase II, NPDES Permit Requirements; NPDES-MS4 Permit Requirements; and LID Guidelines.

The potential environmental effects resulting from construction of the storm drainage system are analyzed throughout this Draft EIR, and in some cases, there are potentially significant impacts associated with construction of this infrastructure. Where impacts are identified for each environmental topic, mitigation measures are developed to avoid, minimize, or compensate for the

impact to the extent practicable. All mitigation measures presented throughout this EIR will be implemented to reduce impacts to the extent practicable. There will not be any significant impacts beyond what is disclosed in the other chapters of this document. Implementation of the proposed Project, in combination with and past, present, and probable future projects, would have a ***less than significant*** impact relative to this topic.

***Impact 4.22: Cumulative Impact on Solid Waste Facilities (Less than Significant)***
Currently, the permitted capacity of the Foothill Landfill is 102 million cubic yards. The remaining capacity of the facility is approximately 95 million cubic yards. The addition of the volume of solid waste associated with the Project to the landfill would not exceed the landfill's remaining capacity.

Based on the waste generation factors provided by CalRecycle, the proposed project is expected to generate approximately 5,584 pounds per day of solid waste upon full buildout, which is equivalent to 2.8 tons per day. The proposed project would be required to comply with applicable State and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. The City would coordinate development of the proposed project with Tracy Disposal Service. Furthermore, the addition of the volume of solid waste associated with the proposed project, approximately 2.8 tons per day, would increase the total tons of solid waste to the MRF to approximately 357 tons per day; however, this increase would not cause an exceedance of the landfill's remaining capacity.

According to the City's General Plan Draft EIR, growth within San Joaquin County would contribute to the need for adequate solid waste disposal facilities. The Foothill landfill has capacity until at least 2054. The cumulative population growth within the County was considered when evaluating the lifespan of the facility and planning for future expansions. As a result, it can be concluded that there would be adequate capacity to support regional increases in population, and a significant cumulative impact would not occur.

The proposed Project would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. In conclusion, implementation of the proposed Project, in combination with and past, present, and probable future projects, would have a ***less than significant*** cumulative impact relative to this environmental topic.

## 4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

### LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), require that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);

- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed Project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

### Analysis

Implementation of the proposed Project would result in the conversion of the approximately 103.0-acre Development Area, which is comprised of vacant land previously used for agricultural purposes and a small portion of land used as an overflow outlet for the Delta-Mendota Canal for the development of industrial uses. Development of the proposed Project would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its previous condition as agricultural or vacant rural land.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction, infrastructure installation and connection to existing utilities, and its continued maintenance. Construction of the proposed Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the proposed Project. The introduction of industrial uses to the Project site will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the proposed Project will increase consumption of available supplies, including gasoline and diesel. These energy resource demands relate to initial Project construction, Project operation and site maintenance and the transport of people and goods to and from the Project site.

## 4.3 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed Project are discussed in Sections 3.1 through 3.14 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

- Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources
- Impact 3.2-1: The proposed Project has the potential to result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on

the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses

- Impact 3.3-1: Project operation would result in a cumulatively considerable net increase of a criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan.
- Impact 3.3-2: The proposed Project would result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard.
- Impact 3.11-1: The proposed Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- Impact 3.13-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)
- Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region
- Impact 4.4: Cumulative Impact on Agricultural Resources
- Impact 4.5: Cumulative Impact on the Region's Air Quality
- Impact 4.15: Cumulative Exposure of Existing Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development
- Impact 4.17: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)

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# 5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

## PROJECT OBJECTIVES

The principal objective of the proposed Project is the approval and subsequent construction and operation of the Costco depot annex and Direct Delivery Center warehouse facility. The Project identifies the following objectives:

- Construct and operate a new state-of-the-art Costco depot annex and Direct Delivery Center warehouse facility with two separate buildings containing ground-level shipping and receiving truck loading docks along the eastern and western sides that is of sufficient size to efficiently ship, receive, store and distribute regional merchandise and food products.
- Annex the property into the City Limits and develop the site with light industrial uses that the City's General Plan already designates the site for.
- Locate an industrial Project in an area with nearby access to a regional roadway network.
- Create approximately 150 to 250 full time jobs along with approximately 400 construction jobs during Project buildout within the City of Tracy, thus improving the local jobs/housing balance.
- Ensure that the industrial area along West Schulte Road continues to be developed in a visually pleasing manner.
- Increase contributions to the City's tax base.
- Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and Federal code requirements.
- Locate needed Costco facilities on a site which can be purchased (rather than leased) in order to protect Costco's substantial investment of time, money and goodwill in the proposed location.
- Locate the facilities in close proximity to Costco's existing distribution operations (i.e., Costco Depot located at 25501 Gateway Blvd, Tracy, CA) and centrally located to service Costco's retail warehouse locations within northern California.
- Provide site ingress access for trucks from West Schulte at one gated access point to manage security of the site. Provide site egress for trucks to West Schulte at two access points to allow for efficient on-site circulation.
- Improve services to Costco members, including by making appliances and big/bulky products more readily available.
- Complete the Project on schedule and within budget.

## ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation (NOP) was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed Project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

The City of Tracy considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the Project would be avoided or substantially lessened?
- Is there a site available with the appropriate size and characteristics such that it would meet the basic Project objectives?

The City's consideration of alternative locations for the Project included a review of lands in the west part of Tracy that are located within the Sphere of Influence and are otherwise suitable for development. The City has found that there are no feasible alternative locations that exist within the City's Sphere of Influence with the appropriate size and characteristics that would meet the basic Project objectives and avoid or substantially lessen a significant effect. The City has determined that alternative locations outside the Sphere of Influence would not be feasible because an expansion of the Sphere of Influence would induce unplanned growth and cause impacts greater than development on the Project site. In addition, any potentially feasible alternate location would need to be sited near the existing Costco Depot in order to satisfy project objectives, to operate in efficient concert with the existing Costco Depot and to minimize extra truck travel time. No sites of adequate size and availability near the Costco Depot have been identified, nor would any such sites be expected to minimize environmental impacts. For these reasons, the City of Tracy determined that there are no feasible alternative locations.

In addition, as discussed in *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 (Goleta II), where a project is consistent with an approved general plan, no off-site alternative need be analyzed in the EIR. The EIR "is not ordinarily an occasion for the reconsideration or overhaul of fundamental land-use policy." (Goleta II, supra, 52 Cal.3d at p. 573.) In approving a general plan, the local agency has already identified and analyzed suitable alternative sites for particular types of development and has selected a feasible land use plan. "Informed and enlightened regional planning does not demand a project EIR dedicated to defining alternative sites without regard to feasibility. Such ad hoc reconsideration of basic planning policy is not only unnecessary, but would be in contravention of the legislative goal of long-term, comprehensive planning." (Goleta II, supra, 52 Cal.3d at pp. 572-573.) Here, the proposed Project is generally consistent with the types of uses considered in the Tracy General Plan and associated EIR, and thus, in addition to the reasons discussed above, an off-site alternative need not be further discussed in this EIR.

## 5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Three alternatives to the proposed Project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition and not be annexed into the City.
- **Reduced Project Alternative:** Under this alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the industrial square footage would decrease by 25 percent and the amount of developed land would decrease by 25 percent.
- **Agriculture Protection Alternative:** Under this alternative, the proposed Project would be developed in such a way to protect some of the on-site Important Farmland by reducing the overall footprint of the developed areas to a greater extent than the Reduced Project Alternative.

### NO PROJECT (NO BUILD) ALTERNATIVE

Under the No Project (No Build) Alternative development of the Project site would not occur, and the Project site would remain in its current existing condition and not be annexed into the City. The Project site is currently comprised of vacant land previously used for agricultural purposes. It is noted that the No Project (No Build) Alternative would fail to meet the Project objectives identified by the Project applicant.

### REDUCED PROJECT ALTERNATIVE

Under the Reduced Project Alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the industrial square footage would decrease by 25 percent and the amount of developed land would decrease by 25 percent. Under the Reduced Project Alternative, the total Development Area would decrease from approximately 103.0 acres under the proposed Project to approximately 75 acres. The remaining 25 acres outside of the Reduced Project Alternative area would remain in their current condition (vacant land). The 25 acres, which would not be included in the development area for this alternative, would be located in the western and southern portions of the site in order to preserve the urban fringe.

The amount of industrial uses would decrease from 1,745,052 square feet (sf) to 1,308,788.25 sf. Because the amount of urban development would decrease, the size of the parking areas and storm basins would also decrease. The areas developed with urban uses would be located in the eastern portion of the Project site.

## AGRICULTURE PROTECTION ALTERNATIVE

Under the Agriculture Protection Alternative, the proposed Project would be developed in such a way to protect some of the on-site Important Farmland by reducing the overall footprint of the developed areas to a greater extent than the Reduced Project Alternative. The reasoning behind this alternative is to present an alternative to protect some of the agricultural land on the Project site. Development of the proposed Project would result in the permanent conversion of approximately 101.78 acres of Prime Farmland, which is a significant and unavoidable impact.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the footprint of the industrial development area would be reduced resulting in an increase of undeveloped land beyond the Reduced Project Alternative. The industrial use would be contained within one two-story building in order to reduce the developed area footprint by approximately 50 percent while providing the same square footage as the Project. The 103.0-acre Development Area would be reduced to 50 acres. The total acreage dedicated to the proposed Project would be reduced by approximately 50 percent. The total acreage developed would be 50 acres, with 50 acres remaining in its current state. The 50 acres which would not be included in the Development Area for this alternative would be located in the western portion of the site in order to preserve the urban fringe.

# 5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-1 summarizes the comparative effects of each alternative.

## NO PROJECT (NO BUILD) ALTERNATIVE

### Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered as a result of Project implementation. Consistency with the General Plan, Tracy Zoning Ordinance, and development standards would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

The No Project (No Build) Alternative would leave the Project site in its existing state and would not result in increases in daytime glare or nighttime lighting. The visual character of the Project site would not change under this alternative compared to existing conditions.

The No Project (No Build) Alternative would avoid the light, glare, and visual character impacts resulting from the Project altogether. As such, this impact would be reduced when compared to the proposed Project.

## Agricultural Resources

Currently, the majority of the Project site is vacant; however, the site was previously used for agricultural purposes. Development of the proposed Project would result in the permanent conversion of 101.78 acres of Prime Farmland, which is a significant and unavoidable impact. The No Project (No Build) Alternative would result in no development on the Project site. As such, this alternative would have no impact on agricultural land, no potential for conflicts with existing agricultural resources, and no potential for conflict with regulations and plans intended to protect those resources. As such, this impact would be reduced when compared to the proposed Project.

## Air Quality

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project is in conformance with the AQAP, based on these criteria, as follows:

- *Determination that an AQAP is being implemented in the area where the project is being proposed.*

The SJVAPCD has implemented the current, modified 2016 8-hour AQAP as approved by CARB and approved by USEPA for the 2008 8-hour $O_3$ standard.

- *The proposed project must be consistent with the growth assumptions of the applicable AQAP.*

The SJCOG RTP/SCS growth projections provide for future employment/population factors. The development of the SJVAPCD AQAP is based in part on the land use general plan projections of the various cities and counties that constitute the Air Basin. The City of Tracy General Plan Land Use Element designates the Project site as Industrial, which is intended to accommodate flex/office space, manufacturing, warehousing and distribution, and ancillary uses for workers' needs. Therefore, the proposed Project, which involves the development of light industrial, warehouse and distribution and related uses, is considered consistent with the site's General Plan land use designation and its traffic would be included in volumes projected for analysis of the General Plan. The SJVAPCD AQP is based on the growth assumptions of the City of Tracy General Plan and SJCOG RTP/SCS. Since the Project is consistent with the SJCOG RTP/SCS, and SJCOG RTP/SCS projections are incorporated into the SIP, the Project is also consistent with the SIP.

- *The project must contain in its design all reasonably available and feasible air quality control measures.*

The Project incorporates various policy and rule-required implementation measures that would reduce related emissions, including all of the current Air District rules and regulations.[1] For example, the proposed Project would be required to implement Air District Rule 9510, which ensures that the Project would fulfill the Air District's emissions reduction commitments in the relevant $PM_{10}$ and Ozone Attainment plans. In addition, the Project would comply with all applicable stationary source permitting rules implemented by SJVAPCD, which further confirms the Project would not cause or contribute to any ambient air quality standard exceedances.

Impacts related to exposure of sensitive receptors to substantial pollutant concentrations as a result of the Project were determined to be less than significant. Additionally, as discussed in Impact 3.3-4 of Section 3.3, a health impact analysis has been prepared for the proposed Project to analyze the potential health risks associated with increased trucks to the Project site and surrounding roadways associated with the development and operation of the proposed industrial and commercial uses. The source of toxic air contaminants (TACs) for this type of Project can be attributed to diesel exhaust from the trucks (including from truck refrigeration units, or TRUs). As shown in Table 3.3-9 in Section 3.3, the proposed Project, in and of itself, would not result in a significant increased exposure of receptors to localized concentrations of TACs. Risk of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SJVAPCD thresholds.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to air quality. As such, this impact would be reduced when compared to the proposed Project.

## Biological Resources

As described in Section 3.4 Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. The California Natural Diversity Database (CNDDB) currently contains records for California red-legged frog, San Joaquin kit fox, big tarplant, caper-fruited tropidocarpum, burrowing owl, and tricolored blackbird in the vicinity of the Project site. The Project site provides potential habitat for several species. Mitigation Measure 3.4-1 requires participation with the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), which includes fees that would be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the Project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the San Joaquin Council of Governments (SJCOG) through the authorization of SJMSCP coverage. Through the implementation of various mitigation measures found in Section 3.4, implementation of the proposed Project will have a less than significant impact on biological resources.

[1] See here for further detail: https://www.valleyair.org/rules/1ruleslist.htm

Under the No Project (No Build) Alternative, the proposed Project would not be constructed, no habitat would be removed, and no ground disturbing activities would occur. As such, this impact would be reduced when compared to the proposed Project.

## Cultural and Tribal Resources

As discussed in Section 3.5, Cultural and Tribal Resources, the Project site does not contain buildings or structures. A California Historic Resources Information System (CHRIS) search was requested from the Central California Information Center (CCIC), which included the Project area and a one-half mile radius (CCIC File #11244L). The results of the CCIC records search indicated that the Project site does not contain any recorded buildings or structures listed on the State Office of Historic Preservation Historic Property Directory (which includes listings of the CRHR, California State Historical Landmarks, California State Points of Historical Interest, and the NRHP). The records search also noted that the General Land Office Survey Plat does not reference any historic features in the Project area.

Any previously unknown cultural resources that may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project would not considerably contribute to a significant reduction in cultural resources in the region.

The No Project (No Build) Alternative would result in no ground disturbing activities related to the proposed Project and would not have the potential to disturb or destroy cultural, historic, and archaeological resources, or paleontological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the No Project (No Build) Alternative would result in less potential for impacts to cultural resources as the entire Project site would continue to be available for agriculture production. As such, this impact would be reduced when compared to the proposed Project.

## Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the Project. According to the Geotechnical Review, the proposed Project is geotechnically feasible and concerns related to ground rupture, ground shaking, liquefication, or landslides were not identified. However, mitigation measures provided in Section 3.6 ensure impacts related to soil hazards and paleontological resources will be less than significant.

The No Project (No Build) Alternative would result in the Project site remaining in its existing condition. There are no structures on the Project site that are subject to seismic or geologic risks. The No Project (No Build) Alternative would not involve new construction that could be subject to seismic, geologic or soils hazards; thus, this alternative would have no potential for impact. As such, this impact would be reduced when compared to the proposed Project.

## Greenhouse Gases, Climate Change and Energy

Short-term construction greenhouse gas (GHG) emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. As presented in Table 3.7-2 in Section 3.7, the annual GHG emissions associated with the proposed Project would be approximately 12,273 metric tons of carbon dioxide equivalents ($MTCO_2e$). The proposed Project would be consistent with all relevant plans, policies, and regulations associated with GHGs, including the SB 32 2017 Scoping Plan Update, and the SJCOG's 2018 RTP/SCS. Taking into account the proposed Project's emissions, and the progress being made by the State toward reducing emissions in key sectors such as transportation, industry, and electricity, the Project would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment. Both GHG related impacts associated with the proposed Project were determined to be less than significant.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to GHG reductions. As such, this impact would be reduced when compared to the proposed Project.

## Hazards and Hazardous Materials

For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers), as hazard-related impacts tend to be site-specific and Project-specific.

As part of the Phase I ESA (see Appendix D), a limited Phase II ESA was conducted to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. Soil samples were collected pursuant to the Department of Toxic Substances Control (DTSC) Interim Guidance for Sampling Agricultural Properties (Third Revision) and were analyzed for organochlorine pesticides (OCPs) using US Environmental Protection Agency (EPA) Method 8081A and arsenic using US EPA Method 6010B. The soil sample analytical results indicated that OCPs were not present above laboratory detection limits in shallow soils at the site and arsenic concentrations ranged from 2.3 milligrams per kilogram (mg/kg) to 4.3 mg/kg. Arsenic concentrations did not exceed the arsenic California Code of Regulations (CCR) Title 22 Total Threshold Limit Concentration of 500 mg/kg, 10 times the arsenic CCR Title 22 Soluble Threshold Limit Concentration value of 5 milligrams per liter (mg/L) (50 mg/kg), or 20 times the arsenic Federal Toxicity Characteristic Leaching Procedure threshold of 5 mg/L (100 mg/kg). Therefore, arsenic concentrations at the Site do not exceed thresholds that would classify soils as Federal or California hazardous wastes.

Additionally, Crimson Oil operates a crude oil pipeline beneath the Project site and PG&E operates two natural gas pipelines, which both run across the northeastern portion of the Project site. While the Phase I ESA notes no incidental/accidental releases in the Project vicinity have been reported along the pipelines to date, the presence of natural gas pipelines and the potential for undocumented leaks to occur from the crude oil pipeline represents a Recognized Environmental Condition (REC). Undocumented leaks that could occur on-site would result in the release of hazardous materials into the environment contaminating the site and potentially exposing employees and the public to hazardous materials. The Phase I ESA notes that Crimson Pipeline, L.P. (or the current pipeline operator at the time of the leak) would be responsible for subsurface contamination as a result of leaks from this pipeline; therefore, the site cleanup from the subsurface contamination would be the responsibility of Crimson Pipeline, L.P. (or the current pipeline operator at the time of the leak). Mitigation Measure 3.8-3 would require the Project applicant to notify the San Joaquin County Department of Environmental Health, who would facilitate the site cleanup. Impacts associated with creation of a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment associated with the Project were determined to be less than significant.

Under the No Project (No Build) Alternative, no new land uses would be introduced to the Project site, and the potential for hazardous material release on the Project site would be eliminated. As such, this impact would be reduced when compared to the proposed Project.

## Hydrology and Water Quality

As described in Section 3.9, implementation of the proposed Project has the potential to result in the violation of water quality standards and the discharge of pollutants into surface waters during both construction and long-term operations. Construction activities could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff. Mitigation measures provided in Section 3.9 would reduce potential water quality impacts to a less than significant level. The proposed Project would not significantly impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the No Project (No Build) Alternative, potential water quality impacts from construction and operation of the proposed Project would be eliminated. While groundwater recharge is not considered a significant impact under the proposed Project, under this alternative, the land will be kept in its present state (vacant land previously used for agricultural uses). The No Project (No Build) Alternative will have a greater chance of groundwater recharge because it does not introduce large areas of impervious surfaces as would the proposed Project. As such, potential impacts related to hydrology and water quality would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

## Land Use

The Project site is currently within the jurisdiction of San Joaquin County. The Project site is designated as Agriculture by the County's General Plan Land Use Map and is zoned as AG-40 Agriculture by the County. The site currently has a City General Plan land use designation of Industrial (I). Figure 2.0-5 in Chapter 2.0 illustrates the current and proposed Tracy General Plan land use within the Project site. The proposed Project is substantially consistent with the Tracy General Plan land use requirements.

The No Project (No Build) Alternative would result in no changes to land use and would include no development. The No Project (No Build) Alternative would be consistent with the County General Plan and zoning designations for the site because the vacant land which was previously used for agricultural uses would continue on the site under this alternative. Overall, the impacts related to land use under this alternative would be reduced compared to the proposed Project.

## Noise

The primary noise sources associated with the proposed Project are on-site parking lot circulation and the loading docks, as well as vehicular traffic. Mitigation measures provided in Section 3.12 would reduce some potential impacts to a less than significant level. However, a sound wall would not result in noise levels at or below the County's nighttime noise standard. Therefore, the County's exterior noise standards would still be exceeded.

Under the No Project (No Build) Alternative, the Project site would not be developed and there would be no potential for new noise sources. As such, this impact would be reduced when compared to the proposed Project.

## Public Services

Development of the proposed Project will require payment of all applicable fees and assessments required to fund its fair share of public services. This funding would assist in the development of facilities in order to meet the City's standards. The proposed Project would have a less than significant impact to fire, police, schools, and recreational facilities.

Under the No Project (No Build) Alternative, the Project site would remain undeveloped and there would be no increased demand for public services or recreation. The No Project (No Build) Alternative would have a reduced impact when compared to the proposed Project because demand on public services would be reduced when compared to the proposed Project.

## Transportation and Circulation

The No Project (No Build) Alternative would not introduce additional vehicle trips onto the area roadways. It was determined that the proposed Project would cause an increase in vehicle miles traveled (VMT) for home-based work trips per employee. Mitigation was identified to alleviate long term impacts; however, impacts related to VMT were deemed to be significant and unavoidable. All other transportation related impacts were determined to be less than significant.

Under the No Project (No Build) Alternative, these potential impacts would be avoided, and the No Project (No Build) Alternative would have a reduced traffic impact when compared to the proposed Project.

### Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The wastewater system is capable of handling the increased flows with the existing NPDES permit and infrastructure.

Implementation of the proposed Project would result in increased demand for potable water. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. The proposed Project includes a storm drainage collection system to handle the increased storm drainage.

Implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste. All utilities related impacts associated with the Project were determined to be less than significant.

Under the No Project (No Build) Alternative the Project site would not increase the demand for any utilities, including wastewater services, potable water supplies, or solid waste disposal. There would be no need to construct stormwater drainage infrastructure. Overall, the demand for utilities would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

## REDUCED PROJECT ALTERNATIVE

### Aesthetics and Visual Resources

The aesthetics-related impacts would be similar with the Reduced Project Alternative as this alternative is located on the same site and would have similar uses as the proposed Project. However, due to the reduction in developed area and square footage compared to the Project, the changes to the visual character of the site would be less pronounced. The impacts of light and glare would still occur and could be mitigated to a less than significant level. Nevertheless, due to the decreased developed area and square footage, the Reduced Project Alternative would have a slightly reduced impact on visual resources when compared to the proposed Project. The significant and unavoidable impact would not be avoided by this alternative.

### Agricultural Resources

While this alternative would decrease the amount of developed area by 25 percent compared to the Project, 75 acres would still be converted from agricultural use. While this alternative would reduce the impacts to agricultural lands when compared to the proposed Project, the loss of the agricultural land, including prime farmland, would be a significant and unavoidable impact under both the Reduced Project Alternative and the proposed Project. Overall, the Reduced Project Alternative

would have slightly reduced impacts on agricultural resources when compared to the proposed Project.

## Air Quality

Under the Reduced Project Alternative, the Project site would be developed with the same type of industrial use as described in the Project Description, but the industrial square footage would decrease by 25 percent. Trip generation is based on various factors, one of which being building size. Therefore, the amount of vehicle trips generated from the Reduced Project Alternative would be reduced by 25 percent under this alternative. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would result in a reduced amount of mobile source emissions. Additionally, the area source emissions would be reduced when compared to the Project.

Uses in the Reduced Project Alternative would be required to adhere to the same mitigation measures as the proposed Project. The Reduced Project Alternative would result in reduced impacts related to air quality when compared to the proposed Project; however, it is likely that the significant and unavoidable air quality impact would remain under this alternative. The remaining air quality impacts would be less than significant under the proposed Project and the Reduced Project Alternative.

## Biological Resources

The Reduced Project Alternative would result in development of roughly 75 acres of the Project site. Under this alternative, the 25 acres that would not be included in the development area would be located in the western and southern portions of the site in order to preserve the urban fringe. The preservation of 25 acres of the 103-acre Development Area would provide greater biological benefits even though the remainder of the Project site would be developed. As such, the Reduced Project Alternative would result in slightly reduced impacts to biological resources when compared to the proposed Project.

## Cultural and Tribal Resources

The Reduced Project Alternative would result in development of 75 percent of the Project site. The 25 acres that would not be included in the development area for this alternative would be located in the western and southern portions of the site in order to preserve the urban fringe. This would result in a reduced potential to disturb or destroy cultural, historic, and archaeological resources, or paleontological resources. The same mitigation measures required for the proposed Project would be required for this alternative. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the Reduced Project Alternative would result in a slightly reduced potential for impacts to cultural resources.

## Geology and Soils

Under the Reduced Project Alternative, the amount of developed area would be reduced by 25 percent compared to the Project, and the size of structures that would be subject to hazardous geological conditions would be reduced by 25 percent. While the proposed Project is not anticipated

to result in significant impacts from geology and soils with mitigation, the Reduced Project Alternative would result in a slightly reduced potential for impacts when compared to the proposed Project.

## Greenhouse Gases, Climate Change and Energy

Under the Reduced Project Alternative, the Project site would be developed with the same type of use and structures as the proposed Project, but the amount of building area and developed area would be decreased by 25 percent. The reduced amount of development would result in a corresponding reduced level of GHG emissions when compared to the proposed Project. As such, the GHG emissions impact would be reduced with this Alternative when compared to the proposed Project; however, the less than significant GHG impact would remain under this alternative.

## Hazards and Hazardous Materials

Under the Reduced Project Alternative, the type of urban use would not change when compared to the proposed Project, but the amount of development would be reduced by 25 percent. This alternative would still use the hazardous materials identified under the proposed Project. However, due to the reduction in square footage, the amount of hazardous materials brought onto the site during construction and operation would be reduced. As such, this alternative would result in slightly reduced impacts from hazards and hazardous materials impacts when compared to the proposed Project.

## Hydrology and Water Quality

Under the Reduced Project Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be reduced equivalent to the amount of land area that remains undeveloped under this alternative. The increased amount of undeveloped land under this alternative would remain pervious to precipitation, which would facilitate groundwater recharge and the natural biofiltration of stormwater. This alternative would still include stormwater detention/basins, and provide natural best management practices (BMPs) to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be slightly reduced under the Reduced Project Alternative when compared to the proposed Project.

## Land Use

Similar to the Project, pre-zoning and annexation would be required for the Reduced Project Alternative. Approval of these entitlements would ensure the Project is consistent with the General Plan and zoning. Overall, the impacts related to land use under this alternative would be similar to the proposed Project.

## Noise

The Reduced Project Alternative would result in a reduced amount of industrial uses compared to the Project; therefore, the noise impacts associated with vehicular and operational activities of the proposed Project would be reduced under this alternative. Because the western portion of the site would not be developed, an increased buffer between the industrial uses and the noise receptor

west of the site would result. It is possible that the increased distance would decrease operational noise below the County's threshold. Therefore, under this alternative, noise impacts would be reduced when compared to the proposed Project and could be less than significant with mitigation.

## Public Services

Under the Reduced Project Alternative, the proposed Project would be developed with the same type of industrial use as described in the Project Description, but the industrial square footage would decrease by 25 percent. Both the proposed Project and the Reduced Project Alternative would result in less-than-significant impacts to public services. As such, impacts to public services under this alternative would be comparable to the proposed Project.

## Transportation and Circulation

Under the Reduced Project Alternative, the Project site would be developed with the same components as described in the Project Description, but the amount of square footage and developed area would decrease by 25 percent. The reduced amount of industrial uses would result in a reduced amount of vehicle trips generated by the Reduced Project Alternative. It is noted, however, that the need for Costco warehouse facilities would not diminish and more such facilities may need to be located further from the existing Costco Depot and/or at locations that would increase VMT.

Uses in the Reduced Project Alternative would be required to adhere to the same mitigation measures as the proposed Project. It is likely that the significant and unavoidable VMT impact would remain under this alternative. Overall, the Reduced Project Alternative would result in reduced traffic related impacts when compared to the proposed Project.

## Utilities

Under the Reduced Project Alterative, the Project site would be developed with the same components as described in the Project Description, but the amount of square footage and developed area would decrease by 25 percent. Because generation of wastewater and solid waste, and demand for water, directly correlate to building size, his would result in a reduced amount of wastewater, water demand, and solid waste generated from the Project site. The development area would decrease from 103 acres to 75 acres. The remaining 25 acres outside of the Reduced Project Alternative area would remain in their current condition (vacant land previously used for agricultural uses). This alternative would increase the amount of pervious soils, thereby increasing opportunities for stormwater retention at the Project site. However, uses in the Reduced Project Alterative would be required to adhere to submit a storm drainage plan to the City, similar to the Project. The Reduced Project Alternative would result in reduced demand on utility systems when compared to the proposed Project.

Overall, this alternative would have reduced wastewater treatment demand, reduced water demand, reduced solid waste generated, and reduced storm water runoff when compared to the proposed Project. As such, this alternative would have reduced utilities impacts when compared to the proposed Project.

## AGRICULTURE PROTECTION ALTERNATIVE

### Aesthetics and Visual Resources

Under the Agriculture Protection Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the development footprint of the industrial area would be reduced resulting in an increase of undeveloped land beyond the Reduced Project Alternative. The industrial use would be two-story in order to reduce the developed area footprint while providing the same square footage as the Project. Although the developed area would be reduced by 50 percent compared to the Project, the impacts to the existing visual quality would be similar to the proposed Project as 50 acres of the site would be developed with the same uses as under the proposed Project, just at a higher intensity. As such, there would still be an impact to the visual character under this alternative. The impact associated with increased light and glare in the developed area would be mitigated under both the proposed Project and the Agriculture Protection Alternative. Under this alternative, due to the increased building height, the changes to the existing visual quality would be increased compared to the proposed Project in the areas that are developed, but would be significantly less in the areas that are not developed. Overall, this alternative would have an increased impact to aesthetics when compared to the proposed Project.

### Agricultural Resources

While this alternative would decrease the amount of developed area by 50 percent compared to the Project, 50 acres would still be converted from agricultural use. While this alternative would reduce the impacts to agricultural lands when compared to the proposed Project, the loss of the agricultural land, including prime farmland, would be a significant and unavoidable impact under both this Alternative and the proposed Project. Overall, the Agriculture Protection Alternative would have reduced impacts on agricultural resources when compared to the proposed Project.

### Air Quality

Implementation of the proposed Project would cause an increase in traffic, which is the dominant source of operational air emissions associated with the proposed Project. Under the Agriculture Protection Alternative, the same type and amount of industrial uses as described in the Project Description would be developed, but the amount of developed land would decrease by 50 percent. Because the type and amount of trip-generating uses would be equal to the Project, the amount of traffic generated from the Agriculture Protection Alternative would be expected to be equal to the proposed Project. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the comparable trip volume would result in an equal amount of the mobile source emissions. Additionally, the area source emissions would be equal when compared to the Project.

Uses in the Agriculture Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project. The Agriculture Protection Alternative would result in similar impacts related to air quality when compared to the proposed Project and the significant and unavoidable air quality impact would remain under this alternative.

## Biological Resources

The Agriculture Protection Alternative would result in development of 50 acres of the Project site. Under this alternative, the 50 acres which would not be included in the development area for this alternative would be located in the western portion of the site in order to preserve the urban fringe. The preservation of 50 acres of the 103-acre Development Area would provide biological benefits even though the remainder of the site would be developed. As such, the Agriculture Protection Alternative would result in less impact to biological resources when compared to the proposed Project. The resulting level of significance under both the proposed Project and the Agriculture Protection Alternative would be less than significant with implementation of mitigation.

## Cultural and Tribal Resources

The Agriculture Protection Alternative would result in development of 50 percent of the Project site. The 50 acres which would not be included in the development area for this alternative would be located in the western portion of the site in order to preserve the urban fringe. This would result in a reduced potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. The same mitigation measures required for the proposed Project would be required for this alternative. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the Agriculture Protection Alternative would result in a reduced potential for impacts to cultural resources.

## Geology and Soils

Under the Agriculture Protection Alternative, the amount of developed area would be reduced by 50 percent compared to the Project, but the structural square footage that would be subject to hazardous geological conditions would be equal to the Project. Both the proposed Project and the Agriculture Protection Alternative would not result in significant impacts from geology and soils with mitigation. As such, the Agriculture Protection Alternative would result in similar geology and soils impacts when compared to the proposed Project.

## Greenhouse Gases, Climate Change and Energy

Under the Agriculture Protection Alternative, the Project site would be developed with the same types and amounts of commercial and industrial development as the proposed Project, but the amount of developed area would be decreased by 50 percent. All uses in the Agriculture Protection Alternative would be required to adhere to the same mitigation measure as the proposed Project. The equal amount of development would result in a corresponding equal level of GHG emissions when compared to the proposed Project. As such, the GHG emissions impact would be similar to the proposed Project and the less than significant GHG impact would remain under this alternative.

## Hazards and Hazardous Materials

Under the Agriculture Protection Alternative, the type of urban uses would not change when compared to the proposed Project, but the amount of developed area would be reduced by 50 percent. This alternative would use the same types and quantities of hazardous materials identified under the proposed Project. As such, this alternative would have equal impacts from hazards and

hazardous materials impacts when compared to the proposed Project. Both the proposed Project and this alternative would require mitigation to reduce this impact to a less than significant level.

## Hydrology and Water Quality

Under the Agriculture Protection Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be reduced equivalent to the amount of land area that remains undeveloped under this alternative. The increased amount of undeveloped land under this alternative would remain pervious to precipitation, which would facilitate groundwater recharge and the natural biofiltration of stormwater. This alternative would still include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be reduced under the Agriculture Protection Alternative when compared to the proposed Project. Both the proposed Project and this alternative would require mitigation to reduce this impact to a less than significant level.

## Land Use

Similar to the Project, pre-zoning and annexation would be required for the Agriculture Protection Alternative. Approval of these entitlements would ensure the Project is consistent with the General Plan and zoning. Overall, the impacts related to land use under this alternative would be similar to the proposed Project.

## Noise

Under the Agriculture Protection Alternative, the 50 acres which would not be included in the Development Area for this alternative would be located in the western portion of the site in order to preserve the urban fringe. This would result in an increased distance between the warehouse and the nearest sensitive receptor located west of the Project site. The Agriculture Protection Alternative would result in an equal amount of industrial uses compared to the Project; therefore, the noise levels associated with vehicular and operational activities of the proposed Project would be equal under this alternative. Mitigation measures for noise attenuation and best management practices would be required under both the proposed Project and the Agriculture Protection Alternative. Because the distance to the nearest receptor would be increased, the exterior noise levels at the receptor would be reduced and it is possible that the increased distance would decrease operational noise below the County's threshold. Therefore, under this alternative, noise impacts could be less than significant with mitigation. Therefore, under this alternative, noise impacts would be reduced when compared to the proposed Project.

## Public Services

Under the Agriculture Protection Alternative, the proposed Project would be developed with the same types and amounts of industrial uses as described in the Project Description, but the amount of developed land would decrease by 50 percent. Both the proposed Project and the Agriculture Protection Alternative would result in less-than-significant impacts to public services. As such, impacts to public services under this alternative would be equal to the proposed Project.

### Transportation and Circulation

Under this alternative, the proposed Project would be developed with the same amount of industrial uses. The equal amount of industrial uses would result in an equal amount of traffic generated from the Agriculture Protection Alternative.

Uses in the Agriculture Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project; however, the significant and unavoidable VMT impact would remain under this alternative. Overall, the Agriculture Protection Alternative would result in equal traffic related impacts when compared to the proposed Project.

### Utilities

Under this alternative, the same components as described in the Project Description would be developed, but the amount of developed land would be reduced resulting in an increase of undeveloped land when compared to the Project. The commercial and industrial uses would be two-story in order to reduce the developed area footprint while providing the same square footage as the Project. This would result in a comparable amount of wastewater, water demand, and solid waste generated from the Project site. The total Development Area would decrease from 103 acres to 50 acres. The remaining 50 acres outside of the Agriculture Protection Alternative area would remain in their current condition (vacant land). This alternative would increase the amount of pervious soils, thereby increasing opportunities for stormwater retention at the Project site. However, uses in the Agriculture Protection Alterative would be required to submit a storm drainage plan to the City, similar to the Project. The Agriculture Protection Alternative would result in a comparable demand on utility systems when compared to the proposed Project.

Overall, this alternative would have similar wastewater treatment demand, similar water demand, similar solid waste generated, and similar storm water runoff when compared to the proposed Project. As such, this alternative would have similar utilities impacts when compared to the proposed Project.

## ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (No Build) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts.

Table 5.0-1 presents a comparison of the alternative Project impacts with those of the proposed Project.

***TABLE 5.0-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT***

| *ENVIRONMENTAL ISSUE* | *NO PROJECT (NO BUILD) ALTERNATIVE* | *REDUCED PROJECT ALTERNATIVE* | *AGRICULTURE PROTECTION ALTERNATIVE* |
|---|---|---|---|
| Aesthetics and Visual Resources | Less (Best) | Slightly Less (2nd Best) | Greater (3rd Best) |
| Agricultural Resources | Less (Best) | Slightly Less (3rd Best) | Less (2nd Best) |
| Air Quality | Less (Best) | Less (2nd Best) | Equal (3rd Best) |
| Biological Resources | Less (Best) | Slightly Less (3rd Best) | Less (2nd Best) |
| Cultural and Tribal Resources | Less (Best) | Slightly Less (3rd Best) | Less (2nd Best) |
| Geology and Soils | Less (Best) | Slightly Less (2nd Best) | Equal (3rd Best) |
| Greenhouse Gases, Climate Change and Energy | Less (Best) | Less (2nd Best) | Equal (3rd Best) |
| Hazards and Hazardous Materials | Less (Best) | Less (2nd Best) | Equal (3rd Best) |
| Hydrology and Water Quality | Less (Best) | Slightly Less (3rd Best) | Less (2nd Best) |
| Land Use | Less (Best) | Equal (2nd Best) | Equal (2nd Best) |
| Noise | Less (Best) | Less (2nd Best) | Slightly Less (3rd Best) |
| Public Services | Less (Best) | Equal (2nd Best) | Equal (2nd Best) |
| Transportation and Circulation | Less (Best) | Less (2nd Best) | Equal (3rd Best) |
| Utilities | Less (Best) | Less (2nd Best) | Equal (3rd Best) |

*GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT*
*LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT*
*EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT*

As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Project Alternative and Agriculture Protection Alternative both rank higher than the proposed Project. The Reduced Project Alternative would have equal impacts in two areas, slightly less impacts in seven areas, and less impacts in six areas. The Agriculture Protection Alternative would have greater impacts in one area, equal impacts in eight areas, slightly less impacts in one area, and less impacts in four areas. Therefore, the Reduced Project Alternative would be the next environmentally superior alternative. It is noted that the Reduced Project Alternative would not fully meet all of the Project objectives. See Section 5.4 below for a comparative evaluation of the objectives for each alternative.

## 5.4 COMPARATIVE EVALUATION OF THE ALTERNATIVES' ABILITY TO SATISFY PROJECT OBJECTIVES

This section examines how each of the alternatives selected for more detailed analysis meets the Project objectives.

1. *Construct and operate a new state-of-the-art Costco depot annex and Direct Delivery Center warehouse facility with two separate buildings containing ground-level shipping and receiving truck loading docks along the eastern and western sides that is of sufficient size to efficiently ship, receive, store and distribute regional merchandise and food products.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not provide a new state-of-the-art Costco depot annex and Direct Distribution Center warehouse facility with two

separate buildings containing ground-level shipping and receiving truck loading docks along the eastern and western sides. The Reduced Project Alternative would partially meet this objective because this alternative would provide a new state-of-the-art Costco depot annex and Direct Distribution Center; however, because the size of Development Area and the warehouse buildings would be reduced by 25 percent compared to the Project, the warehouses may not be a sufficient size to efficiently store and distribute merchandise and thus may not fully meet this objective. The Agriculture Protection Alternative would partially meet this objective because it would provide a new state-of-the-art Costco depot annex and Direct Distribution Center. However, two buildings would not be constructed, and the ground-level shipping and receiving truck loading docks would be decreased by fifty percent as half of the warehouse would be on the second story and not the ground-level. Further, this alternative would result in one warehouse building along the eastern sides (not western).

2. *Annex the property into the City Limits and develop the site with light industrial uses that the City's General Plan already designates the site for.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would not be annexed into the City or developed with light industrial uses. Both the Reduced Project Alternative and the Agriculture Protection Alternative would meet this objective because under both alternatives the property would be annexed into the City Limits and the site would be developed with light industrial uses that the City's General Plan already designates the site for.

3. *Locate an industrial Project in an area with nearby access to a regional roadway network.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not locate an industrial Project in an area with nearby access to a regional roadway network. Both the Reduced Project Alternative and the Agriculture Protection Alternative would meet this objective because both alternatives would locate an industrial Project in an area with nearby access to a regional roadway network.

4. *Create approximately 150 to 250 full time jobs along with approximately 400 construction jobs during Project buildout within the City of Tracy, thus improving the local jobs/housing balance.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not create approximately 150 to 250 full time jobs along with approximately 400 construction jobs. The Reduced Project Alternative would partially meet this objective because this alternative would create full time and construction jobs; however, because the warehouse buildings would be reduced by 25 percent compared to the Project, the number of jobs would be less than the Project. The Agriculture Protection Alternative would meet this objective.

5. *Ensure that the industrial area along West Schulte Road continues to be developed in a visually pleasing manner.*

The No Project (No Build) Alternative would not satisfy this objective because under this alternative, the industrial area along West Schulte Road would not be developed in a visually pleasing manner. Both the Reduced Project Alternative and the Agriculture Protection Alternative would meet this objective.

6. *Increase contributions to the City's tax base.*

The No Project (No Build) Alternative would not increase contributions to the City's tax base; as such, the No Project (No Build) Alternative would not meet this objective. The Reduced Project Alternative and the Agriculture Protection Alternative would increase contributions to the City's tax base. However, because the warehouse buildings would be reduced by 25 percent compared to the Project under the Reduced Project Alternative, the amount of tax contributions under the Reduced Project Alternative would be less than the Project or the Agricultural Preservation Alternative.

7. *Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and Federal code requirements.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and Federal code requirements. The Reduced Project Alternative and the Agriculture Protection Alternative would meet this objective because both alternatives would incorporate sustainable design features and systems with enhanced energy efficiencies.

8. *Locate needed Costco facilities on a site which can be purchased (rather than leased) in order to protect Costco's substantial investment of time, money and goodwill in the proposed location.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not include construction of needed Costco facilities on-site. The Reduced Project Alternative and the Agriculture Protection Alternative would meet this objective because both alternatives would locate needed Costco facilities on a site which can be purchased (rather than leased).

9. *Locate the facilities in close proximity to Costco's existing distribution operations (i.e., Costco Depot located at 25501 Gateway Blvd, Tracy, CA) and centrally located to service Costco's retail warehouse locations within northern California.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not locate the facilities in close proximity to Costco's existing distribution operations (i.e., Costco Depot located at 25501 Gateway Blvd, Tracy, CA) and centrally located to service Costco's retail warehouse locations within northern California. The Reduced Project Alternative and the Agriculture Protection Alternative would meet this objective because both alternatives would locate the facilities in close proximity to Costco's existing distribution operations (i.e., Costco Depot located

at 25501 Gateway Blvd, Tracy, CA) and centrally located to service Costco's retail warehouse locations within northern California.

10. *Provide site ingress access for trucks from West Schulte at one gated access point to manage security of the site. Provide site egress for trucks to West Schulte at two access points to allow for efficient on-site circulation.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not provide site ingress access for trucks at one gated access point to manage security of the site or site egress for trucks at two access points to allow for efficient on-site circulation. The Reduced Project Alternative and the Agriculture Protection Alternative would likely meet this objective because both alternatives would provide site ingress access for trucks at one gated access point to manage security of the site or site egress for trucks at two access points to allow for efficient on-site circulation.

11. *Improve services to Costco members, including by making appliances and big/bulky products more readily available.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not include construction of a Costco Direct Delivery Center on-site which would be used to improve services to Costco members, including by making appliances and big/bulky products more readily available. The Reduced Project Alternative and the Agriculture Protection Alternative would meet this objective because both alternatives would improve services to Costco members, including by making appliances and big/bulky products more readily available.

12. *Complete the Project on schedule and within budget.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not complete the Project on schedule and within budget. The Reduced Project Alternative and the Agriculture Protection Alternative would meet this objective because both alternatives could complete the Project on schedule and within budget.

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# REFERENCES

Bay Area Air Quality Management District (BAAQMD). 2017. Spare the Air: Cool the Climate. April. San Francisco, CA. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en

C. Donald Ahrens. 2006. Meteorology Today: An Introduction to Weather, Climate, & the Environment.

California Air Pollution Control Officers Association (CAPCOA). 2010. Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

California Air Pollution Control Officers Association (CAPCOA). 2016. Air Toxics Hotspot Program. Available: http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf

California Air Pollution Control Officers Association (CAPCOA). 2017. Appendix A, Calculation Details for CalEEMod. November 8, 2017.

California Air Pollution Control Officers Association (CAPCOA). 2022. CalEEMod (v.2020.4.0). Available: http://www.aqmd.gov/caleemod/home

California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available: https://ww3.arb.ca.gov/ch/handbook.pdf

California Air Resources Board (CARB). 2014. Background Material: Almanac of Emissions and Air Quality 2013 Edition - Chapter 4 Regional Trends and Forecasts. Page last reviewed on February 7, 2014. Available: https://ww3.arb.ca.gov/aqd/almanac/almanac13/chap413.htm

California Air Resources Board (CARB). 2020a. California Greenhouse Gas Emissions for 2000 to 2018. Available: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf

California Air Resources Board (CARB). 2020b. Maps of State and Federal Area Designations. Available: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations

California Air Resources Board (CARB). 2020c. GHG Current California Emission Inventory Data. Available: https://ww2.arb.ca.gov/ghg-inventory-data

California Air Resources Board (CARB). 2021. EMFAC2021 Emissions Inventory. Available: https://arb.ca.gov/emfac/emissions-inventory

# 7.0 REFERENCES


California Air Resources Board (CARB). 2022. Area Designations Maps/State and National. Available: https://www.arb.ca.gov/desig/adm/adm.htm

California Air Resources Board (CARB). 2019a. California Ambient Air Quality Standards (CAAQS). Available: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm

California Air Resources Board (CARB). 2019b. ARB Databases: Aerometric Data Analysis and Management System (ADAM). Available at: https://www.arb.ca.gov/adam/trends/trends1.php

California Air Resources Board (CARB). 2019c. Carbon Monoxide and Health. Available: https://ww3.arb.ca.gov/research/aaqs/caaqs/co/co.htm

California Air Resources Board (CARB). 2019d. What is Carbon Monoxide? Available: https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health.

California Air Resources Board (CARB). 2019e. California Ambient Air Quality Standards (CAAQS). Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm

California Department of Conservation. Williamson Act/Land Conservation Act. Available at: http://www.conservation.ca.gov/dlrp/lca.

California Department of Conservation. 2016. California Important Farmlands Map.

California Department of Conservation, Division of Land Resources Protection, Farmland Mapping and Monitoring Program. 2014-2016. Table A-30: San Joaquin County 2014-2016 Land Use Conversion.

California Department of Education. 2021. DataQuest. Available: http://dq.cde.ca.gov/dataquest/.

California Department of Finance (DOF), Demographics Research Unit. Released May 1, 2020. Report E-5: Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2020, with 2010 Benchmark.

California Department of Fish and Wildlife. CNDDB BIOS viewer. Version 5.65.02, Available at: https://map.dfg.ca.gov/bios/.

California Department of Fish and Game. “Special Plants List.” Natural Diversity Database.

California Department of Fish and Game. “Special Animals List.” Natural Diversity Database.

California Department. of Fish and Game. “Special Vascular Plants, Bryophytes, and Lichens List.” Natural Diversity Database.

California Department of Toxic Substances Control. 2019. DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List). Available: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm.

California Department of Toxic Substances Control. 2019. Envirostor Data Management System. Available: http://www.envirostor.dtsc.ca.gov/public/.

California Department of Transportation. 2016. The California Scenic Highway Program. Available: http://www.dot.ca.gov/dist3/departments/mtce/scenic.htm.

California Department of Transportation. 2011. California Scenic Highway Mapping System, San Joaquin County. Available: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm.

California Department of Water Resources (DWR). 2016. Best Available Maps (BAM). Available: http://gis.bam.water.ca.gov/bam/.

California Department of Water Resources (DWR). Bulletin 118, California's Groundwater, 2003 Update.

California Department of Water Resources (DWR). 2006. California's Groundwater Bulletin 118. San Joaquin Valley Groundwater Basin. January 20, 2006.

California Department of Water Resources (DWR). 2013. California Water Plan Update 2013 – Advisory Committee Draft. San Joaquin River Hydrologic Region.

California Energy Commission. 2021. Electricity Consumption by County. Available: http://www.ecdms.energy.ca.gov/elecbycounty.aspx

California Energy Commission. 2022. California Electrical Energy Generation. Available: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/california-electrical-energy-generation

California Geological Survey. 2019. Seismic Shaking Hazards in California Based on the USGS/CGS Probabilistic Seismic Hazards Assessment (PSHA) Model. Available at: http://www.conservation.ca.gov/cgs/rghm/psha

California Geological Survey. 2019. CGS Information Warehouse: Regulatory Maps. Accessed 2019. Available at: https://maps.conservation.ca.gov/cgs/EQZApp/app/

CalRecycle. Solid Waste Information System (SWIS) Facility/Site Search. Available: https://www2.calrecycle.ca.gov/SolidWaste/Site/Search.

CalRecycle. 2019. Jurisdiction Diversion/Disposal Rate Summary (2007 - Current). Available: https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006.aspx.

CalRecycle. 2019. Facility/Site Summary Details: Foothill Sanitary Landfill (39-AA-0004). Available: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3097.

California Water Quality Control Monitoring Council, CalEPA. 2017. 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report) Available: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

California Water Resources Control Board. GeoTracker database. Accessed 2019. Available at: https://geotracker.waterboards.ca.gov/

# 7.0 REFERENCES


Carollo Engineers, Inc. Letter Subject: Tracy Costco Depot (Project) Annexation EIR Support. May 13, 2021

Central California Information Center. 2019. California Historic Resources Information System (CHRIS) search.

CityGate Associates. 2017. South County Fire Authority – Fire Department Standards of Cover Study. Available at: https://www.sjcfire.org/home/showpublisheddocument/116/637230173978270000

City of Tracy. 2011. City of Tracy General Plan.

City of Tracy. 2011. City of Tracy General Plan Environmental Impact Report.

City of Tracy. 2013. The Cordes Ranch Specific Plan Draft Environmental Impact Report.

City of Tracy. 2013. Citywide Public Facilities Master Plan. Available at: https://www.cityoftracy.org/home/showpublisheddocument/2062/637508002430200000

City of Tracy. 2013. Citywide Public Safety Master Plan. Available at: https://www.cityoftracy.org/home/showpublisheddocument/2070/637508004391500000

City of Tracy. 2016. 2015 Urban Water Management Plan.

City of Tracy. 2019. Tracy Municipal Services Review.

City of Tracy. 2019. Standard Plans (Streets and Utilities). Available at: https://www.ci.tracy.ca.us/documents/Standard_Plans_Streets_Utilities.pdf

City of Tracy. 2019. Standard Plans (Parks and Streetscapes). Available at: https://www.ci.tracy.ca.us/documents/Standard_Plans_Parks_Streetscape.pdf

City of Tracy. 2020. Citywide Storm Drainage Master Plan Update. Available at: https://www.cityoftracy.org/home/showpublisheddocument/2168/637508084509530000

Environmental Protection Agency. 2021. National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites.

Environmental Protection Agency. 2021. Toxic Release Inventory (TRI) Program.

Environmental Protection Agency. 2021. Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Search.

Environmental Protection Agency. 2021. Corrective Action Report (CORRACTS).

Environmental Protection Agency. 2021. Resource Conservation and Recovery Information System (RCRIS) Info.

Federal Bureau of Investigation. 2017. Crime in the United States – Offenses Known to Law Enforcement (Table 8). Available at: https://ucr.fbi.gov/crime-in-the-u.s/2017/crime-in-the-u.s.-2017/tables/table-8/table-8-state-cuts/california.xls

Federal Bureau of Investigation. 2018. Crime in the United States – Offenses Known to Law Enforcement (Table 8). Available at: https://ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/tables/table-8/table-8-state-cuts/california.xls

Federal Bureau of Investigation. 2019. Crime in the United States – Offenses Known to Law Enforcement (Table 8). Available at: https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/tables/table-8/table-8-state-cuts/california.xls

Intergovernmental Panel on Climate Change (IPCC). 2013. "Climate Change 2013: The Physical Science Basis, Summary for Policymakers." Available at: http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf

Kimley-Horn and Associates. Memorandum Re: Costco Direct Delivery Center Traffic Analysis. September 12, 2022.

Kleinfelder. 2018. Costco E-Commerce Facility Geotechnical Review.

Kleinfelder. 2018. Costco E-Commerce Facility Phase I Environmental Site Assessment.

Lammersville Joint Unified School District (LUSD). 2018. Julius Cordes Elementary School Education Specifications Educational Program.

LUSD 2020. "Julius Cordes Virtual Ribbon Cutting Ceremony and Campus Tour". Available at: https://youtu.be/an19-6Pt32k

LUSD. 2021. Altamont Elementary School 2019 – 2020 School Accountability Report Card (SARC). Available at: https://4.files.edl.io/d67b/06/16/21/212941-93bd12c3-7bba-4cb2-a00b-f6e372d2adf7.pdf

LUSD. 2021. Bethany Elementary School 2019 – 2020 SARC. Available at: https://4.files.edl.io/9a4f/06/16/21/213139-94f976b4-a3d6-4ea0-86bf-3eb799c43061.pdf

LUSD. 2021. Cordes Elementary School 2019 –2020 SARC. Available at: https://4.files.edl.io/822c/06/16/21/213413-0cb6663f-d626-4b45-a40a-6bc40a44cb8e.pdf

LUSD. 2021. Hansen Elementary School 2019 – 2020 SARC. Available at: https://4.files.edl.io/6df7/06/16/21/213600-24613656-fd88-4047-9b9a-a63058c2f6de.pdf

LUSD. 2021. Lammersville Elementary School 2019 – 2020 SARC. Available at: https://4.files.edl.io/4c0d/06/16/21/214225-7236b7ce-9711-40e3-b1f6-cb0f86a42ff5.pdf

LUSD. 2021. Mountain Horse High 2019 – 2020 SARC. Available at: https://drive.google.com/file/d/1UICAtI-FQ7z2fE0cwi0amUwhEpjwC5Hm/view

LUSD. 2021. Sebastian Questa Elementary School 2019 – 2020 SARC. Available at: https://4.files.edl.io/d3aa/06/16/21/214350-61a9e3ab-61a9-4d57-9413-50da5807d3a5.pdf

LUSD. 2021. Wicklund Elementary School 2019 – 2020 SARC. Available at: https://4.files.edl.io/2c47/06/16/21/214654-faabde4f-92bc-47bd-b312-e508c1221aaa.pdf

# 7.0 REFERENCES


LUSD. 2020. School Facilities Fee Justification Report. Available at: https://4.files.edl.io/4043/05/06/20/190200-3904e0cd-51aa-400d-8034-363f2bbf9911.pdf

San Joaquin Air Pollution Control District. 2002. Guide for Assessing and Mitigation Air Quality Impacts. Available at: https://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf

San Joaquin Air Pollution Control District. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Available at: http://www.valleyair.org/transportation/GAMAQI.pdf

San Joaquin Council of Governments. November 14, 2000. San Joaquin County Multi-Species Habitat Conservation and Open Space Plan.

San Joaquin County. 2016. San Joaquin County General Plan. Available at: https://www.sjgov.org/commdev/cgi-bin/cdyn.exe/file/Planning/General%20Plan%202035/GENERAL%20PLAN%202035.pdf

San Joaquin County. 2014. San Joaquin County General Plan Draft EIR. Available at: https://www.sjgov.org/commdev/cgi-bin/cdyn.exe/file/Planning/Environmental%20Impact%20Reports/GENERAL%20PLAN%202035%20-%20DRAFT%20EIR.pdf

San Joaquin County Agricultural Commission. 2017. 2017 San Joaquin County Crop Report. Available at: https://www.sjgov.org/WorkArea//DownloadAsset.aspx?id=28737

San Joaquin County Agricultural Commission. 2018. 2018 San Joaquin County Crop Report. Available at: https://www.sjgov.org/WorkArea//DownloadAsset.aspx?id=31332

San Luis & Delta-Mendota Water Authority. 2020. Available at: https://sldmwa.org/about-sldmwa-facilities/about-the-delta-mendota-canal/

Saxelby Acoustics. Environmental Noise Assessment – Tracy Costco Depot. August 20, 2021.

South San Joaquin Fire Authority. https://www.sjcfire.org/about-us/overview/history

Tracy Police Department. 2020. 2019 Annual Report.

Tracy Subbasin Groundwater Sustainability Agencies. Tracy Subbasin Groundwater Sustainability Plan. November 2021.

Tracy Unified School District (TUSD). 2018. Residential Development Fee Justification Study. Available at: https://resources.finalsite.net/images/v1565056373/tracyk12caus/ndpqkduhruecqsdaxo40/_031318RECREPORTDEVFEESTUDIESATCH2sepcover101112111413sepcover.pdf

TUSD. 2021. Art Freiler School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607389/tracyk12caus/pu6luktk8dliae6ay0p2/20SARC_TracyUSD_ArtFreilerSchool.pdf

TUSD. 2021. Central Elementary School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611606680/tracyk12caus/ahka9wl6iztcwzhqhaz5/20SARC_TracyUSD_CentralES.pdf

TUSD. 2021. Earle E Williams 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607642/tracyk12caus/fb4anv6c9f2lelylse1a/20SARC_TracyUSD_EarleEWilliamsMS.pdf

TUSD. 2021. George Kelly Elementary School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607418/tracyk12caus/cenc4ohk2purkgciypvq/20SARC_TracyUSD_GeorgeKellyES.pdf

TUSD. 2021. Gladys Poet – Christian School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607446/tracyk12caus/zl9b2fbjpmow93ysuinx/20SARC_TracyUSD_GladysPoet-ChristianSchool.pdf

TUSD. 2021. Louis A. Bohn Elementary School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611606792/tracyk12caus/asyrtcusa2sbzgcpd4un/20SARC_TracyUSD_LouisABohnES.pdf

TUSD. 2021. Louis J Villalovoz Elementary School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611606825/tracyk12caus/dmbiomxymdwelnspwcj9/20SARC_TracyUSD_LouisJVillalovozES.pdf

TUSD. 2021. McKinley Elementary School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611606860/tracyk12caus/piiq41caxrt5lpo2a99e/20SARC_TracyUSD_McKinleyES.pdf

TUSD. 2021. Melville S Jacobson Elementary School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611606719/tracyk12caus/eifnd4qjhszx01brnrek/20SARC_TracyUSD_MelvilleSJacobsonES.pdf

TUSD. 2021. Monte Vista Middle School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607712/tracyk12caus/tmq5vl7g0hieboqpxzaj/20SARC_TracyUSD_MonteVistaMS.pdf

TUSD. 2021. North School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607474/tracyk12caus/u92xv2ofzijmyzvmpqcw/20SARC_TracyUSD_NorthSchool.pdf

TUSD. 2021. South/West Park Elementary School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607090/tracyk12caus/kq7mo3tajaquknoegued/20SARC_TracyUSD_South-WestParkES.pdf

TUSD. 2021. Wanda Hirsch Elementary School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607144/tracyk12caus/tknkp6jtrczgxeyzuxwl/20SARC_TracyUSD_WandaHirschES.pdf

TUSD. 2021. John C Kimball High School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607820/tracyk12caus/ptyhfr1fmadeei3pujhy/20SARC_TracyUSD_JohnCKimballHS.pdf

TUSD. 2021. Merrill F West High School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607848/tracyk12caus/ek8xcsfoiy5tmntgbpxp/20SARC_TracyUSD_MerrillFWestHS.pdf

TUSD. 2021. Tracy High School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607876/tracyk12caus/irphn3hxig21s3ngb58y/20SARC_TracyUSD_TracyHS.pdf

TUSD. 2021. Stein Continuation High School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607913/tracyk12caus/g5dgarqhy6f82cd1np5f/20SARC_TracyUSD_GeorgeEvelynSteinHS.pdf

TUSD. 2021. Duncan Russell Continuation High School 2019 – 2020 SARC. Available at: https://resources.finalsite.net/images/v1611607949/tracyk12caus/qjh46oehsaxkivep0qfc/20SARC_TracyUSD_Duncan-RussellCDS.pdf

United States Census Bureau. 2021. State and County QuickFacts.

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). Soil Survey for San Joaquin County, California. 1992.

United States Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS). Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

United States Energy Information Administration (U.S. EIA). 2020a. Analysis and Projections. Short-term Energy Outlook. Release date: September 9, 2020. Available at: https://www.eia.gov/outlooks/steo/report/global_oil.php

United States Energy Information Administration (U.S. EIA). 2020b. Table C14. Total Energy Consumption Estimates per Capita by End-Use Sector, Ranked by State, 2019. Available at: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/rank_use_capita.html&sid=US

United States Energy Information Administration (U.S. EIA). 2020c. Independent Statistics and Analysis. Frequently Asked Questions. Last updated September 4, 2020. Available at: https://www.eia.gov/tools/faqs/faq.php?id=33&t=6

United States Energy Information Administration (U.S. EIA). 2022. California End-Use Energy Consumption 2020, Estimates. Available at: https://www.eia.gov/beta/states/states/ca/overview

United States Energy Information Administration (U.S. EIA). 2022. California Natural Gas Marketed Production. Available at: https://www.eia.gov/dnav/ng/hist/n9050ca2M.htm

United States Environmental Protection Agency (USEPA). 2021. Commercial Buildings Energy Consumption Survey (CBECS). Available: https://www.eia.gov/consumption/commercial/data/2012/bc/cfm/b2.php

United States Environmental Protection Agency (USEPA). 2017. Sulfur Dioxide Concentrations – EPA. Available: https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=91

United States Environmental Protection Agency (USEPA). 2019a. Health Effects of Ozone Pollution. Available: https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution

United States Environmental Protection Agency (USEPA). 2019b. Health Effects of Ozone In the General Population. Available: https://www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-general-population

United States Environmental Protection Agency (USEPA). 2019c. Health and Environmental Effects of Particulate Matter (PM). Available: https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm

United States Environmental Protection Agency (USEPA). 2019d. Basic Information About Lead Pollution. Available: https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution#how

West Yost Associates. 2021. Tracy Costco Depot Project Water Supply Assessment. December 2021.

Wood Rodgers. 2021. Costco Depot Project Planning Submittal Review for Drainage and Flood Management. August 10, 2021.

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# APPENDIX A

**Initial Study, Notice of Preparation, and NOP Comments**

# INITIAL STUDY / NOTICE OF PREPARATION

FOR THE

# TRACY COSTCO DEPOT PROJECT

AUGUST 2020

*Prepared for:*

City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

*Prepared by:*

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

# INITIAL STUDY / NOTICE OF PREPARATION

FOR THE

# TRACY COSTCO DEPOT PROJECT

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*Prepared for:*

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De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

# NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING

**DATE:** August 28, 2020

**TO:** State Clearinghouse
State Responsible Agencies
State Trustee Agencies
Other Public Agencies
Organizations and Interested Persons

**SUBJECT:** Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Tracy Costco Depot Project

**LEAD AGENCY:** City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

**PROJECT PLANNER:** Genevieve Federighi, Associate Planner
Genevieve.Federighi@cityoftracy.org
(209) 831-6435

**PURPOSE OF NOTICE:** This is to notify public agencies and the general public that the City of Tracy, as the Lead Agency, will prepare an Environmental Impact Report (EIR) for the Tracy Costco Depot Project. The City of Tracy is interested in the input and/or comments of public agencies and the public as to the scope and content of the environmental information that is germane to the agencies' statutory responsibilities in connection with the proposed project. Responsible/trustee agencies will need to use the EIR prepared by the City of Tracy when considering applicable permits, or other approvals for the proposed project.

**COMMENT PERIOD:** Consistent with the time limits mandated by State law, your input, comments or responses must be received in writing and sent at the earliest possible date, but not later than 5:00 PM, September 30, 2020.

Please send your comments/input (including the name for a contact person in your agency) to: Attn: Genevieve Federighi at the City of Tracy, 333 Civic Center Plaza, Tracy, CA 95376; or by e-mail to Genevieve.Federighi@cityoftracy.org.

**SCOPING MEETING:** On Wednesday, September 9, the City of Tracy will conduct a public scoping meeting during the Planning Commission meeting to solicit input and comments from public agencies and the general public on the proposed project and scope of the EIR. Due to COVID-19, this meeting will be held on-line at 7:00 PM.

This meeting will be held on-line via a Webex, and interested parties may join the Webex scoping meeting to review the proposed project exhibits and submit on-line comments beginning at 7:00 PM. Representatives from the City of Tracy and the EIR consultant team will be available via the Webex scoping meeting to address questions regarding the EIR process and scope. All interested persons may submit statements orally during the meeting by visiting the City's WebEx Event at https://cityoftracyevents.webex.com and using the following Event Number: 126 086 2910 and Event Password: Planning1; or via phone by dialing (209) 831-6010 during the public comment portion of this item. If you have any questions regarding the scoping meeting, contact Genevieve Federighi, Associate Planner, at (209) 831-6435 or Genevieve.Federighi@cityoftracy.org.

**PROJECT LOCATION AND SETTING:** The Tracy Costco Depot Project site (project site) is located at 16000 West Schulte Road in unincorporated San Joaquin County, California (Figures 1 and 2). The project site is within the Tracy Sphere of Influence (SOI) and is immediately adjacent to the Tracy city limits to the north of the site. The Assessor's Parcel Number (APN) for the project site is 209-230-02. The project site totals approximately 103 acres of undeveloped land previously used for agricultural purposes (Figure 3 of Initial Study). The elevation of the site ranges from approximately 148 feet to 187 feet above mean sea level.

Surrounding land uses include warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area, located in the City of Tracy), vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

**PROJECT DESCRIPTION:** The project would include the construction and subsequent operation of two Costco warehouse and distribution buildings (1,264,066 square feet [sf] and 536,251 sf) totaling approximately 1,782,317sf on the 103-acre project site (Figure 4 of the Initial Study). The project would also include the required circulation, parking, and utility improvements. The proposed warehouses will be used to support Costco's ongoing distribution and e-commerce facilities in the area. Additionally, the warehouses may include cold storage for Costco's meat processing plant in Tracy, as well as food processing and canning.

For more details regarding the operations, architecture, energy-efficient project components, landscaping, circulation, and utility improvements, please see the Project Description in the attached Initial Study.

**PROJECT APPROVALS:** The City of Tracy is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050.

If the City Council of the City of Tracy certifies the EIR in accordance with CEQA requirements, the City may use the EIR to support the following actions:

- Pre-zone of the property to the City's M-1 Light Industrial zoning district;
- Annexation of the project site into the City (which requires approval by the San Joaquin County Local Agency Formation Commission [LAFCO]);
- Development review permit for building design, landscaping, and other site features;

- A Conditional Use Permit to allow for food processing and canning in the M-1 Zoning District;
- Building, grading, and other permits as necessary for project construction;
- Adopt a Mitigation Monitoring and Reporting Program (MMRP).

The following agencies may rely on the certified EIR to issue permits or approve certain aspects of the proposed project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- San Joaquin LAFCO – Annexation of the project site would be required.
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction activities would be subject to the SJVAPCD codes and requirements.

**AREAS OF POTENTIAL IMPACTS:** The Draft EIR will examine most of the environmental areas contained in Appendix G of the State CEQA Guidelines. The topics to be addressed in the Draft EIR include: Aesthetics, Agricultural and Forest Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gases and Climate Change, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Public Services, Transportation, Tribal Cultural Resources, Utilities, Cumulative Impacts, and Growth Inducing Impacts.

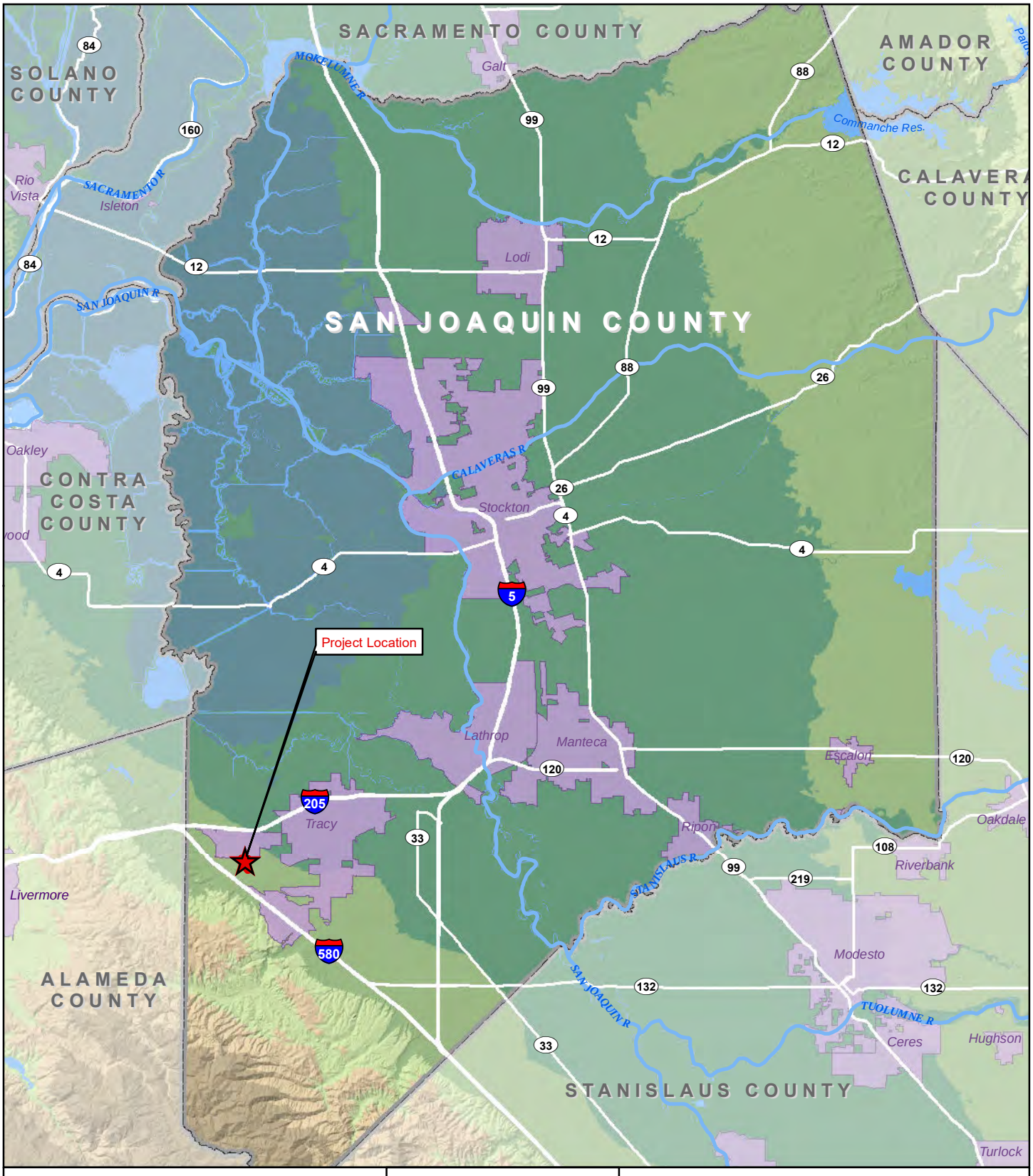
**INITIAL STUDY:** An Initial Study has been prepared for this project. The Initial Study identifies environmental areas/issues that would result in No Impact or a Less than Significant Impact, and environmental areas/issues that would result in a Potentially Significant Impact. All Potentially Significant Impact areas/issues will be addressed in greater detail in the Draft EIR. Areas/issues that would result in No Impact or a Less than Significant Impact, as identified in the Initial Study, will not be addressed further in the Draft EIR.

**ADDITIONAL INFORMATION:** A copy of the Initial Study is available on the City's website at: https://www.cityoftracy.org/?navid=595**.**

Signature: _____ Date: 8/26/20

Name/Title: Genevieve Federighi, Associate Planner

Phone/Email: (209)831-6435 Genevieve.Federighi@cityoftracy.org




**Legend**

- Project Location
- County Boundary
- City Area

*Sources: CalAtlas; San Joaquin, Stanislaus, Sacramento, Solano, Contra Costa, and Alameda Counties. Map date: October 22, 2019.*

N

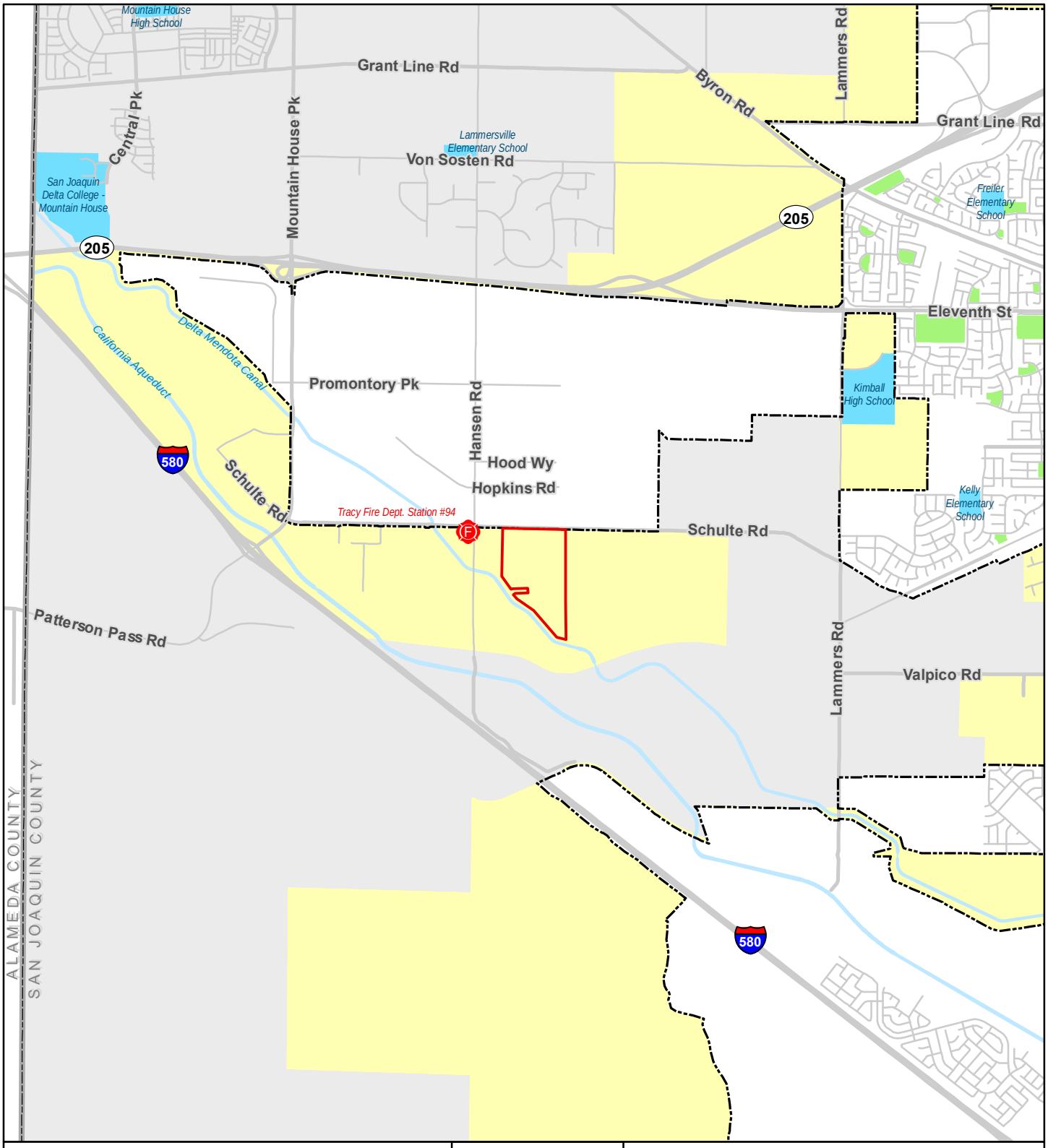
0 2½ 5

Miles

**TRACY COSTCO DEPOT PROJECT**

Figure 1. Regional Location Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm




**Legend**

- Project Boundary
- Tracy City Limits
- Tracy Sphere of Influence
- San Joaquin County
- School
- Park
- Fire Station

N

0 ¼ ½

Miles

1:48,000

*Sources: San Joaquin County GIS. Map date: October 25, 2019. Revised: June 2, 2020.*

**TRACY COSTCO DEPOT PROJECT**

Figure 2. Project Vicinity

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm




**Legend**

Project Boundary

N

0 600 1,200

Feet

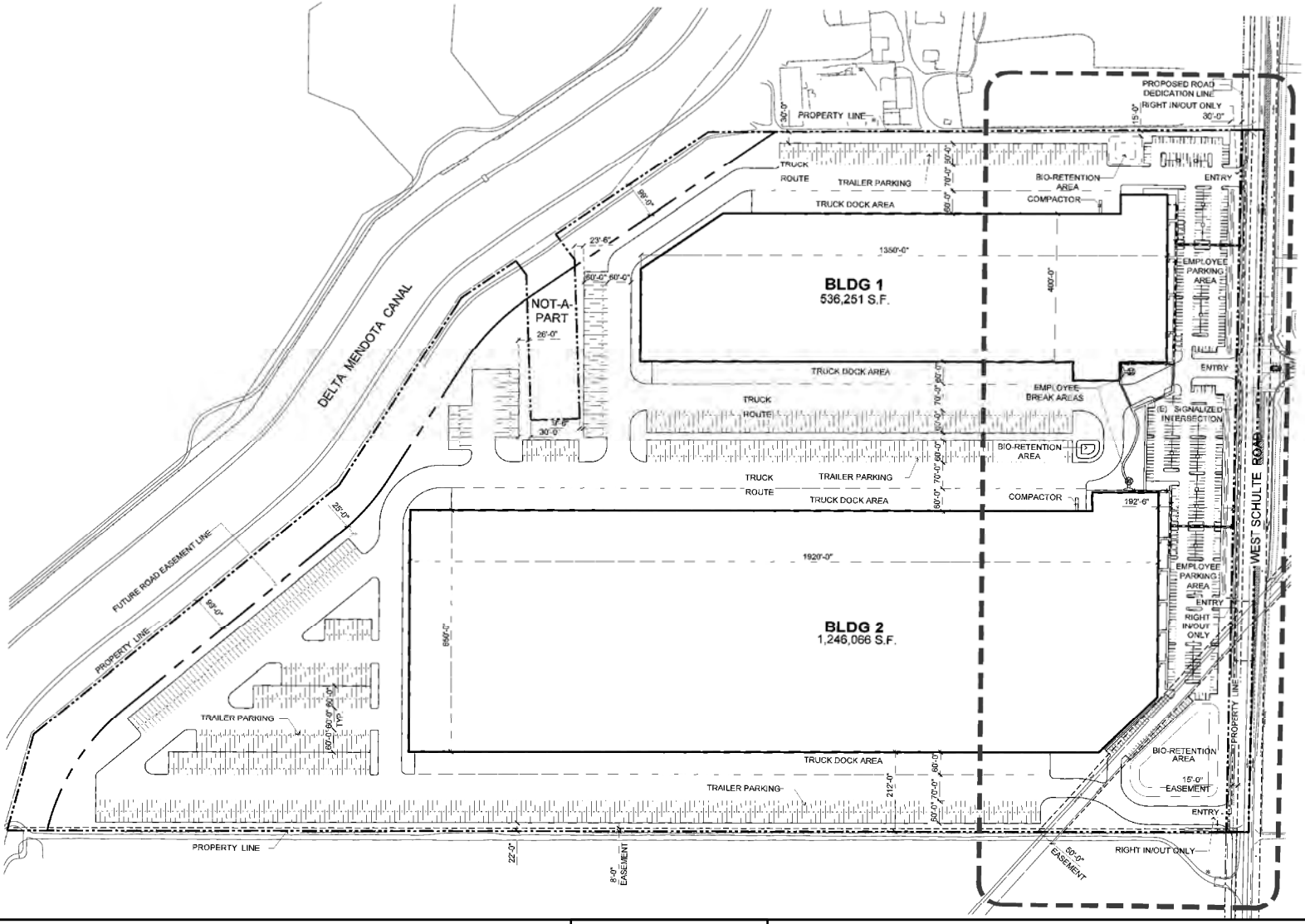
1:18,000

*Sources: San Joaquin County GIS; ArcGIS Online World Imagery Map Service.*
*Map date: October 25, 2019. Revised: June 2, 2020.*

**TRACY COSTCO DEPOT PROJECT**

Figure 3. Aerial View of Project Site

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm




N

0 200 400

Feet

1:5,000

**TRACY COSTCO DEPOT PROJECT**

Figure 4.Site Plan

*Source: David Babcock + Associates, May 15, 2020. Map date: June 2, 2020.*

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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# INITIAL STUDY CHECKLIST

## PROJECT TITLE

Tracy Costco Depot Project

## LEAD AGENCY NAME AND ADDRESS

City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

## CONTACT PERSON AND PHONE NUMBER

Genevieve Federighi, Associate Planner
City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376
Genevieve.Federighi@cityoftracy.org
(209) 831-6435

## PROJECT SPONSOR'S NAME AND ADDRESS

Costco Wholesale
999 Lake Drive
Issaquah, WA 98027

## PROJECT LOCATION AND SETTING

The Tracy Costco Depot Project site (project site) is located at 16000 West Schulte Road in unincorporated San Joaquin County, California (Figures 1 and 2). The project site is within the Tracy Sphere of Influence (SOI) and is immediately adjacent to the Tracy city limits to the north of the site. The Assessor's Parcel Number (APN) for the project site is 209-230-02. The project site totals approximately 103 acres of undeveloped land previously used for agricultural purposes (Figure 3). The elevation of the site ranges from approximately 148 feet to 187 feet above mean sea level (MSL).

Surrounding land uses include warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area, located in the City of Tracy), vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

## PROJECT DESCRIPTION

The project would include the construction and subsequent operation of two Costco warehouse and distribution buildings (approximately 1,264,066 square feet [sf] and 536,251 sf) totaling approximately 1,782,317 sf on the 103-acre project site. The project would also include the required circulation, parking, and utility improvements.

### *COSTCO OPERATIONS AND EMPLOYMENT*

The proposed warehouses will be used to support Costco's ongoing distribution and e-commerce facilities in the area. Additionally, the warehouses may include cold storage for Costco's meat processing plant in Tracy, as well as food processing and canning.

The project would operate 24 hours a day, seven days a week, to provide support to Costco's retail warehouse facilities in northern California. The project applicant anticipates that an average of about 100 trucks and 300 trailers would be parked on site at any given time, with the typical truck size being approximately 70 feet long for double-axle trailers. The parking demand would fluctuate day-to-day. It is anticipated that the project would employ up to approximately 400 full time employees. The parking that would be provided on-site to support the project operations and employment is discussed further below.

### *WAREHOUSE ARCHITECTURE*

The maximum height of the building components would be 53.5 feet (for the pewter cast vertical metal panels), while the majority of the warehouse would be 48 feet. The proposed warehouse design is contemporary and uses a variety of massing and materials for the scale of the building. Architectural metal with varied textures and horizontal and vertical orientations would be used, while varying parapet cap heights would break up the long elevations both horizontally and vertically in order to conceal rooftop-mounted mechanical equipment. The proposed color palette is composed of warm natural earth tones, which would relate to the adjacent Cordes Ranch Specific Plan development to the north of the project site. These techniques of breaking a long elevation into smaller elements with varied materials and colors would create architecturally interesting warehouse buildings while minimizing the visual impact of the large-scale structures.

### *ENERGY-EFFICIENT PROJECT COMPONENTS*

In an effort to reduce energy consumption and promote sustainability, the proposed project would incorporate many energy saving measures when constructing the facility. Below are some of the significant practices that Costco will incorporate into the proposed project and overall operations that help conserve energy and other natural resources, all of which would be incorporated into the proposed facility:

1. Parking lot light standards are designed to provide even light distribution, and utilize less energy compared to a greater number of fixtures at lower heights. LED lamps provide a higher level of perceived brightness with less energy than other lamps such as high-pressure sodium.
2. New and renewable building materials are typically extracted and manufactured within the region. When masonry and concrete are used, the materials purchased are local to the project, minimizing the transportation and impact to road networks.
3. Main building structures are pre-engineered systems that use 100% recycled steel materials and are designed to minimize the amount of material utilized. The use of these pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.
4. Pre-manufactured metal wall panels with insulation are used which meets or exceeds current energy code requirements. Building heat absorption is further reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.

5. Roof materials are 100% recycled standing seam metal panel, designed to maximum efficiency for spanning the structure. Reflective cool roof materials are used to produce lower heat absorption and thereby lowering energy requirements during the hot summer months. This roofing material meets the requirements for the U.S. Environmental Protection Agency's (EPA's) Energy Star energy efficiency program. The roof structure is designed to support solar arrays in the event that Costco determines the installation to be practical.
6. A substantial amount of the plant material for new facilities is native and drought tolerant and will use less water than other common species.
7. Irrigation systems for new facilities include the use of deep root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas.
8. Storm water management plans are designed to maintain quality control and storm water discharge rates based on the City's requirements.
9. High-efficiency restroom fixtures are used, which achieve a 40% decrease and water savings over U.S. standards.
10. Mechanical systems are site specifically commissioned and designed and field tested to ensure that the HVAC systems are performing to the high efficiency standards.
11. HVAC comfort systems are controlled by a computerized building management system to maximize efficiency. Costco's HVAC units are high efficiency direct ducted units. HVAC units have phased out the use of hydrochlorofluorocarbons completely, long before the Montreal Protocol timeline.
12. Energy efficient Transformers (i.e., Square D Type EE transformers) are used.
13. Variable speed motors are used on make-up air units and booster pumps.
14. Gas water heaters are direct vent and 94% efficient or greater.
15. Reclaim tanks are used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.
16. Construction waste is recycled whenever possible.
17. Lighting systems are designed with employee controllability in mind. Lighting is controlled by timers but over-ride switches are provided for employee use.
18. Carbon dioxide ($CO_2$) levels are monitored throughout warehouses.
19. Extensive recycling/reuse programs are implemented for warehouse and office space, including tires, cardboard, grease, plastics and electronic waste.
20. Suppliers are required to reduce packaging and consider alternative packaging solutions.
21. The expansion by this project to the existing Tracy Depot distribution facilities would allow for increased capacity and storage of products to minimize miles traveled for delivery.
22. Deliveries are made in full trucks whenever feasible.
23. All Costco trucks are equipped with an engine idle shut off timers.

### *LANDSCAPE PLAN*

The landscape plan includes a mix of drought-tolerant shrubs and grasses, and a variety of shade trees would be used throughout the parking field and along the project perimeter that are appropriate for the climate in Tracy. The landscape design and plant palette will complement the existing development and streetscape planting established by the International Park of Commerce within the Cordes Ranch Specific Plan Area to the north. The general pattern of landscape islands in the parking field would be one island per five lineal parking spaces in order to meet shading requirements for the parking lot. Three treatment planters are shown on the site plan located on the northeast and northwest portion of the site to provide for detention and water

quality treatment of the storm water runoff generated by the project. The perimeter of the site, including office break areas, will be landscaped with a variety of grasses and oak trees per the preliminary landscape plan.

### *PROJECT CONSTRUCTION*

Construction will be completed in two separate phases with a portion of the project site developed and made operational prior to the remaining portion. Initial construction may include the cold storage for Costco's meat processing plant in Tracy. Additional warehouse space will be constructed to complement and support Costco's ongoing distribution and e-commerce facilities in the area. Phase 1 is anticipated to be completed within two years after building permits are received and will include construction of the 536,251-sf warehouse in the western half of the site, as well as the associated parking areas and stormwater features along West Schulte Road. Phase 2 construction will commence shortly thereafter, depending on business conditions and business needs, and will include construction of the 1,246,066-sf warehouse building and remaining parking areas. Phase 2 is anticipated to be completed approximately five years later.

Table 1 shows the anticipated off-road construction equipment that will be utilized for the proposed project.

***Table 1: Construction Equipment List***

| *Equipment Type* | *Unit Amount* | *Hours/Day* | *Horsepower* | *Load Factor* |
|---|---|---|---|---|
| **Site Preparation Phase** | | | | |
| Rubber Tired Dozers | 2 | 8 | 247 | 0.40 |
| Tractors/Loaders/Backhoes | 6 | 8 | 97 | 0.37 |
| **Grading Phase** | | | | |
| Excavators | 2 | 8 | 158 | 0.38 |
| Graders | 2 | 8 | 187 | 0.41 |
| Rubber Tired Dozers | 1 | 8 | 247 | 0.40 |
| Scrapers | 4 | 8 | 367 | 0.48 |
| Tractors/Loaders/Backhoes | 4 | 8 | 97 | 0.37 |
| **Building Construction Phase** | | | | |
| Cranes | 1 | 7 | 231 | 0.29 |
| Forklifts | 3 | 8 | 89 | 0.20 |
| Generator Sets | 1 | 8 | 84 | 0.74 |
| Tractors/Loaders/Backhoes | 3 | 7 | 97 | 0.37 |
| Welders | 1 | 8 | 46 | 0.45 |
| **Paving Phase** | | | | |
| Pavers | 2 | 8 | 130 | 0.42 |
| Paving Equipment | 2 | 8 | 132 | 0.36 |
| Rollers | 4 | 8 | 80 | 0.38 |
| **Architectural Coating Phase** | | | | |
| Air Compressors | 1 | 6 | 78 | 0.48 |

*SOURCE: DAVIS BABCOCK + ASSOCIATES, JUNE 2020.*

A construction staging area will be provided on-site, and the entire project site would be graded as part of the proposed project construction. The project would be constructed in two phases, and both phases would be individually graded before construction of each phase begins. Additionally, Phase 1 would cut approximately 164,000 cubic yards and would fill approximately 6,000 cubic yards. Phase 2 would cut approximately 95,000 cubic yards and would fill approximately 184,000 cubic yards. Therefore, approximately 6,000 cubic yards of material would be cut during overall project construction (as a result of Phase 2 grading). The excess dirt

anticipated to be cut as a result of Phase 1 will be stockpiled on-site for use during Phase 2. The anticipated excess dirt from Phase 2 would be off-hauled in one-way trips or used for landscaped berms.

The construction-related worker and vendor trips are shown in Table 2. These trips would be spread out over the entire construction period for the project.

***Table 2: Construction Worker and Vendor Trips***

| *Phase Name* | *# of Worker Trips/Day* | *# of Vendor Trips/Day* | *TOTAL Construction (Worker and Vendor) Trips* |
|---|---|---|---|
| Site Preparation | 18 | 0 | *18* |
| Grading | 20 | 0 | *20* |
| Building Construction | 749 | 292 | *1,041* |
| Paving | 15 | 0 | *15* |
| Architectural Coating | 150 | 0 | *150* |

*SOURCE: DAVIS BABCOCK + ASSOCIATES, JUNE 2020.*

### *CIRCULATION, TRANSPORTATION, AND PARKING*

The two proposed warehouse buildings would be sited to place administrative and office uses at the north side of the site, along West Schulte Road, with the warehousing, food processing and canning uses, and truck dock doors located at the rear of the building. Entries to the office and administrative uses would be oriented towards the north to provide security for the uses further south on the site, and to also focus the main architectural design elements along the main street (West Schulte Road) frontage.

The parking lot design along West Schulte has incorporated a 30-foot landscape buffer consistent with the Cordes Ranch Specific Plan Area, which abuts the project site to the north. A 20-foot landscape setback has been incorporated around the remainder of the perimeter of the project site to provide screening of the buildings and dock doors by landscaping.

Access to the warehouse and depot would be via three access points along West Schulte Road. The main entry would be located at the center of the site, at the signalized intersection and Bud Lyons Way. This main driveway access would allow for full turning movements in and out of the project. The two remaining access points at the west and east property boundaries would be right in/out and would be mainly for truck access. An Americans with Disabilities Act (ADA)-compliant pedestrian pathway would extend from the new warehouse buildings to the northern property boundary, where it would connect with West Schulte Road.

Additionally, 534 parking stalls would be provided throughout the site, which exceeds the required City of Tracy parking requirement of 434 stalls. The project would provide standard parking stalls of 9-feet by 18-feet that meet the City of Tracy standards. Trailer parking would also be provided at the perimeter of the project site to provide for storage of 837 empty trailers on site. The trailer parking stalls would be 12-feet by 60-feet.

The parking lot and truck and trailer parking areas would be illuminated with standard downward pointing lights, each containing two LED fixtures affixed to a 38-foot light pole. The lighting fixtures would be of a “shoe-box” style. Parking lot light standards would be designed to provide even light distribution for vehicle and pedestrian safety as well as security for the warehouse. Lighting fixtures also would be located on the building approximately every 40 feet around the exterior of the building to provide safety and security. The proposed building lighting fixtures will be downward-focused and will use LED fixtures.

Further, the proposed site plan includes a 99-foot-wide easement for a future roadway along the southern boundary of the site, south of the proposed project and north of the Delta Mendota Canal.

### *UTILITIES*

The proposed project would connect to existing City infrastructure to provide water, sewer, and storm drainage utilities. Existing storm drain, sewer, water, and gas lines/pipes are currently located along West Schulte Road.

The project would be served by the following existing service providers:

1. City of Tracy for water;
2. City of Tracy for wastewater collection and treatment;
3. City of Tracy for stormwater collection;
4. Pacific Gas and Electric Company for gas and electricity.

Utility extensions would be installed to provide services to the project. Utility lines within the project site and adjacent roadways would be extended throughout the project site. Wastewater, water, and storm drainage lines would be connected via existing lines along West Schulte Road. Eight-inch sanitary sewer lines are currently located along West Schulte Road. Additionally, 2-inch water lines are currently located along West Schulte Road. Further, storm drainage lines ranging in size from 12 to 24 inches and a six-inch gas line are currently located along West Schulte Road.

Stormwater treatment/detention basins and stormwater bioretention treatment planters would be located throughout the project site, mainly in the proposed landscaped areas and along West Schulte Road. The project site includes four drainage areas: Area 1 (12.67 acres located along the western boundary of the site) Area 2 (77.70 acres which take up the majority of the site), Area 3 (2.38 acres located along the northwestern boundary of the site), and Area 4 (2.60 acres located along the northern central boundary of the site). Stormwater runoff from each of the four drainage areas would be routed to a series of on-site stormwater bioretention treatment planters and treatment/detention basins.

Best management practices (BMPs) will be applied to the proposed development to limit the concentrations of constituents in any site runoff to acceptable levels. Stormwater flows from the project site would be directed to the proposed stormwater treatment basins, treatment planters, and bioretention areas by a new stormwater conveyance system on the project site. Stormwater runoff would not be allowed to discharge directly to the existing storm drains in West Schulte Road without first discharging to the bioretention areas. The landscaping plan includes stormwater treatment plantings in the treatment/detention basins. Additionally, erosion and sediment control measures would be implemented during construction.

## PROJECT OBJECTIVES

The project has been designed to meet the following project objectives:

- Construct and operate a new state-of-the-art Costco depot and warehouse facility that is centrally located to service Costco's retail warehouse locations within northern California and is of sufficient size to efficiently store and distribute merchandise and food products.
- Annex into the City an area that the City's General Plan already designates for industrial uses and develop that site with permitted and conditionally permitted industrial uses.
- Locate an industrial project in an area with good access to a regional roadway network.

- Create approximately 400 full time jobs within the City of Tracy, thus improving the local jobs/housing balance.
- Ensure that the industrial area along West Schulte Road continues to be developed in a visually pleasing manner.
- Increase contributions to the City's tax base.
- Reduce energy consumption by incorporating sustainable design features and systems with enhanced energy efficiencies meeting State and Federal code requirements.
- Minimize circulation conflicts between pedestrians, automobiles, and truck and trailer traffic, both on-site and off-site.
- Locate a Costco depot warehouse on a site which can be purchased (rather than leased) in order to protect Costco's substantial investment of time, money and goodwill in the proposed location.
- Complete the project on schedule and within budget.

## GENERAL PLAN AND ZONING

The project site is designated as Agriculture by the County's General Plan Land Use Map (Figure 5) and is zoned as AG-40 Agriculture (Figure 6) by the County. The site is currently in the City's SOI, but will be annexed into the City limits. The San Joaquin County Local Agency Formation Commission (LAFCO) will require the project site to be pre-zoned by the City of Tracy in conjunction with the proposed annexation. The site currently has a City General Plan land use designation of Industrial and, as part of the project, will be pre-zoned by the City to M-1 Light Industrial. Additionally, the project is requesting a Conditional Use Permit to allow for food processing and canning in the proposed M-1 zoning district.

## REQUESTED ENTITLEMENTS AND OTHER APPROVALS

The City of Tracy is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050.

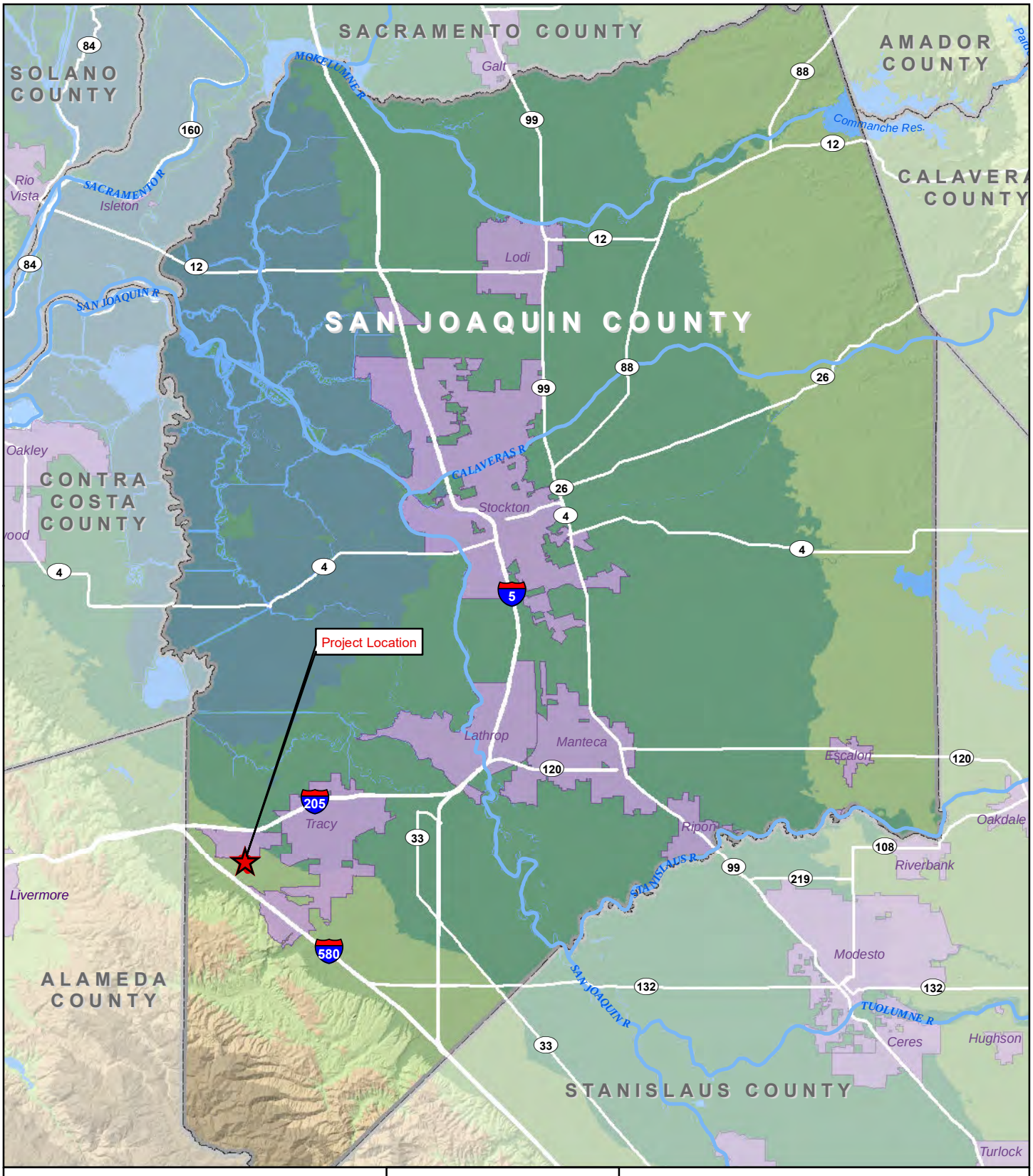
If the City Council certifies the EIR in accordance with CEQA requirements, the City may use the EIR to support the following actions:

- Pre-zone of the property to the City's M-1 zoning district;
- Annexation of the project site into the City (which requires approval by the San Joaquin County LAFCO);
- Development review permit for building design, landscaping, and other site features;
- A Conditional Use Permit to allow for food processing and canning in the M-1 Zoning District;
- Building, grading, and other permits as necessary for project construction;
- Adopting a Mitigation Monitoring and Reporting Program (MMRP).

The following agencies may rely on the certified EIR to issue permits or approve certain aspects of the proposed project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- San Joaquin LAFCO – Annexation of the project site would be required.

- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction activities would be subject to the SJVAPCD codes and requirements.




**Legend**

- Project Location
- County Boundary
- City Area

*Sources: CalAtlas; San Joaquin, Stanislaus, Sacramento, Solano, Contra Costa, and Alameda Counties. Map date: October 22, 2019.*

N

0 2½ 5

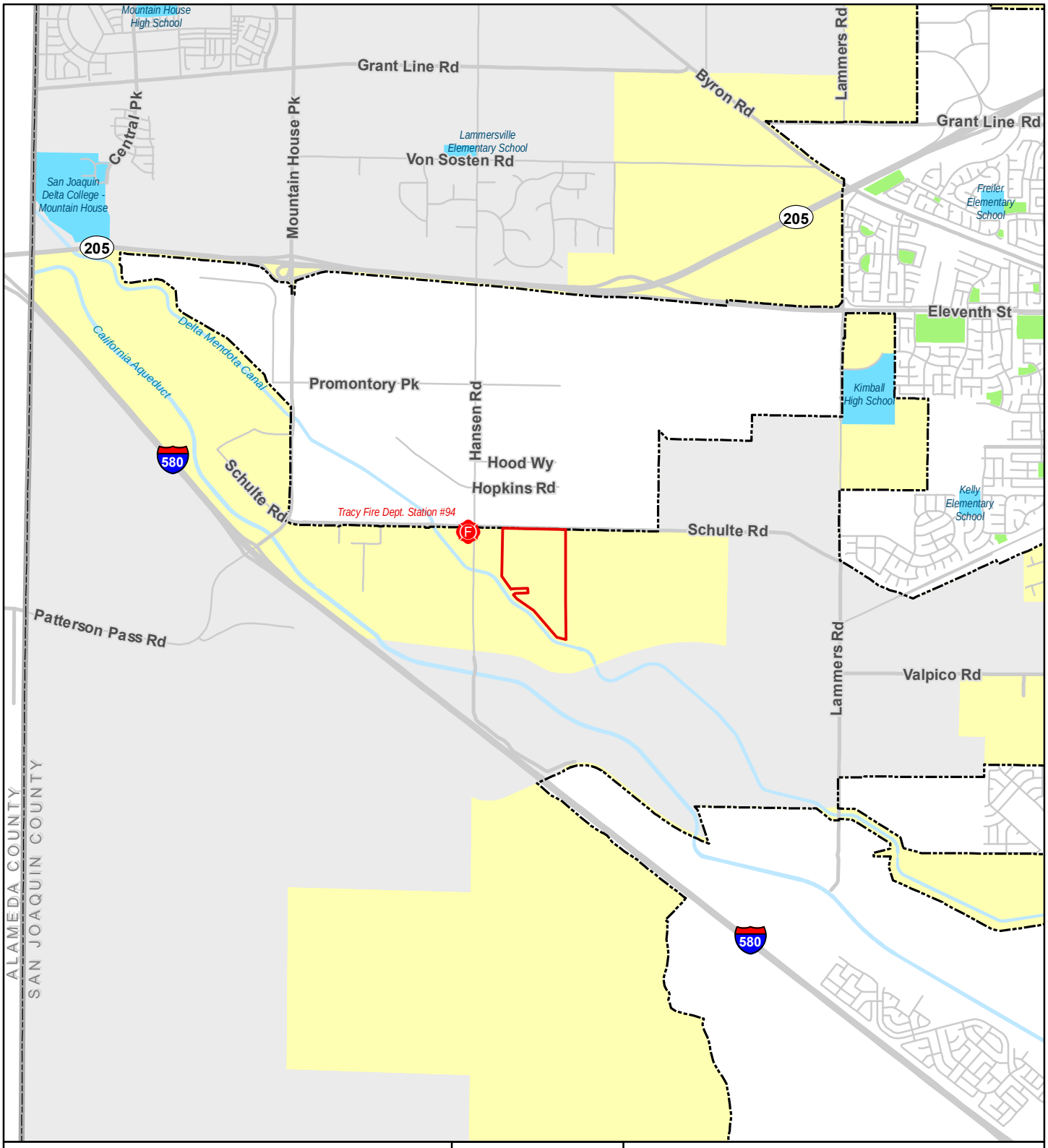
Miles

**TRACY COSTCO DEPOT PROJECT**

Figure 1. Regional Location Map

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A Land Use Planning, Design, and Environmental Firm

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**Legend**

- Project Boundary
- Tracy City Limits
- Tracy Sphere of Influence
- San Joaquin County
- School
- Park
- Fire Station

N

0 ¼ ½

Miles

1:48,000

*Sources: San Joaquin County GIS. Map date: October 25, 2019. Revised: June 2, 2020.*

**TRACY COSTCO DEPOT PROJECT**

Figure 2. Project Vicinity

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**Legend**

Project Boundary

N

0 600 1,200

Feet

1:18,000

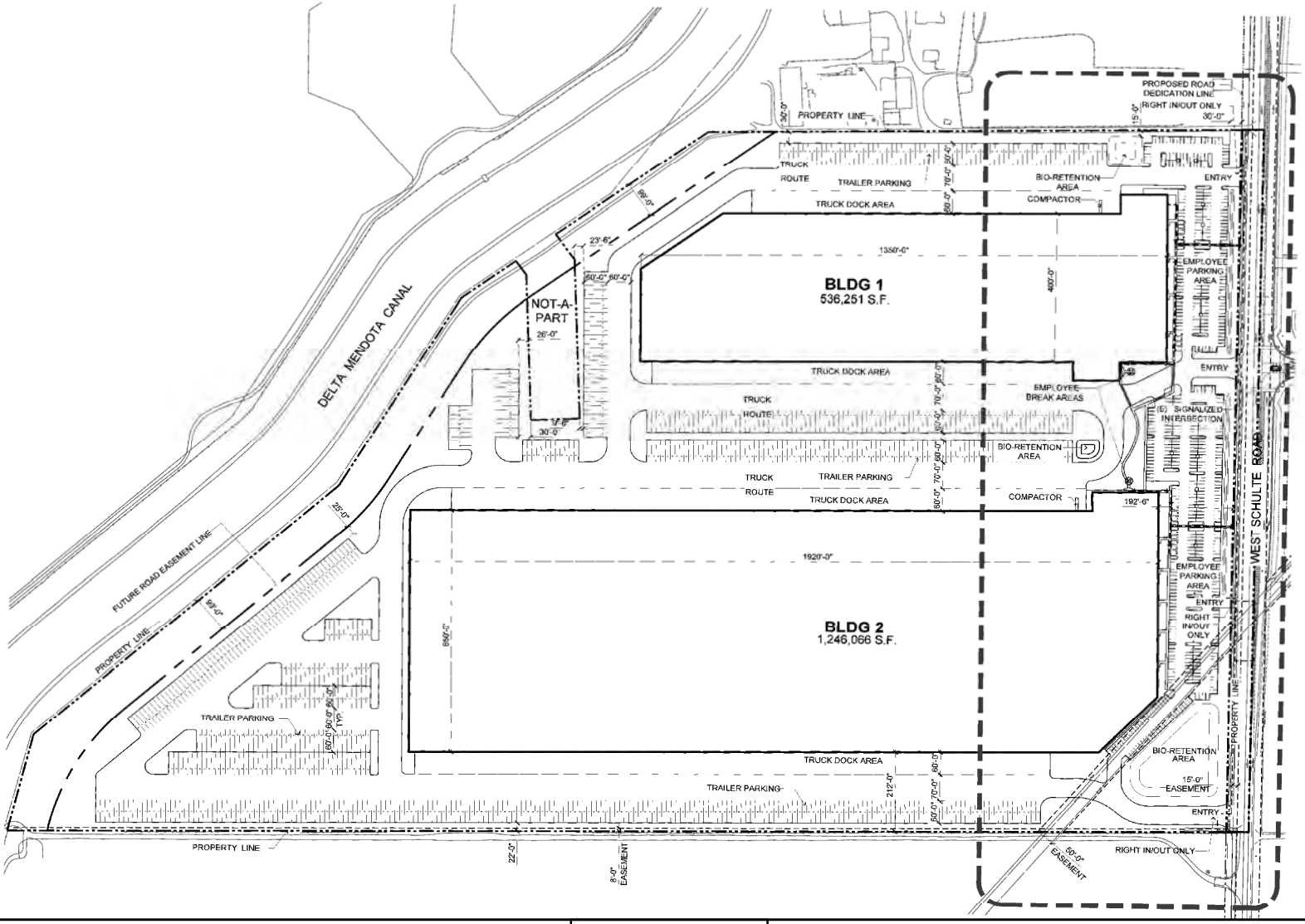
*Sources: San Joaquin County GIS; ArcGIS Online World Imagery Map Service.*
*Map date: October 25, 2019. Revised: June 2, 2020.*

**TRACY COSTCO DEPOT PROJECT**

Figure 3. Aerial View of Project Site

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N

0 200 400

Feet

1:5,000

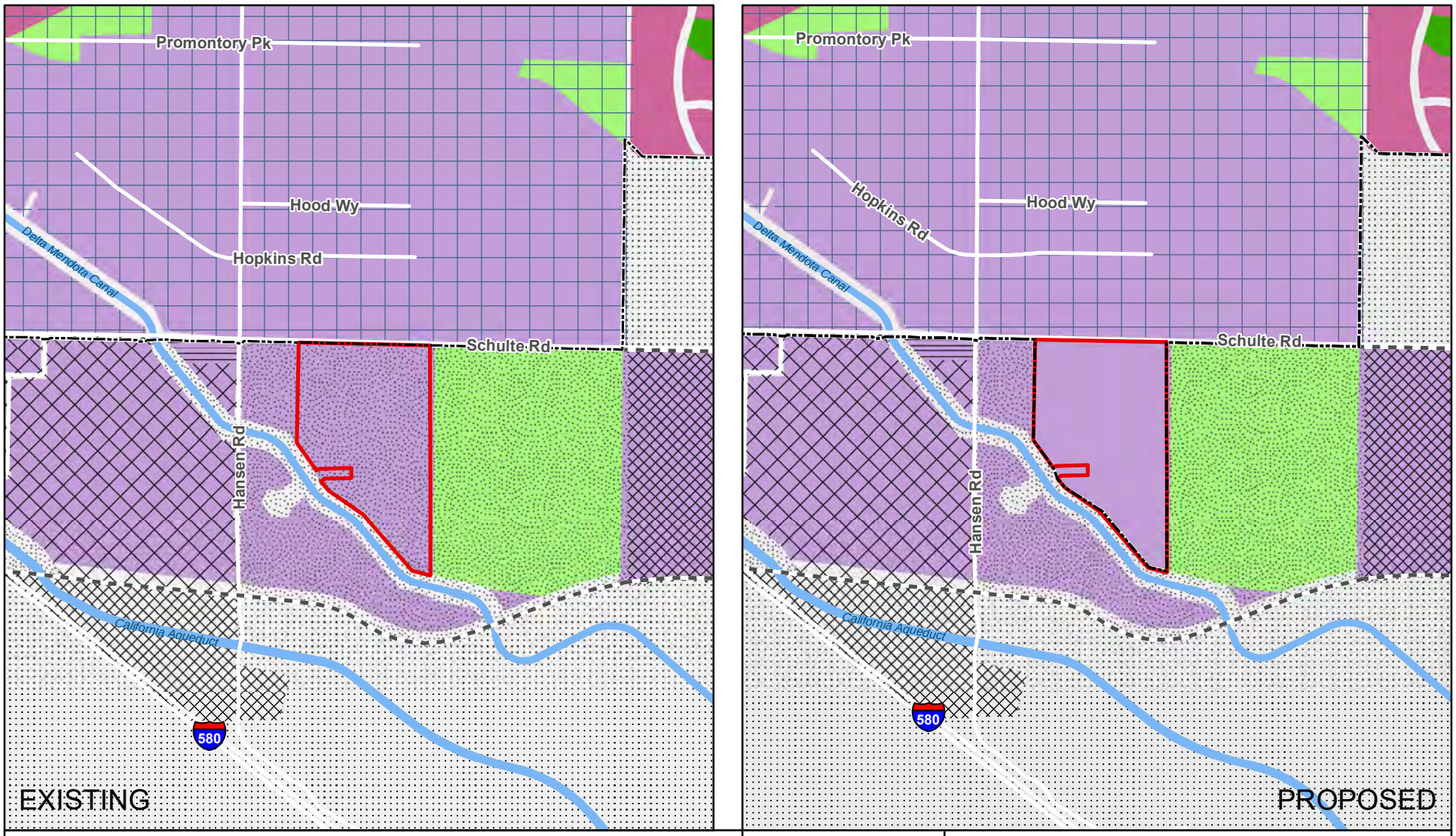
**TRACY COSTCO DEPOT PROJECT**

Figure 4.Site Plan

*Source: David Babcock + Associates, May 15, 2020. Map date: June 2, 2020.*

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**Legend**

- Project Boundary
- Tracy City Limits
- Sphere of Influence

**San Joaquin County Land Use**

- Agriculture/General
- Agriculture/Urban Reserve
- Industrial/General
- Industrial/Limited
- Public

**City of Tracy Land Use**

- Industrial
- Office
- Open Space
- Park
- Urban Reserve 6

N

0 1,000 2,000

Feet

1:24,000

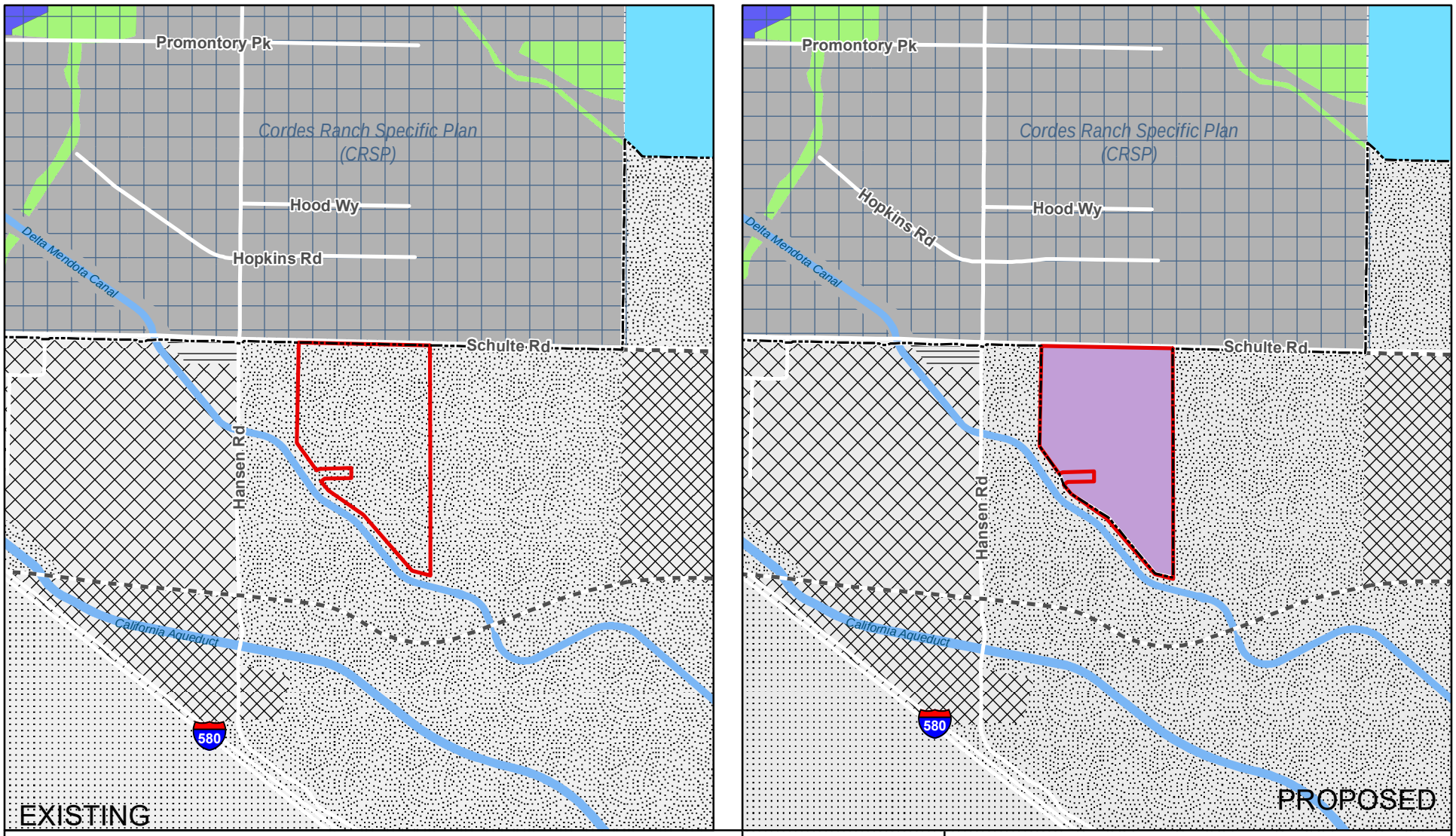
*Sources: San Joaquin County GIS; City of Tracy GIS. Map date: November 26, 2019. Revised: June 2, 2020.*

**TRACY COSTCO DEPOT PROJECT**

## Figure 5. Existing and Proposed General Plan Land Use Designations

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**Legend**

- Project Boundary
- Tracy City Limits
- Sphere of Influence

**City of Tracy Zoning**

- CRSP
- PUD
- M-1 Light Industrial

**Cordes Ranch Specific Plan Zoning**

- Business Park Industrial
- General Office
- Park

**San Joaquin County Zoning**

- AG-160
- AG-40
- I-G
- I-L
- P-F

N

0 1,000 2,000

Feet

1:24,000

*Sources: San Joaquin County GIS; City of Tracy GIS. Map date: October 25, 2019. Revised: June 2, 2020.*

**TRACY COSTCO DEPOT PROJECT**

Figure 6. Existing and Proposed Zoning Designations

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# ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

| | | | | | |
|---|---|---|---|---|---|
| X | Aesthetics | X | Agriculture and Forestry Resources | X | Air Quality |
| X | Biological Resources | X | Cultural Resources | X | Energy |
| X | Geology/Soils | X | Greenhouse Gases | X | Hazards and Hazardous Materials |
| X | Hydrology/Water Quality | X | Land Use/Planning | | Mineral Resources |
| X | Noise | | Population/Housing | X | Public Services |
| | Recreation | X | Transportation | X | Tribal Cultural Resources |
| X | Utilities/Service Systems | | Wildfire | X | Mandatory Findings of Significance |

# DETERMINATION

On the basis of this initial evaluation:

| | |
|---|---|
| | I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. |
| | I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. |
| X | I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. |
| | I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| | I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. |

Signature Date

# EVALUATION INSTRUCTIONS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significant.

# EVALUATION OF ENVIRONMENTAL IMPACTS

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the project.

# ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 21 environmental topic areas.

## *I. AESTHETICS*

| ***Except as provided in Public Resources Code Section 21099, would the project:*** | ***Potentially Significant Impact*** | ***Less Than Significant with Mitigation Incorporation*** | ***Less Than Significant Impact*** | ***No Impact*** |
|---|---|---|---|---|
| a) Have a substantial adverse effect on a scenic vista? | X | | | |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | X | | | |
| c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with the applicable zoning and other regulations governing scenic quality? | X | | | |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | X | | | |

*Responses to Checklist Questions*

**Responses a-d)** The proposed project includes development of two Costco warehouse and distribution buildings (1,264,066 sf and 536,251 sf) totaling 1,782,317 sf, which would alter the existing condition of the undeveloped land previously used for agricultural purposes and introduce new sources of light and glare to the site. A scenic vista is generally described as a clear, expansive public view of significant regional features possessing visual and aesthetic qualities of value to the community. The City's General Plan EIR lists the City's scenic resources and vistas that are considered to be local assets, noting public views of the expansive agricultural lands within the City's SOI (i.e., the project site) and views of the Diablo Mountain Range. Additionally, portions of the project site may be visible from Interstate 580 (between Interstate 205 and Interstate 5), an Officially Designated State Scenic Highway located approximately 3,500 feet southwest of the project site.

It has been determined that the potential impacts on aesthetics caused by the proposed project will require a detailed analysis in the EIR. Consequently, the lead agency will examine all of the environmental issues listed in the checklist above (a – d) in the EIR and will decide whether the proposed project has the potential to have a significant impact on aesthetics. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a visual analysis that presents the methodology, thresholds of significance, a project-level impact analysis, a cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any potential impacts on aesthetics. The analysis will look at foreground, middleground, and background views from public vantage points along the perimeter of the project site. The analysis will include photographs from public vantage points, architectural elevations of the buildings, an evaluation of the building materials for reflective values/glare, and an evaluation of the lighting and the potential for light pollution offsite. The EIR will also compare the proposed project to applicable zoning and other regulations related to scenic qualities.

## *II. AGRICULTURE AND FORESTRY RESOURCES*

| ***Would the project:*** | ***Potentially Significant Impact*** | ***Less Than Significant with Mitigation Incorporation*** | ***Less Than Significant Impact*** | ***No Impact*** |
|---|---|---|---|---|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | X | | | |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | X | | | |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)? | | | | X |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | | | | X |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | X | | | |

*Responses to Checklist Questions*

**Responses a), b), e):** According to the California Department of Conservation's Map of the San Joaquin Valley Important Farmland, the project site is designated as Prime Farmland, which will be converted to an industrial use as part of the project. Therefore, it has been determined that the potential impacts on agricultural resources caused by the proposed project will require a more detailed analysis in the EIR. As such, the lead agency will examine each of the potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project will have a potentially significant impact on agricultural resources. The analysis will include a discussion of potential impacts related to the conversion of the agricultural land to an industrial use, as well as any potential rural-urban agriculture conflicts. At this point, a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will describe the character of the region's agricultural lands, including maps of prime farmlands, other important farmland classifications, and protected farmland (including Williamson Act contracts). The County Agricultural Commissioner's Office and the State Department of Conservation will be consulted and their respective plans, policies, laws, and regulations affecting agricultural lands will be presented within the analysis.

The EIR will include thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to offset the loss of agricultural lands and/or Williamson Act cancellations as a result of project implementation.

**Responses c), d):** There are no forest resources or zoning for forest lands located on the project site. This CEQA topic is not relevant to the proposed project and does not require further analysis. Therefore, there would be ***no impact*** regarding the loss of forest or timber resources.

## *III. AIR QUALITY*

| *Would the project:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | X | | | |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? | X | | | |
| c) Expose sensitive receptors to substantial pollutant concentrations? | X | | | |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | X | | | |

### *Existing Setting*

The project site is located within the SJVAPCD. This agency is responsible for monitoring air pollution levels and ensuring compliance with federal and state air quality regulations within the San Joaquin Valley Air Basin (SJVAB) and has jurisdiction over most air quality matters within its borders.

The SJVAPCD has primary responsibility for compliance with both the federal and state standards and for ensuring that air quality conditions are maintained. They do this through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues.

Activities of the SJVAPCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution (i.e., Authority to Construct and Permit to Operate), inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the Federal Clean Air Act and California Clean Air Act.

The SJVAPCD has prepared the *2007 Ozone Plan* to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone. The *2007 Ozone Plan* provides a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. The 2007 Ozone Plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution. The *2007 Ozone Plan* calls for a 75-percent reduction in ozone-forming oxides of nitrogen emissions.

The SJVAPCD has also prepared the *2007 $PM_{10}$ Maintenance Plan and Request for Redesignation* (2007 $PM_{10}$ Plan). On April 24, 2006, the SJVAPCD submitted a Request for Determination of $PM_{10}$ Attainment for the Basin to the California Air Resources Board (CARB). CARB concurred with the request and submitted the request to the U.S. EPA on May 8, 2006. On October 30, 2006, the EPA issued a Final Rule determining that the Basin had attained the National Ambient Air Quality Standards (NAAQS) for $PM_{10}$. However, the EPA noted that the Final Rule did not constitute a

redesignation to attainment until all of the Federal Clean Air Act requirements under Section 107(d)(3) were met.

The SJVAPCD has prepared the *2008 PM.2.5 Plan* to achieve Federal and State standards for improved air quality in the San Joaquin Valley Air Basin. The *2008 PM.2.5 Plan* provides a comprehensive list of regulatory and incentive-based measures to reduce PM2.5.

In addition to the *2007 Ozone Plan, the 2008 $PM_{2.5}$ Plan,* and the *2007 $PM_{10}$ Plan*, the SJVAPCD prepared the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. An update of the GAMAQI was approved on March 19, 2015, and is used as a guidance document for this analysis.

The GAMAQI notes that, for CEQA purposes, a sensitive receptor is generically defined as a location where human populations, especially children, seniors, and sick persons are found, and there is reasonable expectation of continuous human exposure according to the averaging period for the Ambient Air Quality Standards (e.g., 24-hour, 8- hour, 1-hour). These typically include residences, hospitals, and schools. Locations of sensitive receptors may or may not correspond with the location of the maximum off-site concentration. The sensitive receptors in the vicinity of the project site include single-family residences located west, south, and southeast of the site. Specifically, one single-family residence is located along W. Schulte Road approximately 880 feet west of the western site boundary, a cluster of single-family residences is located adjacent west of the site, another cluster of single-family residences is located along Hansen Road approximately 2,050 feet (0.39 miles) south of the southern site boundary, and one single-family residence is located approximately 990 feet east of the southeastern corner of the project site.

*Responses to Checklist Questions*

**Responses a-d):** Based on the current air quality conditions in the SJVAB, as well as the size of the proposed warehouse buildings, it has been determined that the potential impacts on air quality caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on air quality. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include an air quality analysis that presents the methodology, thresholds of significance, a project-level impact analysis, a cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any potential impacts on air quality. The project may result in toxic air contaminants, short-term construction-related emissions, and long-term operational emissions, primarily attributable to emissions from vehicle trips and from energy consumption by the industrial uses. The air quality analysis will include the following:

- A description of regional and local air quality as well as meteorological conditions that could affect air pollutant dispersal or transport in the vicinity of the project site. Applicable air quality regulatory framework, standards, and significance thresholds will be discussed.
- An analysis of the proposed project's potential to conflict with or obstruct implementation of SJVAPCD's 2015 GAMAQI, and any other applicable air quality plans.
- An analysis of the SJVAPCD Rules and Regulations that are applicable to the proposed project.
- Short-term (i.e., construction) increases in regional criteria air pollutants will be quantitatively assessed. The latest version of the CARB-approved California Emissions Estimator Model (CalEEMod) computer model will be used to estimate regional mobile source and particulate matter emissions associated with the construction of the proposed project.
- Long-term (i.e., operational) increases in regional criteria air pollutants will be quantitatively assessed for area source, mobile sources, and stationary sources. The CARB-approved CalEEMod computer model will be used to estimate emissions associated with the proposed project. Modeling will be provided for the worst-case proposed project land use scenario.
- Exposure to odorous or toxic air contaminants during the project's operational phase will be assessed through an air toxics health risk assessment, utilizing AERMOD and HARP-2 risk modeling software, following guidance as provided by the SJVAPCD and the CARB. Incremental cancer risk for residents and workers, and chronic and acute hazards will be assessed.
- Local mobile-source (carbon monoxide) (CO) concentrations will be assessed through a CO screening method as recommended by the SJVAPCD. If the screening method indicates that modeling is necessary, upon review of the traffic analysis, CO concentrations will be modeled using the California Department of Transportation (Caltrans)-approved CALINE4 computer model.
- The potential for the proposed project to generate objectionable odors on neighboring sensitive receptors will be assessed qualitatively following CARB recommendations.

## *IV. BIOLOGICAL RESOURCES*

| ***Would the project:*** | ***Potentially Significant Impact*** | ***Less Than Significant with Mitigation Incorporation*** | ***Less Than Significant Impact*** | ***No Impact*** |
|---|---|---|---|---|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | X | | | |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | X | | | |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | X | | | |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | X | | | |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | X | | | |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | X | | | |

*Responses to Checklist Questions*

**Responses a-f):** Based on the documented special status species, sensitive natural communities, wetlands, and other biological resources in the region, it has been determined that the potential impacts on biological resources caused by the proposed project will require a detailed analysis. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on biological resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will provide a summary of local biological resources, including descriptions and mapping of plant communities, the associated plant and wildlife species, and sensitive biological resources known to occur, or with the potential to occur in the project vicinity. The analysis will conclude with a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented in order to reduce any significant impacts on biological resources.

## *V. CULTURAL RESOURCES*

| ***Would the project:*** | ***Potentially Significant Impact*** | ***Less Than Significant with Mitigation Incorporation*** | ***Less Than Significant Impact*** | ***No Impact*** |
|---|---|---|---|---|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to '15064.5? | X | | | |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5? | X | | | |
| c) Disturb any human remains, including those interred outside of formal cemeteries? | X | | | |

*Responses to Checklist Questions*

**Responses a-c):** Based on known historical and archaeological resources in the region, and the potential for undocumented underground cultural resources in the region, it has been determined that the potential impacts on cultural resources caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on cultural resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include an overview of the prehistory and history of the area, the potential for surface and subsurface cultural resources to be found in the area, the types of cultural resources that may be expected to be found, a review of existing regulations and policies that protect cultural resources, an impact analysis, and mitigation that should be implemented in order to reduce any significant impacts to cultural resources. In addition, the CEQA process will include a request to the Native American Heritage Commission for a list of local Native American groups that should be contacted relative to this project. The CEQA process will also include consultation with any Native American groups that have requested consultation with the City of Tracy.

## *VI. ENERGY*

| *Would the project:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | X | | | |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | X | | | |

*Responses to Checklist Questions*

**Responses a-b):** Appendix F of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed project includes the construction of two Costco warehouse and distribution buildings (1,264,754 sf and 52,000 sf) totaling 1,817,000 sf. The amount of energy used at the project site would directly correlate to the size of the proposed warehouses, the energy consumption of associated technology, machinery, and appliances, and outdoor lighting. Other major sources of proposed project energy consumption include fuel used by vehicle trips generated during project construction and operation, and fuel used by off-road construction vehicles during construction.

Due to the size of the proposed warehouse buildings, the potential impacts on energy caused by the proposed project will require a detailed analysis in the EIR. Consequently, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on energy resources. The EIR will include a discussion and analysis that provides calculated levels of energy use expected for the proposed project, based on commonly used modelling software (i.e. CalEEMod v.2016.3.2 and the CARB's EMFAC2014). At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

## *VII. GEOLOGY AND SOILS*

| ***Would the project:*** | ***Potentially Significant Impact*** | ***Less Than Significant with Mitigation*** | ***Less Than Significant Impact*** | ***No Impact*** |
|---|---|---|---|---|
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | X | | | |
| ii) Strong seismic ground shaking? | X | | | |
| iii) Seismic-related ground failure, including liquefaction? | X | | | |
| iv) Landslides? | X | | | |
| b) Result in substantial soil erosion or the loss of topsoil? | X | | | |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | X | | | |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | X | | | |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | | | | X |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | X | | | |

*Responses to Checklist Questions*

**Responses a.i-a.iv, b, c, d, f):** It has been determined that the potential impacts from geology and soils will require a detailed analysis in the EIR. As such, the lead agency will examine each of the potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact from geology and soils. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a review of existing geotechnical reports, published documents, aerial photos, geologic maps, and other geological and geotechnical literature pertaining to the site and surrounding area to aid in evaluating geologic resources and geologic hazards that may be present. The EIR will include a description of the applicable regulatory setting, a description of the existing geologic and soils conditions on and around the project site, an evaluation of geologic hazards, a description of the nature and general engineering characteristics of the subsurface conditions within the project site, and the provision of findings and potential mitigation strategies to address any geotechnical concerns or potential hazards.

This section will provide an analysis including thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any significant impacts associated with geology and soils.

**Response e):** The proposed project would connect to the municipal sewer system for wastewater disposal. Septic tanks or septic systems are not proposed as part of the project. As such, this CEQA topic is not relevant to the proposed project and does not require further analysis. Therefore, there would be ***no impact*** regarding septic tanks or alternative waste water disposal systems.

## *VIII. GREENHOUSE GAS EMISSIONS*

| *Would the project:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | X | | | |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses? | X | | | |

*Responses to Checklist Questions*

**Responses a), b):** Implementation of the proposed project could generate greenhouse gases (GHGs) from a variety of sources, including but not limited to vehicle trips, electricity consumption, water use, and solid waste generation. There could also be additional GHGs generated from stationary sources, such as industrial processes and/or diesel generators. It has been determined that the potential impacts from GHG emissions by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact from GHG emissions. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a GHG emissions analysis pursuant to the requirements of the California Governor's Executive Order S-3-05 and The Global Warming Solutions Act of 2006 (AB 32), Senate Bill 375 (SB 375), and Senate Bill 32 (SB 32). The analysis will follow the California Air Pollution Control Officers Association (CAPCOA) white paper methodology and recommendations presented in "Climate Change and CEQA", which was prepared in coordination with the CARB and the Governor's Office of Planning and Research (OPR) as a common platform for public agencies to ensure that GHG emissions are appropriately considered and addressed under CEQA. Also, a GHG emissions analysis using the SJVAPCD's two-tiered approach in assessing significance of the project specific GHG emissions increases will be performed. These analyses will consider a regional approach toward determining whether GHG emissions are significant, and will present mitigation measures to reduce any potential impacts. The discussion and analysis will include quantification of GHGs generated by the project using the CalEEMod computer model as well as a qualitative discussion of the project's consistency with any applicable state and local plans to reduce the impacts of climate change.

## *IX. HAZARDS AND HAZARDOUS MATERIALS*

| *Would the project:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | X | | | |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | X | | | |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | | | | X |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | | | | X |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | | | | X |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | | | X | |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? | | | X | |

*Responses to Checklist Questions*

**Responses a-b):** It has been determined that the potential impacts on hazards and hazardous materials caused by the proposed project will require a detailed analysis in the EIR. Consequently, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on hazards and hazardous materials. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a hazards and hazardous materials analysis that presents the methodology, thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce impacts on hazards and hazardous materials. The hazards and hazardous materials analysis will include the following:

- A description of the applicable hazards-related federal, state, and local statutes, regulations, and programs that the proposed project would be required to comply with (during project construction and operation).
- An assessment of the existing Recognized Environmental Conditions (RECs) identified for the project site.
- A summary of the past uses of the site.
- The potential for soil contamination or unknown underground facilities (i.e., underground wells, septic systems, etc.) in the project site.
- An analysis of the uses that are proposed on the project site, and what hazardous materials could be used by the proposed project.

**Response c):** The project site is not located within one-quarter-mile of a school. The nearest school, John C. Kimball High School, is located approximately 1.66 miles northeast of the project site. Therefore, ***no impact*** would occur related to emitting hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response d):** The project site is not located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, ***no impact*** would occur related to Government Code Section 65962.5. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response e):** The project is not located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The closest airport is the Tracy Municipal Airport, located approximately three and a half miles southeast of the project site. The project site is not within the Tracy Airport zone, nor is it within any area identified as impacted by the Tracy Municipal Airport in the San Joaquin County Airport Land Use Compatibility Plan (i.e. it is not within the Airport Influence Area). Therefore, ***no impact*** associated with private airstrips and airport land use plans would occur. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response f):** The project site would connect to an existing network of City streets. The project includes a 28-foot-wide fire lane around the perimeter of the proposed warehouse buildings. The appropriate turning radiuses have been planned to accommodate fire trucks on-site. The proposed circulation improvements would allow for greater emergency access relative to existing conditions. Moreover, the proposed project would require building construction to meet the fire code requirements, and would have fire hydrants consistent with the standards of the City; such fire hydrants would assist with fire suppression efforts if a fire was to occur on or near the project site. Therefore, impacts from project implementation would be considered ***less than significant*** relative to adopted emergency response plans or evacuation plans. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response g):** The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point.

The proposed project would include two warehouse buildings which would be utilized by Costco employees. The project site is located in an area that is predominately agricultural and industrial,

which is not considered at a significant risk of wildlife. There are no steep slopes on or near the project site. Additionally, the Delta Mendota Canal borders the site to the south, which could function as a firebreak during wildfires. Development of the project would not exacerbate fire risks. Therefore, impacts from project implementation would be considered ***less than significant*** relative to exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. This topic does not warrant additional analysis and will not be addressed further in the EIR.

## *X. HYDROLOGY AND WATER QUALITY*

| ***Would the project:*** | ***Potentially Significant Impact*** | ***Less Than Significant with Mitigation Incorporation*** | ***Less Than Significant Impact*** | ***No Impact*** |
|---|---|---|---|---|
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | X | | | |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | X | | | |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | | | | |
| (i) result in substantial erosion or siltation on- or off-site; | X | | | |
| (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; | X | | | |
| (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to provide substantial additional sources of polluted runoff; or | X | | | |
| (iv) impede or redirect flood flows? | X | | | |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | | | | X |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | X | | | |

*Responses to Checklist Questions*

**Responses a-c) and e):** Human activities have an effect on water quality when chemicals, heavy metals, hydrocarbons (auto emissions and car crank case oil), and other materials are transported with storm water into drainage systems. Construction activities can increase sediment runoff, including concrete waste and other pollutants.

It has been determined that the potential impacts on hydrology and water quality caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on hydrology and water quality. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

This section of the EIR will provide an analysis including the methodology, thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of

feasible mitigation measures that should be implemented to reduce any potential impacts associated with hydrology and water quality.

The EIR will present the project's hydrology and hydraulic calculations under existing and proposed conditions. Some of the specific items to be reviewed may include: land use classification; acreage calculations; runoff coefficients; time of concentration; and methodology. Calculations will be reviewed for reasonableness and consistency with the site plan and with the City's master plans. This section will describe the surface drainage patterns of the project site and adjoining areas, and identify surface water quality in the project site based on existing and available data. The EIR will also evaluate the potential construction and operational impacts of the proposed project on water quality, including surface water and groundwater. The potential for substantial erosion on-site will be analyzed. The potential for the proposed project to substantially decrease groundwater supplies or interfere with groundwater recharge will also be analyzed. This section will also identify 303(D)-listed impaired water bodies in the vicinity of the project site. Conformity of the proposed project to water quality regulations and the project site's potential to be inundated by seiche or tsunami will also be discussed. Mitigation measures will be developed to incorporate Best Management Practices (BMPs), and any other applicable local, state, and federal requirements to reduce the potential for site runoff.

**Response d):** Flood hazards can result from intense rain, snowmelt, cloudbursts, or a combination of all three, or from failure of a water impoundment structure, such as a dam. The project site is not located in a flood zone or dam inundation area. The project site is located approximately 36 miles east of the Pacific Ocean and, as such, is not subject to a tsunami or seiche. Therefore, ***no impact*** from project implementation relative to flood hazard, tsunami, or seiche zones would occur. This topic does not warrant additional analysis and will not be addressed further in the EIR.

## *XI. LAND USE AND PLANNING*

| *Would the project:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Physically divide an established community? | | | | X |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | X | | | |

*Responses to Checklist Questions*

**Response a):** The project site is located in unincorporated San Joaquin County, within the Tracy SOI, immediately adjacent to the Tracy city limits to the north of the site. Surrounding land uses include warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area, located in the City of Tracy), vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

The project would result in an extension of developed uses within an area of the City that currently has approved development plans within the vicinity of the project site. Development of the project site would not result in physical barriers, such as a highway, wall, or other division, that would divide an existing community, but would serve as an orderly extension of existing and planned development. The project would have ***no impact*** in regards to the physical division of an established community. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response b):** It has been determined that the potential impact related to conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect caused by the proposed project will require a detailed analysis in the EIR. Consequently, the lead agency will analyze this environmental issue in the EIR and will decide whether the proposed project has the potential to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. At this point, a definitive impact conclusion for this environmental topic will not be made. Rather, this topic is considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

This section will provide an analysis including the thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any identified significant effects.

## *XII. MINERAL RESOURCES*

| *Would the project:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | | | | X |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | | | | X |

*Responses to Checklist Questions*

**Response a-b):** As described in the Tracy General Plan EIR, the main mineral resources found in San Joaquin County, and the Tracy Planning Area, are sand and gravel (aggregate), which are primarily used for construction materials such as asphalt and concrete. According to the California Geological Survey (CGS) evaluation of the quality and quantity of these resources, the most marketable aggregate materials in San Joaquin County are found in three main areas:

- In the Corral Hollow alluvial fan deposits south of Tracy;
- Along the channel and floodplain deposits of the Mokelumne River; and
- Along the San Joaquin River near Lathrop.

Figure 4.8-1 of the General Plan EIR identifies Mineral Resource Zones (MRZs) throughout the Tracy Planning Area. The project site is located within an area designated as MRZ-1. The MRZ-1 designation applies to areas where adequate information indicates that no significant mineral deposits are present, or where there is little likelihood for their presence. There are no substantial aggregate materials located within the project site. Therefore, the project would not result in the loss of availability of a known mineral resource or locally-important mineral resources recovery site. Therefore, there is ***no impact*** related to mineral resources.

## *XIII. NOISE*

| *Would the project result in:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | X | | | |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | X | | | |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | | | | X |

*Responses to Checklist Questions*

**Responses a-b):** Based on existing and projected noise levels along roadways, and the potential for noise generated during project construction and operational activities, it has been determined that the potential impacts from noise caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the two potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact from noise. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather both are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will identify sensitive receptors, noise impacts, and attenuation of noise related impacts. The noise study will also include an assessment of construction noise and vibration impacts. The noise analysis will identify the noise level standards contained in the City of Tracy General Plan Noise Element and Municipal Code (Noise Control Ordinance, Chapter 4.12 Article 9), as well as any germane state, and federal standards. Continuous (24-hour) and short-term noise measurements will be performed in the project site and in the project vicinity in order to quantify existing ambient noise levels from existing community noise sources.

The EIR will provide an estimate of existing traffic noise levels adjacent to the project site roadways through application of accepted traffic noise prediction methodologies. Noise sources from the project will be quantified through noise level measurements. Proposed on-site mobile and stationary noise sources will be evaluated. This will include noise generating equipment, such as HVAC systems, generators, etc., as well as mobile noise sources such as truck loading/docking/idling. The EIR will include thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any potential impacts associated with noise.

**Response c):** The project is not located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The closest airport is the Tracy Municipal Airport, located approximately three and a half miles southeast of the project site. As such, there is ***no impact*** related to this topic and it will not be addressed further in the EIR.

## *XIV. POPULATION AND HOUSING*

| *Would the project:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | | | X | |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | | | | X |

*Responses to Checklist Questions*

**Response a):** According to the 2018 U.S. Census population estimates, the population in Tracy is 91,812 people. The proposed project would result in the construction of two Costco warehouse and distribution buildings that would generate additional employment opportunities. The additional employees may come from Tracy or surrounding communities. The project would not directly introduce new residents to the City as no housing is proposed as part of the project. It is noted, however, that some portion of the proposed project employees would become Tracy residents.

The proposed project would not include upsizing of offsite infrastructure or roadways. The installation and sizing of new infrastructure would be limited to the needs of the proposed use. Additionally, the project site is located in the City of Tracy SOI and has a City land use designation of Industrial; therefore, the employment growth associated with the proposed project was considered as part of the City's General Plan and associated EIR process. The project does not exceed the employment growth estimates for the site under the City's Industrial land use designation. The proposed project would not induce substantial population growth in an area, either directly or indirectly. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response b):** The project site is currently undeveloped and does not contain housing. The proposed project would not displace housing or people. Implementation of the proposed project would have ***no impact*** relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

## *XV. PUBLIC SERVICES*

| | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| i) Fire protection? | X | | | |
| ii) Police protection? | X | | | |
| iii) Schools? | X | | | |
| iv) Parks? | | | X | |
| v) Other public facilities? | X | | | |

*Responses to Checklist Questions*

**Responses a)i, a)ii, a)iii, a)v:** The project is located within the Lammersville Unified School District boundary, which is located in San Joaquin County, northwest of Tracy. Development of the project is expected to employ up to 400 full time employees, and is assumed that some portion of these employees would become Tracy residents and have school-aged children attending Tracy Unified School District and/or Lammersville Unified School District schools; therefore, the project has the potential to impact the Lammersville Unified School District and the Tracy Unified School District. Implementation of the proposed project would also result in increased demand for police protection, fire protection, and other public facilities in the area. It has been determined that the potential impacts from increased demands on schools, police protection, fire protection, and other public facilities caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of these potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on police protection, fire protection, and other public facilities. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

During the preparation of the EIR, the public service providers will be consulted in order to determine existing service levels in the project area. This would include documentation regarding existing staff levels and response times, equipment and facilities, current service capacity, existing service boundaries, and planned service expansions. Master plans from such public service providers and City policies, programs, and standards associated with the provision of public services will be described in the EIR.

The EIR will provide an analysis including the thresholds of significance and associated impact discussions, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce impacts associated with police protection, fire protection, and other public facilities.

**Response a)iv:** Potential project impacts to parks and recreational facilities are addressed in the following Recreation section of this document.

## *XVI. RECREATION*

| | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | | | X | |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | | | X | |

*Responses to Checklist Questions*

**Response a):** The project would result in the construction of a two industrial warehouse and distribution buildings with no proposed recreational facilities. The project would not directly introduce new residents to the City as no housing is proposed as part of the project; as such, the project would not result in new residents which would utilize nearby neighborhood parks, regional parks, or other recreational facilities. The employees of the warehouse are not anticipated to utilize nearby park areas. The proposed project would not significantly increase the use of existing parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response b):** As noted above, the project would not result in new residents which would utilize nearby neighborhood parks, regional parks, or other recreational facilities. The proposed project does not include recreational facilities on-site. According to the City's Parks Master Plan (2013), the City provides 4.1 acres of parkland per 1,000 residents, which meets their target of 4.0 acres per 1,000 residents. Development of the project would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

## *XVII. TRANSPORTATION*

| *Would the project:* | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | X | | | |
| b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? | X | | | |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | X | | | |
| d) Result in inadequate emergency access? | X | | | |

*Responses to Checklist Questions*

**Response a-d):** The proposed project includes the development of uses that will increase traffic on existing and planned roadways. Based on existing and projected traffic volume levels along roadways and potential increases in vehicle miles travelled as a result of the project, it has been determined that traffic impacts will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will determine whether the proposed project has the potential to have a significant impact from traffic. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is conducted in the EIR.

The EIR will include a Traffic Impact Analysis (TIA) to address the impacts of the proposed project on the surrounding transportation system including the roadways, transit service, pedestrian facilities, and bicycle facilities. The TIA will be conducted to address compliance with the City's General Plan and other requirements under CEQA. It will be prepared following applicable guidelines of the City of Tracy, San Joaquin County, and Caltrans, as applicable. The EIR will analyze total passenger vehicle and heavy-duty truck trips and associated vehicle-miles-traveled (VMT) that are modeled to be generated by the proposed project. Potential impacts associated with site access, on-site circulation, and consistency with CEQA Guidelines section 15064.3, subdivision (b) will also be addressed in the EIR. Significant impacts will be identified in accordance with the established criteria, and mitigation measures will be identified to lessen the significance of any potential impacts.

The EIR will provide an analysis including the thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any significant impacts associated with transportation.

## *XVIII. TRIBAL CULTURAL RESOURCES*

| | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | | |
| a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? | X | | | |
| b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe. | X | | | |

*Responses to Checklist Questions*

**Responses a-b):** Based on known historical, cultural, tribal, and archaeological resources in the region, and the potential for undocumented underground cultural resources in the region, it has been determined that the potential impacts on tribal cultural resources caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on tribal cultural resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include an overview of the prehistory and history of the area, the potential for surface and subsurface tribal cultural resources to be found in the area, the types of tribal cultural resources that may be expected to be found, a review of existing regulations and policies that protect tribal cultural resources, an impact analysis, and mitigation that should be implemented in order to reduce potential impacts to tribal cultural resources. In addition, the CEQA process will include a request to the Native American Heritage Commission for a list of local Native American groups that should be contacted relative to this project, as per the requirements of AB 52. The CEQA process will also include consultation with any Native American groups that have requested consultation with the City of Tracy.

## *XIX. UTILITIES AND SERVICE SYSTEMS*

| ***Would the project:*** | ***Potentially Significant Impact*** | ***Less Than Significant with Mitigation Incorporation*** | ***Less Than Significant Impact*** | ***No Impact*** |
|---|---|---|---|---|
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | X | | | |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | X | | | |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments? | X | | | |
| d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reductions goals? | X | | | |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | X | | | |

*Responses to Checklist Questions*

**Responses a-e):** Implementation of the proposed project would result in increased demands for utilities to serve the project. As such, the EIR will examine each of the environmental issues listed in the checklist above and will decide whether the proposed project has the potential to have a significant impact to utilities and service systems. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will analyze wastewater, water, and storm drainage infrastructure, as well as other utilities (i.e. solid waste, gas, electric, etc.), that are needed to serve the proposed project. The wastewater assessment will include a discussion of the proposed collection and conveyance system, treatment methods and capacity at the treatment plants, disposal location(s) and methods, and the potential for recycled water use for irrigation in the future. The EIR will analyze the impacts associated with on-site construction of the conveyance system, including temporary impacts associated with the construction phase. The proposed infrastructure will be presented. The EIR will provide a discussion of the wastewater treatment plants that are within proximity to the project site, including current demand and capacity at these plants. The analysis will discuss the disposal methods and location, including environmental impacts and permit requirements associated with disposal of treated wastewater.

The storm drainage assessment will include a discussion of the proposed drainage collection system including impacts associated with on-site construction of the storm drainage system. The

EIR will identify permit requirements and mitigation needed to minimize and/or avoid impacts. The proposed infrastructure will be presented.

The EIR will include an assessment for consistency with City Master Plans and Management Plans that are directly related to these utilities.

The EIR will analyze the impacts associated with water supply and on-site and off-site construction of the water system, including temporary impacts associated with the construction phase. The results of a project-specific Water Supply Assessment will be provided. The EIR will also identify permit requirements and mitigation needed to minimize and/or avoid impacts, and will present the proposed infrastructure as provided by the project site engineering reports.

The EIR will also address solid waste collection and disposal services for the proposed project. This will include an assessment of the existing capacity and project demands. The assessment will identify whether there is sufficient capacity to meet the project demands.

The EIR will provide thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce impacts associated with utilities and service systems.

## *XX. WILDFIRE*

| | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: | | | | |
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | | | X | |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | | | X | |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | | | X | |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | | | X | |

### *Existing Setting*

The California Department of Forestry and Fire Protection (Cal Fire) has designated the southern portion of the City along Interstate 580 as a Local Responsibility Area (LRA), which is within the Moderate Fire Hazard Severity Zone (MFHSZ) with a small portion along the southern most City limits within the High Fire Hazard Severity Zone (HFHSZ). This rating does not extend to the project site; as such, the site is not in or near land classified as a Very High Fire Hazard Severity Zone (VHFHSZ). Additionally, the proposed project is not located within a State Responsibility Area (SRA). Although this CEQA topic only applies to areas within an SRA or VHFHSZ, out of an abundance of caution, these checklist questions are analyzed below.

### *Responses to Checklist Questions*

**Response a):** As discussed in Section IX, Hazards and Hazardous Materials, the project site would connect to an existing network of City streets. The nearest Cal Fire Station (Cal Fire Station 26 – Castle Rock) is located approximately 850 feet to the west of the project site and the nearest Tracy Fire Station (Tracy Fire Station 91) is located approximately 3.35 miles northeast of the project site. The project includes a 28-foot-wide fire lane around the perimeter of the proposed warehouse buildings. The appropriate turning radiuses have been planned to accommodate fire trucks on-site. The proposed circulation improvements would allow for greater emergency access relative to existing conditions. Moreover, the proposed project would require building construction to meet the fire code requirements, and would have fire hydrants consistent with the standards of the City; such fire hydrants would assist with fire suppression efforts if a fire was to occur on or near the project site. Therefore, impacts from project implementation would be considered ***less than significant*** relative to adopted emergency response plans or evacuation plans. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response b):** The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. The project site is located in an area that is predominately agricultural and industrial, which is not considered at a significant risk of wildlife. There are no steep slopes on or near the project site. Additionally, the Delta Mendota Canal borders the site to the south, which could function as a firebreak during wildfires. Development of the project would not exacerbate fire risks. Therefore, impacts from project implementation would be considered ***less than significant*** relative to the spread of wildfire. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response c):** The project includes development of infrastructure (water, sewer, and storm drainage) to serve the proposed warehouse buildings. The project does not include the construction of fuel breaks, emergency water sources, or power lines. As noted above, the proposed project would require fire hydrants consistent with the standards of the City, and such fire hydrants would assist with fire suppression efforts if a fire was to occur. The proposed infrastructure improvements would allow for decreased fire risk relative to existing conditions. Therefore, impacts from project implementation would be considered ***less than significant*** relative to infrastructure that may exacerbate fire risk. This topic does not warrant additional analysis and will not be addressed further in the EIR.

**Response d):** The proposed project would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the project site and does not result in downstream flooding or major drainage changes. Stormwater treatment/detention basins and stormwater bioretention treatment planters would be located throughout the project site, mainly in the proposed landscaped areas and along West Schulte Road. The project site includes four drainage areas: Area 1 (12.67 acres located along the western boundary of the site) Area 2 (77.70 acres which take up the majority of the site), Area 3 (2.38 acres located along the northwestern boundary of the site), and Area 4 (2.60 acres located along the northern central boundary of the site). Stormwater runoff from each of the four drainage areas would be routed to a series of on-site stormwater bioretention treatment planters and treatment/detention basins. The storm drainage plan was designed and engineered to ensure proper construction of storm drainage infrastructure to control runoff and prevent flooding, erosion, and sedimentation.

Best management practices (BMPs) will be applied to the proposed development to limit the concentrations of constituents in any site runoff to acceptable levels. Stormwater flows from the project site would be directed to the proposed stormwater treatment basins, treatment planters, and bioretention areas by a new stormwater conveyance system on the project site. Stormwater runoff would not be allowed to discharge directly to the existing storm drains in West Schulte Road without first discharging to the bioretention areas. The landscaping plan includes stormwater treatment plantings in the treatment/detention basins. Additionally, erosion and sediment control measures would be implemented during construction.

Runoff from the project site currently flows to the existing City storm drains located in Schulte Road. Upon development of the site, stormwater would flow to the on-site retention basins and/or the existing storm drains in the adjacent roadways. Additionally, the project site is located within FEMA Zone X (un-shaded), indicating that the site is located outside of the 100-year flood hazard zone.

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. The elevation of the site ranges from approximately 90 feet to 220 feet above MSL. Upon development of the project, the site would be graded to eliminate significant slopes on the project site. The project would also be required to comply with the provisions of the California Building Standard's Code, which requires development projects to perform geotechnical investigations in accordance with State law, which include general engineering characteristics of the subsurface conditions within the project site and potential mitigation strategies to address any geotechnical concerns or potential hazards(such as slope failure). Therefore, the potential for a landslide (including rockfalls, deep slope failure, and shallow slope failure) on the project site is low.

Overall, impacts from project implementation would be considered ***less than significant*** relative to risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. This topic does not warrant additional analysis and will not be addressed further in the EIR.

## *XXI. MANDATORY FINDINGS OF SIGNIFICANCE*

| | *Potentially Significant Impact* | *Less Than Significant with Mitigation Incorporation* | *Less Than Significant Impact* | *No Impact* |
|---|---|---|---|---|
| a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | X | | | |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | X | | | |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | X | | | |

*Responses to Checklist Questions*

**Responses a-c):** It has been determined that the potential for the proposed project to: substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory; degrade the quality of the environment; create cumulatively considerable impacts; or adversely affect human beings will require more detailed analysis in an EIR. As such, the City of Tracy will examine each of these environmental issues in the EIR and will decide whether the proposed project has the potential to have significant impacts on these environmental issues. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

# REFERENCES

City of Tracy. City of Tracy General Plan (City of Tracy, 2011).

City of Tracy. City of Tracy General Plan Amendment to the Draft Environmental Impact Report (City of Tracy, 2006).

City of Tracy. City of Tracy General Plan Draft Environmental Impact Report (City of Tracy, 2005).

City of Tracy. City of Tracy General Plan Draft Supplemental Environmental Impact Report (City of Tracy, 2009).

City of Tracy. The Cordes Ranch Specific Plan (City of Tracy, 2013).

City of Tracy. The Cordes Ranch Specific Plan Draft Environmental Impact Report (City of Tracy, 2013).

California Air Resources Board. 2016. ARB Databases: Aerometric Data Analysis and Management System (ADAM). Available at: <http://www.arb.ca.gov/html/databases.htm>.

California Department of Conservation. 2016. San Joaquin Valley Important Farmland 2016 and Urban Change 1984-2016 Map. Available at: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/regional/2016/>.

California Department of Forestry and Fire Protection. June 2008. San Joaquin County Fire Hazard Severity Zones in LRA. Accessed November 2019. Available at: <https://osfm.fire.ca.gov/media/6794/fhszl06_1_map39.pdf>.

California Department of Forestry and Fire Protection. November 2007. San Joaquin County Fire Hazard Severity Zones in State Responsibility Area. Accessed November 2019. Available at: <https://osfm.fire.ca.gov/media/6609/fhszl06_1_map39.jpg>.

Federal Emergency Management Agency. October 2009. FEMA's National Flood Hazard Layer Viewer. Accessed November 2019. Available: <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-121.55648372617702,37.69819411608772,-121.39031551328662,37.76607591885928>.

San Joaquin Council of Governments. Airport Land Use Compatibility Plan Update, San Joaquin County Aviation System, San Joaquin County, California. July 2009.

San Joaquin Valley Air Pollution Control District. 2007 Ozone Plan. Available at: <https://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/2007_8HourOzone_CompletePlan.pdf>.

San Joaquin Valley Air Pollution Control District. 2007 PM10 Maintenance Plan and Request for Redesignation. Available at: <https://www.valleyair.org/Air_Quality_Plans/docs/Maintenance%20Plan10-25-07.pdf>.

San Joaquin Valley Air Pollution Control District. 2008 PM2.5 Plan. Available at: <https://www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_PM25_2008.htm>.

San Joaquin Valley Air Pollution Control District. Final Draft, Guidance for Assessing and Mitigating Air Quality Impacts. March 19, 2015. Available at: <http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.>.

State Water Resources Control Board 2010 Integrated Report Clean Water Act Sections 303(d) and 305(b) (SWRCB, 2010). April 19, 2010. Available online at: <http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/docs/2010ir0419.pdf>.

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SEPTEMBER 10, 2020

VIA EMAIL: GENEVIEVE.FEDERIGHI@CITYOFTRACY.ORG
Genevieve Federighi, Associate Planner
City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

Dear Ms. Federighi:

INITIAL STUDY AND NOTICE OF PREPARATION FOR THE TRACY COSTCO DEPOT PROJECT, SCH# 2020080531

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Initial Study and Notice of Preparation for the Tracy Costco Depot Project (Project). The Division monitors farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's potential impacts on agricultural land and resources.

Project Description

The project would include the construction and subsequent operation of two Costco warehouse and distribution buildings totaling approximately 1,782,317sf on the 103-acre project site. The project would also include the required circulation, parking, and utility improvements. The proposed warehouses will be used to support Costco's ongoing distribution and e-commerce facilities in the area. Additionally, the warehouses may include cold storage for Costco's meat processing plant in Tracy, as well as food processing and canning. The project site is currently designated as Prime Farmland by the Department of Conservation's Farmland Mapping and Monitoring Program.[1]

[1] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, https://maps.conservation.ca.gov/DLRP/CIFF/

Department Comments

Although conversion of agricultural land is often an unavoidable impact under CEQA analysis, feasible alternatives and/or feasible mitigation measures must be considered. In some cases, the argument is made that mitigation cannot reduce impacts to below the level of significance because agricultural land will still be converted by the project, and therefore, mitigation is not required. However, reduction to a level below significance is not a criterion for mitigation under CEQA. Rather, the criterion is feasible mitigation that lessens a project's impacts. As stated in CEQA statue, mitigation may also include, "Compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."[2]

The conversion of agricultural land represents a permanent reduction in the State's agricultural land resources. As such, the Department advises the use of permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the loss of agricultural land. Conservation easements are an available mitigation tool and considered a standard practice in many areas of the State. The Department highlights conservation easements because of their acceptance and use by lead agencies as an appropriate mitigation measure under CEQA and because it follows an established rationale similar to that of wildlife habitat mitigation.

Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands should not be limited strictly to lands within the project's surrounding area.

A source that has proven helpful for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

http://www.calandtrusts.org/resources/conserving-californias-harvest/

Of course, the use of conservation easements is only one form of mitigation that should be considered. Any other feasible mitigation measures should also be considered.

[2] Public Resources Code Section 15370, Association of Environmental Professionals, 2020 CEQA, California Environmental Quality Act, Statute & Guidelines, page 284, https://www.califaep.org/docs/2020_ceqa_book.pdf

Conclusion

The Department recommends further discussion of the following issues:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Proposed mitigation measures for all impacted agricultural lands within the proposed project area.
- Projects compatibility with, or, potential contract resolutions for land in an agricultural preserve and/or enrolled in a Williamson Act contract.

Thank you for giving us the opportunity to comment on the Initial Study and Notice of Preparation for the Tracy Costco Depot Project. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Monique Wilber

Monique Wilber

Conservation Program Support Supervisor

30 September 2020

Genevieve Federighi
City of Tracy
333 Civic Center Plaza
Tracy, CA 95376

**COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, TRACY COSTCO DEPOT PROJECT, SCH#2020080531, SAN JOAQUIN COUNTY**

Pursuant to the State Clearinghouse's 28 August 2020 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Tracy Costco Depot Project, located in San Joaquin County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

## I. Regulatory Setting

### Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental

Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

**Antidegradation Considerations**

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

*Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*

*This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

## II. Permitting Requirements

**Construction Storm Water General Permit**

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

**Phase I and II Municipal Separate Storm Sewer System (MS4) Permits**[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

**Industrial Storm Water General Permit**

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

**Dewatering Permit**

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

**Limited Threat General NPDES Permit**

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

**NPDES Permit**

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4856 or Nicholas.White@waterboards.ca.gov.

Nicholas White
Water Resource Control Engineer

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

October 29, 2020

Genevieve Federighi
City of Tracy
Department of Development Services
333 Civic Center Plaza
Tracy, CA 95376

**Project: Notice of Preparation of an Environmental Impact Report for the Tracy Costco Depot Project**

**District CEQA Reference No: 20200730**

Dear Mr. Federighi:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the project referenced above from the City of Tracy (City). The project consists of the construction of Costco warehouse and a distribution building at 1,246,066 square feet and 536,251 square feet on 103-acres (Project). The Project is located at 16000 West Schulte Road, in Tracy, CA (APN 209-230-02).

## Project Scope

The Project consists of the construction and subsequent operation of two Costco warehouse and distribution buildings with a total square foot of 1,782,317 on 103 acres. The Project would operate 24 hours a day, seven days a week, to provide support to Costco's retail warehouse facilities in northern California. The Project is expected to generate approximately 100 trucks and 300 trailers would be parked on site at any given time, with the typical truck size being approximately 70 feet long for double-axle trailers. It is anticipated that the Project would employ up to approximately 400 full time employees.

The District's initial review of the Project concludes that emissions resulting from construction and/or operation of the Project may exceed the following thresholds of significance: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size

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(PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5). The District recommends that a more detailed preliminary review of the Project be conducted for the Project's construction and operational emissions.

Other potential significant air quality impacts related to Toxic Air Contaminants (see information below under Health Risk Assessment), Ambient Air Quality Standards, Hazards and Odors, may require assessments and mitigation. More information can be found in the District's Guidance for Assessing and Mitigating Air Quality Impacts at: https://www.valleyair.org/transportation/GAMAQI_12-26-19.pdf

The District offers the following comments:

**1) Project Related Criteria Pollutant Emissions**

The District recommends that a more detailed preliminary review of the Project be conducted for the Project's construction and operational emissions. The additional environmental review of the Project's potential impact on air quality should consider the following items:

**1a) Project Related Construction Emissions**

Construction emissions are short-term emissions and should be evaluated separately from operational emissions. Equipment exhaust, as well as fugitive dust emissions should be quantified. For reference, the District's annual criteria thresholds of significance for construction are listed above.

The District recommends that the City consider the use of the cleanest reasonably available off-road construction practices (i.e. eliminating unnecessary idling) and fleets, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations as a mitigation measure to reduce Project related impacts from construction related exhaust emissions.

**1b) Project Related Operational Emissions**

Emissions from stationary sources and mobile sources should be analyzed separately. For reference, the District's annual criteria thresholds of significance for operational emissions are listed above.

**1c) Recommended Model**

Project related criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be

performed using CalEEMod (**Cal**ifornia **E**mission **E**stimator **Mod**el), which uses the most recent approved version of relevant Air Resources Board (ARB) emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

**1d) Project Related Operational Emissions– Truck Routing**

Truck routing involves the path/roads heavy-duty trucks take to and from their destination. The air emissions from heavy-duty trucks can impact residential communities and sensitive receptors.

The District recommends the City consider evaluating heavy-duty truck routing patterns to help limit emission exposure to residential communities and sensitive receptors. More specifically, this measure would assess current truck routes, in consideration of the number and type of each vehicle, destination/origin of each vehicular trip, time of day/week analysis, vehicle miles traveled and emissions. The truck routing evaluation would also identify alternative truck routes and their impacts on VMT, GHG emissions, and air quality.

**1e) Project Related Operational Emissions– Cleanest Available Truck**

The San Joaquin Valley will not be able to attain stringent health-based federal air quality standards without significant reductions in emissions from heavy-heavy duty (HHD) Trucks, the single largest source of NOx emissions in the San Joaquin Valley. The District recently adopted the 2018 PM2.5 Plan, which includes significant new reductions from HHD Trucks, including emissions reductions by 2023 through the implementation of the California Air Resources Board (CARB) Statewide Truck and Bus Regulation, which requires truck fleets operating in California to meet the 2010 0.2 g/bhp-hr NOx standard by 2023. Additionally, to meet the federal air quality standards by the 2020 to 2024 attainment deadlines, the District's Plan relies on a significant and immediate transition of heavy duty truck fleets to zero or near-zero emissions technologies, including the near-zero truck standard of 0.02 g/bhp-hr NOx established by the California Air Resources Board.

For development projects which typically generate a high volume of heavy duty truck traffic (e.g. "high-cube" warehouse or distribution center), there are heavy duty trucks traveling to-and-from from the project location at longer trip length distances for potential distribution. Since the project may exceed the District significance thresholds, the District recommends that the following mitigation measures be considered by the City for inclusion in the CEQA document for project related operational emissions.

- Advise fleets associated with Project operational activities to utilize the cleanest available HHD truck technologies, including zero and near-zero (0.02 g/bhp-hr NOx) technologies as feasible.

- Advise all on-site service equipment (cargo handling, yard hostlers, forklifts, pallet jacks, etc.) to utilize zero-emissions technologies as feasible.

- Advise fleets associated with future development projects to be subject to the best practices (i.e. eliminating unnecessary idling).

In addition, the District recommends that the City include mitigation measures to reduce project related operational impacts through incorporation of design elements, for example, increased energy efficiency, reducing vehicle miles traveled, etc. More information on mitigation measures can be found on the District's website at: http://www.valleyair.org/transportation/ceqa_idx.htm.

**1f) Project Related Operational Emissions– Reduce Idling of Heavy Duty Trucks**

The goal of this strategy is to limit the potential for localized PM2.5 and toxic air quality impacts associated with failure to comply with the state's Heavy Duty anti-idling regulation (e.g limiting vehicle idling to specific time limits). The diesel exhaust from excessive idling has the potential to impose significant adverse health and environmental impacts. Therefore, efforts to ensure compliance of the anti-idling regulation, especially near sensitive receptors, is important to limit the amount of idling within the community, which will result in community air quality benefits.

**1g) Project Related Operational Emissions– Electric On-Site Off-Road and On-Road Equipment**

Since the Project consists of a Costco depot and warehouse facility, it may have the potential to result in increased use of off-road equipment (i.e. forklifts) and/or on-road equipment (i.e. mobile yard trucks with the ability to move materials). The District recommends the City advise the project proponent to utilize electric or zero emission off-road and on-road equipment used on-site for this Project.

**1h) Solar Deployment in the Community**

It is the policy of the State of California that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-

use customers by December 31, 2045. While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, the production of solar energy is contributing to improving air quality and public health. The District suggests that the City of Tracy consider the feasibility of incorporating solar power systems, as an emission reduction strategy for this Project.

## 2) Voluntary Emission Reduction Agreement

If the Project is expected to have a significant impact, the District recommends the NOP also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this project.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate Project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-specific regional impacts on air quality can be fully mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-specific regional emissions have been mitigated to less than significant. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the Draft EIR includes an assessment of the feasibility of implementing a VERA.

## 3) Health Risk Screening/Assessment

A Health Risk Screening/Assessment identifies potential Toxic Air Contaminants (TAC's) impact on surrounding sensitive receptors such as hospitals, daycare centers, schools, work-sites, and residences. TAC's are air pollutants identified by

the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health. A common source of TACs can be attributed to diesel exhaust emitted from both mobile and stationary sources. List of TAC's identified by OEHHA/CARB can be found at: https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants

The District recommends the Project be evaluated for potential health impacts to surrounding receptors (on-site and off-site) resulting from operational and multi-year construction TAC emissions.

i) The District recommends conducting a screening analysis that includes all sources of emissions. A screening analysis is used to identify projects which may have a significant health impact. A prioritization, using CAPCOA's updated methodology, is the recommended screening method. A prioritization score of 10 or greater is considered to be significant and a refined Health Risk Assessment (HRA) should be performed.

   For your convenience, the District's prioritization calculator can be found at: http:www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION%20RMR%202016.XLS.

ii) The District recommends a refined HRA for projects that result in a prioritization score of 10 or greater. Prior to performing an HRA, it is recommended that the Project proponent contact the District to review the proposed modeling protocol. The Project would be considered to have a significant health risk if the HRA demonstrates that the Project related health impacts would exceed the Districts significance threshold of 20 in a million for carcinogenic risk and 1.0 for the Acute and Chronic Hazard Indices, and would trigger all feasible mitigation measures. The District recommends that Projects that result in a significant health risk not be approved.

   For HRA submittals, please provide the following information electronically to the District for review:

   - HRA AERMOD model files
   - HARP2 files
   - Summary of emissions source locations, emissions rates, and emission factor calculations and methodology.

   More information on toxic emission factors, prioritizations and HRAs can be obtained by:

- E-Mailing inquiries to: hramodeler@valleyair.org; or
- The District can be contacted at (559) 230-6000 for assistance; or
- Visiting the Districts website (Modeling Guidance) at: http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm.

## 4) Health Impact Discussion

As required by the recent decision in Sierra Club v. County of Fresno (2018) 6 Cal.4th 502, a reasonable effort to discuss relevant specifics regarding the connection between potential adverse air quality impacts from the Project with the likely nature and magnitude of potential health impacts may be required. If the potential health impacts from the Project cannot be specifically correlated, explain what is known and why, given scientific constraints, potential health impacts cannot be translated.

## 5) Ambient Air Quality Analysis

An ambient air quality analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of the ambient air quality standards. The District recommends that an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

If an AAQA is performed, the analysis should include emissions from both Project specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance is available online at the District's website www.valleyair.org/ceqa.

## 6) Cumulative Air Impacts

In addition to the discussions on the topics identified above, the District recommends the EIR also include a discussion of whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. More information on the District's attainment status can be found online by visiting the District's website at: http://valleyair.org/aqinfo/attainment.htm.

## 7) District Rules and Regulations

The District issues permits for many types of air pollution sources and regulates some activities not requiring permits. A project subject to District rules and regulation would reduce its impacts on air quality through compliance with regulatory requirements. In general, a regulation is a collection of rules, each of which deals with a specific topic. Here are a couple of example, Regulation II (Permits) deals with permitting emission sources and includes rules such as District permit requirements (Rule 2010), New and Modified Stationary Source Review (Rule 2201), and implementation of Emission Reduction Credit Banking (Rule 2301).

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (209) 557-6446.

### 7a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 requires that new and modified stationary sources of emissions mitigate their emissions using best available control technology (BACT).

This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, the Project proponent should submit to the District an application for an Authority to Construct (ATC). For further information or assistance, the project proponent may contact the District's Small Business Assistance (SBA) Office at (209) 557-6446

### 7b) District Rule 9510 (Indirect Source Review)

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM10 emissions associated with development and transportation projects from mobile and area sources associated with construction and operation of development projects. The rule encourages clean air design elements to be incorporated into development projects. In case the proposed development project clean air design elements are insufficient to meet the targeted emission reductions, the rule

requires developers to pay a fee used to fund projects to achieve off-site emissions reductions.

The proposed Project is subject to District Rule 9510 because it will receive a project-level discretionary approval from a public agency and will equal or exceed 2,000 square feet of commercial space. When subject to the rule, an Air Impact Assessment (AIA) application is required no later than applying for project-level approval from a public agency. In this case, if not already done, please inform the project proponent to immediately submit an AIA application to the District to comply with District Rule 9510.

An AIA application is required and the District recommends that demonstration of compliance with District Rule 9510, before issuance of the first building permit, be made a condition of Project approval.

Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

**7c) District Rule 9410 (Employer Based Trip Reduction)**

The proposed Project may be subject to District Rule 9410 (Employer Based Trip Reduction) if the Project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees.

Information about how District Rule 9410 can be found online at: www.valleyair.org/tripreduction.htm.

For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org

**7d) Other District Rules and Regulations**

The Project may also be subject to the following District rules: Regulation VIII, (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural

Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).

If you have any questions or require further information, please contact Harout Sagherian by e-mail at Harout.Sagherian@valleyair.org or by phone at (559) 230-5860.

Sincerely,



For Arnaud Marjollet
Director of Permit Services

AM: hs

# APPENDIX B

**Air Quality, Greenhouse Gas, and Energy Appendices**

CONTENTS

Appendix B.1: CalEEMod Outputs

Appendix B.2: Energy Outputs

Appendix B.3: Health Risk Assessment

Appendix B.4: Analysis of Models and Tools to Correlate Project-Generated Pollutants to Health End Points

# APPENDIX B.1

**CalEEMod Outputs**

Tracy Costco - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

# Tracy Costco

**San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 543.33 | 1000sqft | 12.47 | 543,325.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 1,201.73 | 1000sqft | 27.59 | 1,201,726.00 | 0 |
| Other Asphalt Surfaces | 62.94 | Acre | 62.94 | 2,741,666.40 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 51 |
| **Climate Zone** | 2 | | | **Operational Year** | 2025 |
| **Utility Company** | Pacific Gas and Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 203.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 2025 is assumed buildout year.

Land Use - Land uses consistent with site plan. 103.0 acres total of Development Area.

Construction Phase - Construction schedule based on project size and type.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Demolition -

Tracy Costco - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Grading - Total export [cut] of up to 6,000 cy of material.

Architectural Coating - VOC limits for extrerior and interior building coatings to be 50 g/L or less (per SJVAPCD Rule 4601).

Vehicle Trips - Trips consistent with trips data provided by traffic consultant (Kimley Horn) (2.177575556 trips/unit/day)

Area Coating - VOC limits for extrerior and interior building coatings to be 50 g/L or less (per SJVAPCD Rule 4601).

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - VOC limits for extrerior and interior building coatings to be 50 g/L or less (per SJVAPCD Rule 4601).

Fleet Mix - Fleet Mix adjusted to account for heavy-duty truck trips and passenger cars as a proportion of fleet, as provided by the traffic consultant (Kimley Horn). LDA = 0.67789; HHD = 0.32211

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 150.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 150.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 150.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 150.00 | 50.00 |
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 150 | 50 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 150 | 50 |
| tblAreaCoating | Area_EF_Residential_Exterior | 150 | 50 |
| tblAreaCoating | Area_EF_Residential_Interior | 150 | 50 |
| tblAreaMitigation | UseLowVOCPaintResidentialInteriorValue | 50 | 150 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 5 |
| tblConstructionPhase | NumDays | 120.00 | 90.00 |
| tblConstructionPhase | NumDays | 310.00 | 90.00 |
| tblConstructionPhase | NumDays | 3,100.00 | 150.00 |
| tblConstructionPhase | NumDays | 220.00 | 60.00 |
| tblConstructionPhase | NumDays | 220.00 | 120.00 |
| tblConstructionPhase | PhaseEndDate | 1/13/2023 | 5/5/2023 |
| tblConstructionPhase | PhaseEndDate | 3/22/2024 | 9/8/2023 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | | | |
|---|---|---|---|
| tblConstructionPhase | PhaseEndDate | 2/8/2036 | 4/5/2024 |
| tblConstructionPhase | PhaseEndDate | 12/12/2036 | 6/28/2024 |
| tblConstructionPhase | PhaseEndDate | 10/16/2037 | 12/13/2024 |
| tblConstructionPhase | PhaseStartDate | 8/1/2022 | 1/1/2023 |
| tblConstructionPhase | PhaseStartDate | 1/14/2023 | 5/6/2023 |
| tblConstructionPhase | PhaseStartDate | 3/23/2024 | 9/9/2023 |
| tblConstructionPhase | PhaseStartDate | 2/9/2036 | 4/6/2024 |
| tblConstructionPhase | PhaseStartDate | 12/13/2036 | 6/29/2024 |
| tblFleetMix | HHD | 0.02 | 0.32 |
| tblFleetMix | HHD | 0.02 | 0.32 |
| tblFleetMix | LDA | 0.54 | 0.68 |
| tblFleetMix | LDA | 0.54 | 0.68 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD2 | 6.1000e-003 | 0.00 |
| tblFleetMix | LHD2 | 6.1000e-003 | 0.00 |
| tblFleetMix | MCY | 0.02 | 0.00 |
| tblFleetMix | MCY | 0.02 | 0.00 |
| tblFleetMix | MDV | 0.15 | 0.00 |
| tblFleetMix | MDV | 0.15 | 0.00 |
| tblFleetMix | MH | 3.3530e-003 | 0.00 |
| tblFleetMix | MH | 3.3530e-003 | 0.00 |
| tblFleetMix | MHD | 0.01 | 0.00 |
| tblFleetMix | MHD | 0.01 | 0.00 |
| tblFleetMix | OBUS | 4.6700e-004 | 0.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | | | |
|---|---|---|---|
| tblFleetMix | OBUS | 4.6700e-004 | 0.00 |
| tblFleetMix | SBUS | 1.1030e-003 | 0.00 |
| tblFleetMix | SBUS | 1.1030e-003 | 0.00 |
| tblFleetMix | UBUS | 3.2200e-004 | 0.00 |
| tblFleetMix | UBUS | 3.2200e-004 | 0.00 |
| tblGrading | MaterialExported | 0.00 | 6,000.00 |
| tblLandUse | LandUseSquareFeet | 1,201,730.00 | 1,201,726.00 |
| tblLandUse | LandUseSquareFeet | 543,330.00 | 543,325.00 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblVehicleTrips | ST_TR | 1.74 | 2.18 |
| tblVehicleTrips | SU_TR | 1.74 | 2.18 |
| tblVehicleTrips | WD_TR | 1.74 | 2.18 |

## 2.0 Emissions Summary

Tracy Costco - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 0.6546 | 4.8321 | 5.6080 | 0.0193 | 2.4358 | 0.1616 | 2.5974 | 0.9254 | 0.1495 | 1.0749 | 0.0000 | 1,769.2512 | 1,769.2512 | 0.1703 | 0.1005 | 1,803.4653 |
| 2024 | 5.1276 | 2.0984 | 4.0848 | 0.0155 | 1.2562 | 0.0507 | 1.3069 | 0.3375 | 0.0477 | 0.3851 | 0.0000 | 1,429.6168 | 1,429.6168 | 0.0597 | 0.0875 | 1,457.1694 |
| **Maximum** | **5.1276** | **4.8321** | **5.6080** | **0.0193** | **2.4358** | **0.1616** | **2.5974** | **0.9254** | **0.1495** | **1.0749** | **0.0000** | **1,769.2512** | **1,769.2512** | **0.1703** | **0.1005** | **1,803.4653** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 0.6546 | 4.8321 | 5.6080 | 0.0193 | 2.4358 | 0.1616 | 2.5974 | 0.9254 | 0.1495 | 1.0749 | 0.0000 | 1,769.2506 | 1,769.2506 | 0.1703 | 0.1005 | 1,803.4647 |
| 2024 | 5.1276 | 2.0984 | 4.0848 | 0.0155 | 1.2562 | 0.0507 | 1.3069 | 0.3375 | 0.0477 | 0.3851 | 0.0000 | 1,429.6167 | 1,429.6167 | 0.0597 | 0.0875 | 1,457.1692 |
| **Maximum** | **5.1276** | **4.8321** | **5.6080** | **0.0193** | **2.4358** | **0.1616** | **2.5974** | **0.9254** | **0.1495** | **1.0749** | **0.0000** | **1,769.2506** | **1,769.2506** | **0.1703** | **0.1005** | **1,803.4647** |

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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **2** | **11-1-2022** | **1-31-2023** | 0.3356 | 0.3356 |
| **3** | **2-1-2023** | **4-30-2023** | 0.9633 | 0.9633 |
| **4** | **5-1-2023** | **7-31-2023** | 1.2653 | 1.2653 |
| **5** | **8-1-2023** | **10-31-2023** | 1.6739 | 1.6739 |
| **6** | **11-1-2023** | **1-31-2024** | 1.9761 | 1.9761 |
| **7** | **2-1-2024** | **4-30-2024** | 1.4747 | 1.4747 |
| **8** | **5-1-2024** | **7-31-2024** | 1.2309 | 1.2309 |
| **9** | **8-1-2024** | **9-30-2024** | 1.7553 | 1.7553 |
| | | **Highest** | 1.9761 | 1.9761 |

Tracy Costco - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 7.4557 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| Energy | 0.0569 | 0.5175 | 0.4347 | 3.1100e-003 | | 0.0393 | 0.0393 | | 0.0393 | 0.0393 | 0.0000 | 1,298.0286 | 1,298.0286 | 0.1297 | 0.0247 | 1,308.6408 |
| Mobile | 0.8134 | 16.8939 | 12.0428 | 0.0953 | 5.6790 | 0.1543 | 5.8333 | 1.5274 | 0.1471 | 1.6745 | 0.0000 | 9,053.9874 | 9,053.9874 | 0.0952 | 1.1058 | 9,385.9079 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 332.9783 | 0.0000 | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 128.0263 | 202.0333 | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| **Total** | **8.3260** | **17.4116** | **12.4941** | **0.0984** | **5.6790** | **0.1937** | **5.8727** | **1.5274** | **0.1865** | **1.7139** | **461.0045** | **10,554.0816** | **11,015.0861** | **33.0856** | **1.4450** | **12,272.8437** |

Tracy Costco - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 2.2 Overall Operational

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 7.4557 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| Energy | 0.0569 | 0.5175 | 0.4347 | 3.1100e-003 | | 0.0393 | 0.0393 | | 0.0393 | 0.0393 | 0.0000 | 1,298.0286 | 1,298.0286 | 0.1297 | 0.0247 | 1,308.6408 |
| Mobile | 0.8134 | 16.8939 | 12.0428 | 0.0953 | 5.6790 | 0.1543 | 5.8333 | 1.5274 | 0.1471 | 1.6745 | 0.0000 | 9,053.9874 | 9,053.9874 | 0.0952 | 1.1058 | 9,385.9079 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 332.9783 | 0.0000 | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 128.0263 | 202.0333 | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| **Total** | **8.3260** | **17.4116** | **12.4941** | **0.0984** | **5.6790** | **0.1937** | **5.8727** | **1.5274** | **0.1865** | **1.7139** | **461.0045** | **10,554.0816** | **11,015.0861** | **33.0856** | **1.4450** | **12,272.8437** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 1/1/2023 | 5/5/2023 | 5 | 90 | |
| 2 | Grading | Grading | 5/6/2023 | 9/8/2023 | 5 | 90 | |
| 3 | Building Construction | Building Construction | 9/9/2023 | 4/5/2024 | 5 | 150 | |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Paving | Paving | 4/6/2024 | 6/28/2024 | 5 | 60 | |
| 5 | Architectural Coating | Architectural Coating | 6/29/2024 | 12/13/2024 | 5 | 120 | |

**Acres of Grading (Site Preparation Phase): 135**

**Acres of Grading (Grading Phase): 270**

**Acres of Paving: 62.94**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,617,577; Non-Residential Outdoor: 872,526; Striped Parking Area: 164,500 (Architectural Coating – sqft)**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 2 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

## Trips and VMT

Tracy Costco - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 750.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 1,884.00 | 735.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 377.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Site Preparation - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.8846 | 0.0000 | 0.8846 | 0.4546 | 0.0000 | 0.4546 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1197 | 1.2386 | 0.8210 | 1.7100e-003 | | 0.0570 | 0.0570 | | 0.0524 | 0.0524 | 0.0000 | 150.5281 | 150.5281 | 0.0487 | 0.0000 | 151.7452 |
| **Total** | **0.1197** | **1.2386** | **0.8210** | **1.7100e-003** | **0.8846** | **0.0570** | **0.9415** | **0.4546** | **0.0524** | **0.5070** | **0.0000** | **150.5281** | **150.5281** | **0.0487** | **0.0000** | **151.7452** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0700e-003 | 2.1800e-003 | 0.0262 | 9.0000e-005 | 0.0100 | 5.0000e-005 | 0.0101 | 2.6700e-003 | 4.0000e-005 | 2.7100e-003 | 0.0000 | 7.8074 | 7.8074 | 1.8000e-004 | 2.0000e-004 | 7.8717 |
| **Total** | **3.0700e-003** | **2.1800e-003** | **0.0262** | **9.0000e-005** | **0.0100** | **5.0000e-005** | **0.0101** | **2.6700e-003** | **4.0000e-005** | **2.7100e-003** | **0.0000** | **7.8074** | **7.8074** | **1.8000e-004** | **2.0000e-004** | **7.8717** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.8846 | 0.0000 | 0.8846 | 0.4546 | 0.0000 | 0.4546 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1197 | 1.2386 | 0.8210 | 1.7100e-003 | | 0.0570 | 0.0570 | | 0.0524 | 0.0524 | 0.0000 | 150.5280 | 150.5280 | 0.0487 | 0.0000 | 151.7451 |
| **Total** | **0.1197** | **1.2386** | **0.8210** | **1.7100e-003** | **0.8846** | **0.0570** | **0.9415** | **0.4546** | **0.0524** | **0.5070** | **0.0000** | **150.5280** | **150.5280** | **0.0487** | **0.0000** | **151.7451** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.2 Site Preparation - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0700e-003 | 2.1800e-003 | 0.0262 | 9.0000e-005 | 0.0100 | 5.0000e-005 | 0.0101 | 2.6700e-003 | 4.0000e-005 | 2.7100e-003 | 0.0000 | 7.8074 | 7.8074 | 1.8000e-004 | 2.0000e-004 | 7.8717 |
| **Total** | **3.0700e-003** | **2.1800e-003** | **0.0262** | **9.0000e-005** | **0.0100** | **5.0000e-005** | **0.0101** | **2.6700e-003** | **4.0000e-005** | **2.7100e-003** | **0.0000** | **7.8074** | **7.8074** | **1.8000e-004** | **2.0000e-004** | **7.8717** |

## 3.3 Grading - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.4146 | 0.0000 | 0.4146 | 0.1645 | 0.0000 | 0.1645 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1495 | 1.5532 | 1.2623 | 2.7900e-003 | | 0.0641 | 0.0641 | | 0.0590 | 0.0590 | 0.0000 | 245.4084 | 245.4084 | 0.0794 | 0.0000 | 247.3927 |
| **Total** | **0.1495** | **1.5532** | **1.2623** | **2.7900e-003** | **0.4146** | **0.0641** | **0.4787** | **0.1645** | **0.0590** | **0.2235** | **0.0000** | **245.4084** | **245.4084** | **0.0794** | **0.0000** | **247.3927** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.3 Grading - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 7.9000e-004 | 0.0469 | 9.7800e-003 | 2.2000e-004 | 6.3900e-003 | 4.4000e-004 | 6.8400e-003 | 1.7600e-003 | 4.2000e-004 | 2.1800e-003 | 0.0000 | 21.2710 | 21.2710 | 1.2000e-004 | 3.3500e-003 | 22.2711 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.4100e-003 | 2.4200e-003 | 0.0291 | 9.0000e-005 | 0.0112 | 5.0000e-005 | 0.0112 | 2.9600e-003 | 5.0000e-005 | 3.0100e-003 | 0.0000 | 8.6749 | 8.6749 | 2.0000e-004 | 2.2000e-004 | 8.7464 |
| **Total** | **4.2000e-003** | **0.0493** | **0.0389** | **3.1000e-004** | **0.0175** | **4.9000e-004** | **0.0180** | **4.7200e-003** | **4.7000e-004** | **5.1900e-003** | **0.0000** | **29.9459** | **29.9459** | **3.2000e-004** | **3.5700e-003** | **31.0174** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.4146 | 0.0000 | 0.4146 | 0.1645 | 0.0000 | 0.1645 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1495 | 1.5532 | 1.2623 | 2.7900e-003 | | 0.0641 | 0.0641 | | 0.0590 | 0.0590 | 0.0000 | 245.4082 | 245.4082 | 0.0794 | 0.0000 | 247.3924 |
| **Total** | **0.1495** | **1.5532** | **1.2623** | **2.7900e-003** | **0.4146** | **0.0641** | **0.4787** | **0.1645** | **0.0590** | **0.2235** | **0.0000** | **245.4082** | **245.4082** | **0.0794** | **0.0000** | **247.3924** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.3 Grading - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 7.9000e-004 | 0.0469 | 9.7800e-003 | 2.2000e-004 | 6.3900e-003 | 4.4000e-004 | 6.8400e-003 | 1.7600e-003 | 4.2000e-004 | 2.1800e-003 | 0.0000 | 21.2710 | 21.2710 | 1.2000e-004 | 3.3500e-003 | 22.2711 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.4100e-003 | 2.4200e-003 | 0.0291 | 9.0000e-005 | 0.0112 | 5.0000e-005 | 0.0112 | 2.9600e-003 | 5.0000e-005 | 3.0100e-003 | 0.0000 | 8.6749 | 8.6749 | 2.0000e-004 | 2.2000e-004 | 8.7464 |
| **Total** | **4.2000e-003** | **0.0493** | **0.0389** | **3.1000e-004** | **0.0175** | **4.9000e-004** | **0.0180** | **4.7200e-003** | **4.7000e-004** | **5.1900e-003** | **0.0000** | **29.9459** | **29.9459** | **3.2000e-004** | **3.5700e-003** | **31.0174** |

## 3.4 Building Construction - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0629 | 0.5754 | 0.6498 | 1.0800e-003 | | 0.0280 | 0.0280 | | 0.0263 | 0.0263 | 0.0000 | 92.7219 | 92.7219 | 0.0221 | 0.0000 | 93.2733 |
| **Total** | **0.0629** | **0.5754** | **0.6498** | **1.0800e-003** | | **0.0280** | **0.0280** | | **0.0263** | **0.0263** | **0.0000** | **92.7219** | **92.7219** | **0.0221** | **0.0000** | **93.2733** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.4 Building Construction - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0298 | 1.2104 | 0.3726 | 5.3800e-003 | 0.1757 | 7.5400e-003 | 0.1833 | 0.0508 | 7.2100e-003 | 0.0580 | 0.0000 | 516.4606 | 516.4606 | 2.6200e-003 | 0.0781 | 539.8025 |
| Worker | 0.2855 | 0.2030 | 2.4372 | 7.9200e-003 | 0.9333 | 4.4100e-003 | 0.9378 | 0.2481 | 4.0600e-003 | 0.2522 | 0.0000 | 726.3788 | 726.3788 | 0.0171 | 0.0186 | 732.3624 |
| **Total** | **0.3153** | **1.4134** | **2.8098** | **0.0133** | **1.1091** | **0.0120** | **1.1210** | **0.2989** | **0.0113** | **0.3102** | **0.0000** | **1,242.8394** | **1,242.8394** | **0.0197** | **0.0968** | **1,272.1649** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0629 | 0.5754 | 0.6498 | 1.0800e-003 | | 0.0280 | 0.0280 | | 0.0263 | 0.0263 | 0.0000 | 92.7218 | 92.7218 | 0.0221 | 0.0000 | 93.2732 |
| **Total** | **0.0629** | **0.5754** | **0.6498** | **1.0800e-003** | | **0.0280** | **0.0280** | | **0.0263** | **0.0263** | **0.0000** | **92.7218** | **92.7218** | **0.0221** | **0.0000** | **93.2732** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.4 Building Construction - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0298 | 1.2104 | 0.3726 | 5.3800e-003 | 0.1757 | 7.5400e-003 | 0.1833 | 0.0508 | 7.2100e-003 | 0.0580 | 0.0000 | 516.4606 | 516.4606 | 2.6200e-003 | 0.0781 | 539.8025 |
| Worker | 0.2855 | 0.2030 | 2.4372 | 7.9200e-003 | 0.9333 | 4.4100e-003 | 0.9378 | 0.2481 | 4.0600e-003 | 0.2522 | 0.0000 | 726.3788 | 726.3788 | 0.0171 | 0.0186 | 732.3624 |
| **Total** | **0.3153** | **1.4134** | **2.8098** | **0.0133** | **1.1091** | **0.0120** | **1.1210** | **0.2989** | **0.0113** | **0.3102** | **0.0000** | **1,242.8394** | **1,242.8394** | **0.0197** | **0.0968** | **1,272.1649** |

## 3.4 Building Construction - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0515 | 0.4705 | 0.5658 | 9.4000e-004 | | 0.0215 | 0.0215 | | 0.0202 | 0.0202 | 0.0000 | 81.1472 | 81.1472 | 0.0192 | 0.0000 | 81.6269 |
| **Total** | **0.0515** | **0.4705** | **0.5658** | **9.4000e-004** | | **0.0215** | **0.0215** | | **0.0202** | **0.0202** | **0.0000** | **81.1472** | **81.1472** | **0.0192** | **0.0000** | **81.6269** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.4 Building Construction - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0255 | 1.0596 | 0.3199 | 4.6400e-003 | 0.1538 | 6.6500e-003 | 0.1604 | 0.0445 | 6.3600e-003 | 0.0508 | 0.0000 | 444.8731 | 444.8731 | 2.1900e-003 | 0.0672 | 464.9553 |
| Worker | 0.2308 | 0.1551 | 1.9644 | 6.6900e-003 | 0.8167 | 3.6300e-003 | 0.8203 | 0.2171 | 3.3400e-003 | 0.2204 | 0.0000 | 613.5416 | 613.5416 | 0.0133 | 0.0150 | 618.3446 |
| **Total** | **0.2563** | **1.2147** | **2.2843** | **0.0113** | **0.9704** | **0.0103** | **0.9807** | **0.2615** | **9.7000e-003** | **0.2712** | **0.0000** | **1,058.4147** | **1,058.4147** | **0.0155** | **0.0822** | **1,083.2998** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0515 | 0.4705 | 0.5658 | 9.4000e-004 | | 0.0215 | 0.0215 | | 0.0202 | 0.0202 | 0.0000 | 81.1471 | 81.1471 | 0.0192 | 0.0000 | 81.6268 |
| **Total** | **0.0515** | **0.4705** | **0.5658** | **9.4000e-004** | | **0.0215** | **0.0215** | | **0.0202** | **0.0202** | **0.0000** | **81.1471** | **81.1471** | **0.0192** | **0.0000** | **81.6268** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.4 Building Construction - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0255 | 1.0596 | 0.3199 | 4.6400e-003 | 0.1538 | 6.6500e-003 | 0.1604 | 0.0445 | 6.3600e-003 | 0.0508 | 0.0000 | 444.8731 | 444.8731 | 2.1900e-003 | 0.0672 | 464.9553 |
| Worker | 0.2308 | 0.1551 | 1.9644 | 6.6900e-003 | 0.8167 | 3.6300e-003 | 0.8203 | 0.2171 | 3.3400e-003 | 0.2204 | 0.0000 | 613.5416 | 613.5416 | 0.0133 | 0.0150 | 618.3446 |
| **Total** | **0.2563** | **1.2147** | **2.2843** | **0.0113** | **0.9704** | **0.0103** | **0.9807** | **0.2615** | **9.7000e-003** | **0.2712** | **0.0000** | **1,058.4147** | **1,058.4147** | **0.0155** | **0.0822** | **1,083.2998** |

## 3.5 Paving - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0296 | 0.2857 | 0.4388 | 6.8000e-004 | | 0.0141 | 0.0141 | | 0.0129 | 0.0129 | 0.0000 | 60.0796 | 60.0796 | 0.0194 | 0.0000 | 60.5654 |
| Paving | 0.0825 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.1121** | **0.2857** | **0.4388** | **6.8000e-004** | | **0.0141** | **0.0141** | | **0.0129** | **0.0129** | **0.0000** | **60.0796** | **60.0796** | **0.0194** | **0.0000** | **60.5654** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.5 Paving - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5800e-003 | 1.0600e-003 | 0.0134 | 5.0000e-005 | 5.5700e-003 | 2.0000e-005 | 5.6000e-003 | 1.4800e-003 | 2.0000e-005 | 1.5000e-003 | 0.0000 | 4.1870 | 4.1870 | 9.0000e-005 | 1.0000e-004 | 4.2198 |
| **Total** | **1.5800e-003** | **1.0600e-003** | **0.0134** | **5.0000e-005** | **5.5700e-003** | **2.0000e-005** | **5.6000e-003** | **1.4800e-003** | **2.0000e-005** | **1.5000e-003** | **0.0000** | **4.1870** | **4.1870** | **9.0000e-005** | **1.0000e-004** | **4.2198** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0296 | 0.2857 | 0.4388 | 6.8000e-004 | | 0.0141 | 0.0141 | | 0.0129 | 0.0129 | 0.0000 | 60.0795 | 60.0795 | 0.0194 | 0.0000 | 60.5653 |
| Paving | 0.0825 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.1121** | **0.2857** | **0.4388** | **6.8000e-004** | | **0.0141** | **0.0141** | | **0.0129** | **0.0129** | **0.0000** | **60.0795** | **60.0795** | **0.0194** | **0.0000** | **60.5653** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.5 Paving - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5800e-003 | 1.0600e-003 | 0.0134 | 5.0000e-005 | 5.5700e-003 | 2.0000e-005 | 5.6000e-003 | 1.4800e-003 | 2.0000e-005 | 1.5000e-003 | 0.0000 | 4.1870 | 4.1870 | 9.0000e-005 | 1.0000e-004 | 4.2198 |
| **Total** | **1.5800e-003** | **1.0600e-003** | **0.0134** | **5.0000e-005** | **5.5700e-003** | **2.0000e-005** | **5.6000e-003** | **1.4800e-003** | **2.0000e-005** | **1.5000e-003** | **0.0000** | **4.1870** | **4.1870** | **9.0000e-005** | **1.0000e-004** | **4.2198** |

## 3.6 Architectural Coating - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.6160 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0109 | 0.0731 | 0.1086 | 1.8000e-004 | | 3.6500e-003 | 3.6500e-003 | | 3.6500e-003 | 3.6500e-003 | 0.0000 | 15.3195 | 15.3195 | 8.6000e-004 | 0.0000 | 15.3411 |
| **Total** | **4.6269** | **0.0731** | **0.1086** | **1.8000e-004** | | **3.6500e-003** | **3.6500e-003** | | **3.6500e-003** | **3.6500e-003** | **0.0000** | **15.3195** | **15.3195** | **8.6000e-004** | **0.0000** | **15.3411** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.6 Architectural Coating - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0792 | 0.0532 | 0.6739 | 2.3000e-003 | 0.2802 | 1.2500e-003 | 0.2814 | 0.0745 | 1.1500e-003 | 0.0756 | 0.0000 | 210.4688 | 210.4688 | 4.5800e-003 | 5.1500e-003 | 212.1164 |
| **Total** | **0.0792** | **0.0532** | **0.6739** | **2.3000e-003** | **0.2802** | **1.2500e-003** | **0.2814** | **0.0745** | **1.1500e-003** | **0.0756** | **0.0000** | **210.4688** | **210.4688** | **4.5800e-003** | **5.1500e-003** | **212.1164** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.6160 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0109 | 0.0731 | 0.1086 | 1.8000e-004 | | 3.6500e-003 | 3.6500e-003 | | 3.6500e-003 | 3.6500e-003 | 0.0000 | 15.3195 | 15.3195 | 8.6000e-004 | 0.0000 | 15.3411 |
| **Total** | **4.6269** | **0.0731** | **0.1086** | **1.8000e-004** | | **3.6500e-003** | **3.6500e-003** | | **3.6500e-003** | **3.6500e-003** | **0.0000** | **15.3195** | **15.3195** | **8.6000e-004** | **0.0000** | **15.3411** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

### 3.6 Architectural Coating - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0792 | 0.0532 | 0.6739 | 2.3000e-003 | 0.2802 | 1.2500e-003 | 0.2814 | 0.0745 | 1.1500e-003 | 0.0756 | 0.0000 | 210.4688 | 210.4688 | 4.5800e-003 | 5.1500e-003 | 212.1164 |
| **Total** | **0.0792** | **0.0532** | **0.6739** | **2.3000e-003** | **0.2802** | **1.2500e-003** | **0.2814** | **0.0745** | **1.1500e-003** | **0.0756** | **0.0000** | **210.4688** | **210.4688** | **4.5800e-003** | **5.1500e-003** | **212.1164** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.8134 | 16.8939 | 12.0428 | 0.0953 | 5.6790 | 0.1543 | 5.8333 | 1.5274 | 0.1471 | 1.6745 | 0.0000 | 9,053.9874 | 9,053.9874 | 0.0952 | 1.1058 | 9,385.9079 |
| Unmitigated | 0.8134 | 16.8939 | 12.0428 | 0.0953 | 5.6790 | 0.1543 | 5.8333 | 1.5274 | 0.1471 | 1.6745 | 0.0000 | 9,053.9874 | 9,053.9874 | 0.0952 | 1.1058 | 9,385.9079 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 1,183.14 | 1,183.14 | 1183.14 | 4,571,029 | 4,571,029 |
| Unrefrigerated Warehouse-No Rail | 2,616.86 | 2,616.86 | 2616.86 | 10,110,141 | 10,110,141 |
| Total | 3,800.00 | 3,800.00 | 3,800.00 | 14,681,171 | 14,681,171 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Asphalt Surfaces | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 14.70 | 6.60 | 6.60 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |
| Unrefrigerated Warehouse-No | 14.70 | 6.60 | 6.60 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Asphalt Surfaces | 0.677890 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.322110 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Unrefrigerated Warehouse-No Rail | 0.677890 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.322110 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 734.6371 | 734.6371 | 0.1189 | 0.0144 | 741.9013 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 734.6371 | 734.6371 | 0.1189 | 0.0144 | 741.9013 |
| NaturalGas Mitigated | 0.0569 | 0.5175 | 0.4347 | 3.1100e-003 | | 0.0393 | 0.0393 | | 0.0393 | 0.0393 | 0.0000 | 563.3915 | 563.3915 | 0.0108 | 0.0103 | 566.7395 |
| NaturalGas Unmitigated | 0.0569 | 0.5175 | 0.4347 | 3.1100e-003 | | 0.0393 | 0.0393 | | 0.0393 | 0.0393 | 0.0000 | 563.3915 | 563.3915 | 0.0108 | 0.0103 | 566.7395 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 3.28712e+006 | 0.0177 | 0.1611 | 0.1354 | 9.7000e-004 | | 0.0123 | 0.0123 | | 0.0123 | 0.0123 | 0.0000 | 175.4130 | 175.4130 | 3.3600e-003 | 3.2200e-003 | 176.4554 |
| Unrefrigerated Warehouse-No Rail | 7.27044e+006 | 0.0392 | 0.3564 | 0.2994 | 2.1400e-003 | | 0.0271 | 0.0271 | | 0.0271 | 0.0271 | 0.0000 | 387.9785 | 387.9785 | 7.4400e-003 | 7.1100e-003 | 390.2841 |
| **Total** | | **0.0569** | **0.5175** | **0.4347** | **3.1100e-003** | | **0.0393** | **0.0393** | | **0.0393** | **0.0393** | **0.0000** | **563.3915** | **563.3915** | **0.0108** | **0.0103** | **566.7395** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 7.27044e+006 | 0.0392 | 0.3564 | 0.2994 | 2.1400e-003 | | 0.0271 | 0.0271 | | 0.0271 | 0.0271 | 0.0000 | 387.9785 | 387.9785 | 7.4400e-003 | 7.1100e-003 | 390.2841 |
| Unrefrigerated Warehouse-No Rail | 3.28712e+006 | 0.0177 | 0.1611 | 0.1354 | 9.7000e-004 | | 0.0123 | 0.0123 | | 0.0123 | 0.0123 | 0.0000 | 175.4130 | 175.4130 | 3.3600e-003 | 3.2200e-003 | 176.4554 |
| **Total** | | **0.0569** | **0.5175** | **0.4347** | **3.1100e-003** | | **0.0393** | **0.0393** | | **0.0393** | **0.0393** | **0.0000** | **563.3915** | **563.3915** | **0.0108** | **0.0103** | **566.7395** |

Tracy Costco - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 2.47213e+006 | 228.7307 | 0.0370 | 4.4900e-003 | 230.9924 |
| Unrefrigerated Warehouse-No Rail | 5.46785e+006 | 505.9064 | 0.0819 | 9.9200e-003 | 510.9089 |
| **Total** | | **734.6371** | **0.1189** | **0.0144** | **741.9014** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 2.47213e+006 | 228.7307 | 0.0370 | 4.4900e-003 | 230.9924 |
| Unrefrigerated Warehouse-No Rail | 5.46785e+006 | 505.9064 | 0.0819 | 9.9200e-003 | 510.9089 |
| **Total** | | **734.6371** | **0.1189** | **0.0144** | **741.9014** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 7.4557 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| Unmitigated | 7.4557 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.4616 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 6.9925 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.5300e-003 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| **Total** | **7.4557** | **1.5000e-004** | **0.0166** | **0.0000** | | **6.0000e-005** | **6.0000e-005** | | **6.0000e-005** | **6.0000e-005** | **0.0000** | **0.0323** | **0.0323** | **8.0000e-005** | **0.0000** | **0.0344** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.4616 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 6.9925 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.5300e-003 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| **Total** | **7.4557** | **1.5000e-004** | **0.0166** | **0.0000** | | **6.0000e-005** | **6.0000e-005** | | **6.0000e-005** | **6.0000e-005** | **0.0000** | **0.0323** | **0.0323** | **8.0000e-005** | **0.0000** | **0.0344** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| Unmitigated | 330.0596 | 13.1822 | 0.3145 | 753.3210 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 403.545 / 0 | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| **Total** | | **330.0596** | **13.1822** | **0.3145** | **753.3210** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 403.545 / 0 | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| **Total** | | **330.0596** | **13.1822** | **0.3145** | **753.3210** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| Unmitigated | 332.9783 | 19.6785 | 0.0000 | 824.9395 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1640.36 | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| **Total** | | **332.9783** | **19.6785** | **0.0000** | **824.9395** |

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1640.36 | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| **Total** | | **332.9783** | **19.6785** | **0.0000** | **824.9395** |

## 9.0 Operational Offroad

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

### Fire Pumps and Emergency Generators

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

### Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

### User Defined Equipment

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

# Tracy Costco (Clean Truck Fleet Mitigation Applied)

**San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 543.33 | 1000sqft | 12.47 | 543,325.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 1,201.73 | 1000sqft | 27.59 | 1,201,726.00 | 0 |
| Other Asphalt Surfaces | 62.94 | Acre | 62.94 | 2,741,666.40 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 51 |
| **Climate Zone** | 2 | | | **Operational Year** | 2025 |
| **Utility Company** | Pacific Gas and Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 203.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 2025 is assumed buildout year.

Land Use - Land uses consistent with site plan. 103.0 acres total of Development Area.

Construction Phase - Construction schedule based on project size and type.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Demolition -

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Grading - Total export [cut] of up to 6,000 cy of material.

Architectural Coating - VOC limits for extrerior and interior building coatings to be 50 g/L or less (per SJVAPCD Rule 4601).

Vehicle Trips - Trips consistent with trips data provided by traffic consultant (Kimley Horn) (2.177575556 trips/unit/day)

Area Coating - VOC limits for extrerior and interior building coatings to be 50 g/L or less (per SJVAPCD Rule 4601).

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - VOC limits for extrerior and interior building coatings to be 50 g/L or less (per SJVAPCD Rule 4601).

Fleet Mix - Fleet Mix adjusted to account for heavy-duty truck trips and passenger cars as a proportion of fleet, as provided by the traffic consultant (Kimley Horn). LDA = 0.67789; HHD = 0.32211

Vehicle Emission Factors - Note: Reduced HHD NOx "Runex" emissions by 90%. Instead of 2.377878 HHD Nox "Runex" emissions, the CLean Truck Fleet HHD NOx "Runex" emissions would be 0.2377878

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 150.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 150.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 150.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 150.00 | 50.00 |
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 150 | 50 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 150 | 50 |
| tblAreaCoating | Area_EF_Residential_Exterior | 150 | 50 |
| tblAreaCoating | Area_EF_Residential_Interior | 150 | 50 |
| tblAreaMitigation | UseLowVOCPaintResidentialInteriorValue | 50 | 150 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 5 |
| tblConstructionPhase | NumDays | 120.00 | 90.00 |
| tblConstructionPhase | NumDays | 310.00 | 90.00 |
| tblConstructionPhase | NumDays | 3,100.00 | 150.00 |
| tblConstructionPhase | NumDays | 220.00 | 60.00 |
| tblConstructionPhase | NumDays | 220.00 | 120.00 |
| tblConstructionPhase | PhaseEndDate | 1/13/2023 | 5/5/2023 |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | | | |
|---|---|---|---|
| tblConstructionPhase | PhaseEndDate | 3/22/2024 | 9/8/2023 |
| tblConstructionPhase | PhaseEndDate | 2/8/2036 | 4/5/2024 |
| tblConstructionPhase | PhaseEndDate | 12/12/2036 | 6/28/2024 |
| tblConstructionPhase | PhaseEndDate | 10/16/2037 | 12/13/2024 |
| tblConstructionPhase | PhaseStartDate | 8/1/2022 | 1/1/2023 |
| tblConstructionPhase | PhaseStartDate | 1/14/2023 | 5/6/2023 |
| tblConstructionPhase | PhaseStartDate | 3/23/2024 | 9/9/2023 |
| tblConstructionPhase | PhaseStartDate | 2/9/2036 | 4/6/2024 |
| tblConstructionPhase | PhaseStartDate | 12/13/2036 | 6/29/2024 |
| tblFleetMix | HHD | 0.02 | 0.32 |
| tblFleetMix | HHD | 0.02 | 0.32 |
| tblFleetMix | LDA | 0.54 | 0.68 |
| tblFleetMix | LDA | 0.54 | 0.68 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD2 | 6.1000e-003 | 0.00 |
| tblFleetMix | LHD2 | 6.1000e-003 | 0.00 |
| tblFleetMix | MCY | 0.02 | 0.00 |
| tblFleetMix | MCY | 0.02 | 0.00 |
| tblFleetMix | MDV | 0.15 | 0.00 |
| tblFleetMix | MDV | 0.15 | 0.00 |
| tblFleetMix | MH | 3.3530e-003 | 0.00 |
| tblFleetMix | MH | 3.3530e-003 | 0.00 |
| tblFleetMix | MHD | 0.01 | 0.00 |
| tblFleetMix | MHD | 0.01 | 0.00 |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | | | |
|---|---|---|---|
| tblFleetMix | OBUS | 4.6700e-004 | 0.00 |
| tblFleetMix | OBUS | 4.6700e-004 | 0.00 |
| tblFleetMix | SBUS | 1.1030e-003 | 0.00 |
| tblFleetMix | SBUS | 1.1030e-003 | 0.00 |
| tblFleetMix | UBUS | 3.2200e-004 | 0.00 |
| tblFleetMix | UBUS | 3.2200e-004 | 0.00 |
| tblGrading | MaterialExported | 0.00 | 6,000.00 |
| tblLandUse | LandUseSquareFeet | 1,201,730.00 | 1,201,726.00 |
| tblLandUse | LandUseSquareFeet | 543,330.00 | 543,325.00 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblVehicleEF | HHD | 2.38 | 0.24 |
| tblVehicleTrips | ST_TR | 1.74 | 2.18 |
| tblVehicleTrips | SU_TR | 1.74 | 2.18 |
| tblVehicleTrips | WD_TR | 1.74 | 2.18 |

## 2.0 Emissions Summary

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 0.6546 | 4.8321 | 5.6080 | 0.0193 | 2.4358 | 0.1616 | 2.5974 | 0.9254 | 0.1495 | 1.0749 | 0.0000 | 1,769.2512 | 1,769.2512 | 0.1703 | 0.1005 | 1,803.4653 |
| 2024 | 5.1276 | 2.0984 | 4.0848 | 0.0155 | 1.2562 | 0.0507 | 1.3069 | 0.3375 | 0.0477 | 0.3851 | 0.0000 | 1,429.6168 | 1,429.6168 | 0.0597 | 0.0875 | 1,457.1694 |
| **Maximum** | **5.1276** | **4.8321** | **5.6080** | **0.0193** | **2.4358** | **0.1616** | **2.5974** | **0.9254** | **0.1495** | **1.0749** | **0.0000** | **1,769.2512** | **1,769.2512** | **0.1703** | **0.1005** | **1,803.4653** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 0.6546 | 4.8321 | 5.6080 | 0.0193 | 2.4358 | 0.1616 | 2.5974 | 0.9254 | 0.1495 | 1.0749 | 0.0000 | 1,769.2506 | 1,769.2506 | 0.1703 | 0.1005 | 1,803.4647 |
| 2024 | 5.1276 | 2.0984 | 4.0848 | 0.0155 | 1.2562 | 0.0507 | 1.3069 | 0.3375 | 0.0477 | 0.3851 | 0.0000 | 1,429.6167 | 1,429.6167 | 0.0597 | 0.0875 | 1,457.1692 |
| **Maximum** | **5.1276** | **4.8321** | **5.6080** | **0.0193** | **2.4358** | **0.1616** | **2.5974** | **0.9254** | **0.1495** | **1.0749** | **0.0000** | **1,769.2506** | **1,769.2506** | **0.1703** | **0.1005** | **1,803.4647** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **2** | **11-1-2022** | **1-31-2023** | 0.3356 | 0.3356 |
| **3** | **2-1-2023** | **4-30-2023** | 0.9633 | 0.9633 |
| **4** | **5-1-2023** | **7-31-2023** | 1.2653 | 1.2653 |
| **5** | **8-1-2023** | **10-31-2023** | 1.6739 | 1.6739 |
| **6** | **11-1-2023** | **1-31-2024** | 1.9761 | 1.9761 |
| **7** | **2-1-2024** | **4-30-2024** | 1.4747 | 1.4747 |
| **8** | **5-1-2024** | **7-31-2024** | 1.2309 | 1.2309 |
| **9** | **8-1-2024** | **9-30-2024** | 1.7553 | 1.7553 |
| | | **Highest** | 1.9761 | 1.9761 |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 7.4557 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| Energy | 0.0569 | 0.5175 | 0.4347 | 3.1100e-003 | | 0.0393 | 0.0393 | | 0.0393 | 0.0393 | 0.0000 | 1,298.0286 | 1,298.0286 | 0.1297 | 0.0247 | 1,308.6408 |
| Mobile | 0.8134 | 5.7514 | 12.0428 | 0.0953 | 5.6790 | 0.1543 | 5.8333 | 1.5274 | 0.1471 | 1.6745 | 0.0000 | 9,053.9874 | 9,053.9874 | 0.0952 | 1.1058 | 9,385.9079 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 332.9783 | 0.0000 | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 128.0263 | 202.0333 | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| **Total** | **8.3260** | **6.2690** | **12.4941** | **0.0984** | **5.6790** | **0.1937** | **5.8727** | **1.5274** | **0.1865** | **1.7139** | **461.0045** | **10,554.0816** | **11,015.0861** | **33.0856** | **1.4450** | **12,272.8437** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 7.4557 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| Energy | 0.0569 | 0.5175 | 0.4347 | 3.1100e-003 | | 0.0393 | 0.0393 | | 0.0393 | 0.0393 | 0.0000 | 1,298.0286 | 1,298.0286 | 0.1297 | 0.0247 | 1,308.6408 |
| Mobile | 0.8134 | 5.7514 | 12.0428 | 0.0953 | 5.6790 | 0.1543 | 5.8333 | 1.5274 | 0.1471 | 1.6745 | 0.0000 | 9,053.9874 | 9,053.9874 | 0.0952 | 1.1058 | 9,385.9079 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 332.9783 | 0.0000 | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 128.0263 | 202.0333 | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| **Total** | **8.3260** | **6.2690** | **12.4941** | **0.0984** | **5.6790** | **0.1937** | **5.8727** | **1.5274** | **0.1865** | **1.7139** | **461.0045** | **10,554.0816** | **11,015.0861** | **33.0856** | **1.4450** | **12,272.8437** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 1/1/2023 | 5/5/2023 | 5 | 90 | |
| 2 | Grading | Grading | 5/6/2023 | 9/8/2023 | 5 | 90 | |
| 3 | Building Construction | Building Construction | 9/9/2023 | 4/5/2024 | 5 | 150 | |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Paving | Paving | 4/6/2024 | 6/28/2024 | 5 | 60 | |
| 5 | Architectural Coating | Architectural Coating | 6/29/2024 | 12/13/2024 | 5 | 120 | |

**Acres of Grading (Site Preparation Phase): 135**

**Acres of Grading (Grading Phase): 270**

**Acres of Paving: 62.94**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,617,577; Non-Residential Outdoor: 872,526; Striped Parking Area: 164,500 (Architectural Coating – sqft)**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 2 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

## Trips and VMT

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 750.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 1,884.00 | 735.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 377.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Site Preparation - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.8846 | 0.0000 | 0.8846 | 0.4546 | 0.0000 | 0.4546 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1197 | 1.2386 | 0.8210 | 1.7100e-003 | | 0.0570 | 0.0570 | | 0.0524 | 0.0524 | 0.0000 | 150.5281 | 150.5281 | 0.0487 | 0.0000 | 151.7452 |
| **Total** | **0.1197** | **1.2386** | **0.8210** | **1.7100e-003** | **0.8846** | **0.0570** | **0.9415** | **0.4546** | **0.0524** | **0.5070** | **0.0000** | **150.5281** | **150.5281** | **0.0487** | **0.0000** | **151.7452** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0700e-003 | 2.1800e-003 | 0.0262 | 9.0000e-005 | 0.0100 | 5.0000e-005 | 0.0101 | 2.6700e-003 | 4.0000e-005 | 2.7100e-003 | 0.0000 | 7.8074 | 7.8074 | 1.8000e-004 | 2.0000e-004 | 7.8717 |
| **Total** | **3.0700e-003** | **2.1800e-003** | **0.0262** | **9.0000e-005** | **0.0100** | **5.0000e-005** | **0.0101** | **2.6700e-003** | **4.0000e-005** | **2.7100e-003** | **0.0000** | **7.8074** | **7.8074** | **1.8000e-004** | **2.0000e-004** | **7.8717** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.8846 | 0.0000 | 0.8846 | 0.4546 | 0.0000 | 0.4546 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1197 | 1.2386 | 0.8210 | 1.7100e-003 | | 0.0570 | 0.0570 | | 0.0524 | 0.0524 | 0.0000 | 150.5280 | 150.5280 | 0.0487 | 0.0000 | 151.7451 |
| **Total** | **0.1197** | **1.2386** | **0.8210** | **1.7100e-003** | **0.8846** | **0.0570** | **0.9415** | **0.4546** | **0.0524** | **0.5070** | **0.0000** | **150.5280** | **150.5280** | **0.0487** | **0.0000** | **151.7451** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.2 Site Preparation - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0700e-003 | 2.1800e-003 | 0.0262 | 9.0000e-005 | 0.0100 | 5.0000e-005 | 0.0101 | 2.6700e-003 | 4.0000e-005 | 2.7100e-003 | 0.0000 | 7.8074 | 7.8074 | 1.8000e-004 | 2.0000e-004 | 7.8717 |
| **Total** | **3.0700e-003** | **2.1800e-003** | **0.0262** | **9.0000e-005** | **0.0100** | **5.0000e-005** | **0.0101** | **2.6700e-003** | **4.0000e-005** | **2.7100e-003** | **0.0000** | **7.8074** | **7.8074** | **1.8000e-004** | **2.0000e-004** | **7.8717** |

## 3.3 Grading - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.4146 | 0.0000 | 0.4146 | 0.1645 | 0.0000 | 0.1645 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1495 | 1.5532 | 1.2623 | 2.7900e-003 | | 0.0641 | 0.0641 | | 0.0590 | 0.0590 | 0.0000 | 245.4084 | 245.4084 | 0.0794 | 0.0000 | 247.3927 |
| **Total** | **0.1495** | **1.5532** | **1.2623** | **2.7900e-003** | **0.4146** | **0.0641** | **0.4787** | **0.1645** | **0.0590** | **0.2235** | **0.0000** | **245.4084** | **245.4084** | **0.0794** | **0.0000** | **247.3927** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.3 Grading - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 7.9000e-004 | 0.0469 | 9.7800e-003 | 2.2000e-004 | 6.3900e-003 | 4.4000e-004 | 6.8400e-003 | 1.7600e-003 | 4.2000e-004 | 2.1800e-003 | 0.0000 | 21.2710 | 21.2710 | 1.2000e-004 | 3.3500e-003 | 22.2711 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.4100e-003 | 2.4200e-003 | 0.0291 | 9.0000e-005 | 0.0112 | 5.0000e-005 | 0.0112 | 2.9600e-003 | 5.0000e-005 | 3.0100e-003 | 0.0000 | 8.6749 | 8.6749 | 2.0000e-004 | 2.2000e-004 | 8.7464 |
| **Total** | **4.2000e-003** | **0.0493** | **0.0389** | **3.1000e-004** | **0.0175** | **4.9000e-004** | **0.0180** | **4.7200e-003** | **4.7000e-004** | **5.1900e-003** | **0.0000** | **29.9459** | **29.9459** | **3.2000e-004** | **3.5700e-003** | **31.0174** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.4146 | 0.0000 | 0.4146 | 0.1645 | 0.0000 | 0.1645 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1495 | 1.5532 | 1.2623 | 2.7900e-003 | | 0.0641 | 0.0641 | | 0.0590 | 0.0590 | 0.0000 | 245.4082 | 245.4082 | 0.0794 | 0.0000 | 247.3924 |
| **Total** | **0.1495** | **1.5532** | **1.2623** | **2.7900e-003** | **0.4146** | **0.0641** | **0.4787** | **0.1645** | **0.0590** | **0.2235** | **0.0000** | **245.4082** | **245.4082** | **0.0794** | **0.0000** | **247.3924** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.3 Grading - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 7.9000e-004 | 0.0469 | 9.7800e-003 | 2.2000e-004 | 6.3900e-003 | 4.4000e-004 | 6.8400e-003 | 1.7600e-003 | 4.2000e-004 | 2.1800e-003 | 0.0000 | 21.2710 | 21.2710 | 1.2000e-004 | 3.3500e-003 | 22.2711 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.4100e-003 | 2.4200e-003 | 0.0291 | 9.0000e-005 | 0.0112 | 5.0000e-005 | 0.0112 | 2.9600e-003 | 5.0000e-005 | 3.0100e-003 | 0.0000 | 8.6749 | 8.6749 | 2.0000e-004 | 2.2000e-004 | 8.7464 |
| **Total** | **4.2000e-003** | **0.0493** | **0.0389** | **3.1000e-004** | **0.0175** | **4.9000e-004** | **0.0180** | **4.7200e-003** | **4.7000e-004** | **5.1900e-003** | **0.0000** | **29.9459** | **29.9459** | **3.2000e-004** | **3.5700e-003** | **31.0174** |

## 3.4 Building Construction - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0629 | 0.5754 | 0.6498 | 1.0800e-003 | | 0.0280 | 0.0280 | | 0.0263 | 0.0263 | 0.0000 | 92.7219 | 92.7219 | 0.0221 | 0.0000 | 93.2733 |
| **Total** | **0.0629** | **0.5754** | **0.6498** | **1.0800e-003** | | **0.0280** | **0.0280** | | **0.0263** | **0.0263** | **0.0000** | **92.7219** | **92.7219** | **0.0221** | **0.0000** | **93.2733** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.4 Building Construction - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0298 | 1.2104 | 0.3726 | 5.3800e-003 | 0.1757 | 7.5400e-003 | 0.1833 | 0.0508 | 7.2100e-003 | 0.0580 | 0.0000 | 516.4606 | 516.4606 | 2.6200e-003 | 0.0781 | 539.8025 |
| Worker | 0.2855 | 0.2030 | 2.4372 | 7.9200e-003 | 0.9333 | 4.4100e-003 | 0.9378 | 0.2481 | 4.0600e-003 | 0.2522 | 0.0000 | 726.3788 | 726.3788 | 0.0171 | 0.0186 | 732.3624 |
| **Total** | **0.3153** | **1.4134** | **2.8098** | **0.0133** | **1.1091** | **0.0120** | **1.1210** | **0.2989** | **0.0113** | **0.3102** | **0.0000** | **1,242.8394** | **1,242.8394** | **0.0197** | **0.0968** | **1,272.1649** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0629 | 0.5754 | 0.6498 | 1.0800e-003 | | 0.0280 | 0.0280 | | 0.0263 | 0.0263 | 0.0000 | 92.7218 | 92.7218 | 0.0221 | 0.0000 | 93.2732 |
| **Total** | **0.0629** | **0.5754** | **0.6498** | **1.0800e-003** | | **0.0280** | **0.0280** | | **0.0263** | **0.0263** | **0.0000** | **92.7218** | **92.7218** | **0.0221** | **0.0000** | **93.2732** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.4 Building Construction - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0298 | 1.2104 | 0.3726 | 5.3800e-003 | 0.1757 | 7.5400e-003 | 0.1833 | 0.0508 | 7.2100e-003 | 0.0580 | 0.0000 | 516.4606 | 516.4606 | 2.6200e-003 | 0.0781 | 539.8025 |
| Worker | 0.2855 | 0.2030 | 2.4372 | 7.9200e-003 | 0.9333 | 4.4100e-003 | 0.9378 | 0.2481 | 4.0600e-003 | 0.2522 | 0.0000 | 726.3788 | 726.3788 | 0.0171 | 0.0186 | 732.3624 |
| **Total** | **0.3153** | **1.4134** | **2.8098** | **0.0133** | **1.1091** | **0.0120** | **1.1210** | **0.2989** | **0.0113** | **0.3102** | **0.0000** | **1,242.8394** | **1,242.8394** | **0.0197** | **0.0968** | **1,272.1649** |

## 3.4 Building Construction - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0515 | 0.4705 | 0.5658 | 9.4000e-004 | | 0.0215 | 0.0215 | | 0.0202 | 0.0202 | 0.0000 | 81.1472 | 81.1472 | 0.0192 | 0.0000 | 81.6269 |
| **Total** | **0.0515** | **0.4705** | **0.5658** | **9.4000e-004** | | **0.0215** | **0.0215** | | **0.0202** | **0.0202** | **0.0000** | **81.1472** | **81.1472** | **0.0192** | **0.0000** | **81.6269** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.4 Building Construction - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0255 | 1.0596 | 0.3199 | 4.6400e-003 | 0.1538 | 6.6500e-003 | 0.1604 | 0.0445 | 6.3600e-003 | 0.0508 | 0.0000 | 444.8731 | 444.8731 | 2.1900e-003 | 0.0672 | 464.9553 |
| Worker | 0.2308 | 0.1551 | 1.9644 | 6.6900e-003 | 0.8167 | 3.6300e-003 | 0.8203 | 0.2171 | 3.3400e-003 | 0.2204 | 0.0000 | 613.5416 | 613.5416 | 0.0133 | 0.0150 | 618.3446 |
| **Total** | **0.2563** | **1.2147** | **2.2843** | **0.0113** | **0.9704** | **0.0103** | **0.9807** | **0.2615** | **9.7000e-003** | **0.2712** | **0.0000** | **1,058.4147** | **1,058.4147** | **0.0155** | **0.0822** | **1,083.2998** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0515 | 0.4705 | 0.5658 | 9.4000e-004 | | 0.0215 | 0.0215 | | 0.0202 | 0.0202 | 0.0000 | 81.1471 | 81.1471 | 0.0192 | 0.0000 | 81.6268 |
| **Total** | **0.0515** | **0.4705** | **0.5658** | **9.4000e-004** | | **0.0215** | **0.0215** | | **0.0202** | **0.0202** | **0.0000** | **81.1471** | **81.1471** | **0.0192** | **0.0000** | **81.6268** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.4 Building Construction - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0255 | 1.0596 | 0.3199 | 4.6400e-003 | 0.1538 | 6.6500e-003 | 0.1604 | 0.0445 | 6.3600e-003 | 0.0508 | 0.0000 | 444.8731 | 444.8731 | 2.1900e-003 | 0.0672 | 464.9553 |
| Worker | 0.2308 | 0.1551 | 1.9644 | 6.6900e-003 | 0.8167 | 3.6300e-003 | 0.8203 | 0.2171 | 3.3400e-003 | 0.2204 | 0.0000 | 613.5416 | 613.5416 | 0.0133 | 0.0150 | 618.3446 |
| **Total** | **0.2563** | **1.2147** | **2.2843** | **0.0113** | **0.9704** | **0.0103** | **0.9807** | **0.2615** | **9.7000e-003** | **0.2712** | **0.0000** | **1,058.4147** | **1,058.4147** | **0.0155** | **0.0822** | **1,083.2998** |

## 3.5 Paving - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0296 | 0.2857 | 0.4388 | 6.8000e-004 | | 0.0141 | 0.0141 | | 0.0129 | 0.0129 | 0.0000 | 60.0796 | 60.0796 | 0.0194 | 0.0000 | 60.5654 |
| Paving | 0.0825 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.1121** | **0.2857** | **0.4388** | **6.8000e-004** | | **0.0141** | **0.0141** | | **0.0129** | **0.0129** | **0.0000** | **60.0796** | **60.0796** | **0.0194** | **0.0000** | **60.5654** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.5 Paving - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5800e-003 | 1.0600e-003 | 0.0134 | 5.0000e-005 | 5.5700e-003 | 2.0000e-005 | 5.6000e-003 | 1.4800e-003 | 2.0000e-005 | 1.5000e-003 | 0.0000 | 4.1870 | 4.1870 | 9.0000e-005 | 1.0000e-004 | 4.2198 |
| **Total** | **1.5800e-003** | **1.0600e-003** | **0.0134** | **5.0000e-005** | **5.5700e-003** | **2.0000e-005** | **5.6000e-003** | **1.4800e-003** | **2.0000e-005** | **1.5000e-003** | **0.0000** | **4.1870** | **4.1870** | **9.0000e-005** | **1.0000e-004** | **4.2198** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0296 | 0.2857 | 0.4388 | 6.8000e-004 | | 0.0141 | 0.0141 | | 0.0129 | 0.0129 | 0.0000 | 60.0795 | 60.0795 | 0.0194 | 0.0000 | 60.5653 |
| Paving | 0.0825 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.1121** | **0.2857** | **0.4388** | **6.8000e-004** | | **0.0141** | **0.0141** | | **0.0129** | **0.0129** | **0.0000** | **60.0795** | **60.0795** | **0.0194** | **0.0000** | **60.5653** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.5 Paving - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5800e-003 | 1.0600e-003 | 0.0134 | 5.0000e-005 | 5.5700e-003 | 2.0000e-005 | 5.6000e-003 | 1.4800e-003 | 2.0000e-005 | 1.5000e-003 | 0.0000 | 4.1870 | 4.1870 | 9.0000e-005 | 1.0000e-004 | 4.2198 |
| **Total** | **1.5800e-003** | **1.0600e-003** | **0.0134** | **5.0000e-005** | **5.5700e-003** | **2.0000e-005** | **5.6000e-003** | **1.4800e-003** | **2.0000e-005** | **1.5000e-003** | **0.0000** | **4.1870** | **4.1870** | **9.0000e-005** | **1.0000e-004** | **4.2198** |

## 3.6 Architectural Coating - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.6160 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0109 | 0.0731 | 0.1086 | 1.8000e-004 | | 3.6500e-003 | 3.6500e-003 | | 3.6500e-003 | 3.6500e-003 | 0.0000 | 15.3195 | 15.3195 | 8.6000e-004 | 0.0000 | 15.3411 |
| **Total** | **4.6269** | **0.0731** | **0.1086** | **1.8000e-004** | | **3.6500e-003** | **3.6500e-003** | | **3.6500e-003** | **3.6500e-003** | **0.0000** | **15.3195** | **15.3195** | **8.6000e-004** | **0.0000** | **15.3411** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 3.6 Architectural Coating - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0792 | 0.0532 | 0.6739 | 2.3000e-003 | 0.2802 | 1.2500e-003 | 0.2814 | 0.0745 | 1.1500e-003 | 0.0756 | 0.0000 | 210.4688 | 210.4688 | 4.5800e-003 | 5.1500e-003 | 212.1164 |
| **Total** | **0.0792** | **0.0532** | **0.6739** | **2.3000e-003** | **0.2802** | **1.2500e-003** | **0.2814** | **0.0745** | **1.1500e-003** | **0.0756** | **0.0000** | **210.4688** | **210.4688** | **4.5800e-003** | **5.1500e-003** | **212.1164** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.6160 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0109 | 0.0731 | 0.1086 | 1.8000e-004 | | 3.6500e-003 | 3.6500e-003 | | 3.6500e-003 | 3.6500e-003 | 0.0000 | 15.3195 | 15.3195 | 8.6000e-004 | 0.0000 | 15.3411 |
| **Total** | **4.6269** | **0.0731** | **0.1086** | **1.8000e-004** | | **3.6500e-003** | **3.6500e-003** | | **3.6500e-003** | **3.6500e-003** | **0.0000** | **15.3195** | **15.3195** | **8.6000e-004** | **0.0000** | **15.3411** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

### 3.6 Architectural Coating - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0792 | 0.0532 | 0.6739 | 2.3000e-003 | 0.2802 | 1.2500e-003 | 0.2814 | 0.0745 | 1.1500e-003 | 0.0756 | 0.0000 | 210.4688 | 210.4688 | 4.5800e-003 | 5.1500e-003 | 212.1164 |
| **Total** | **0.0792** | **0.0532** | **0.6739** | **2.3000e-003** | **0.2802** | **1.2500e-003** | **0.2814** | **0.0745** | **1.1500e-003** | **0.0756** | **0.0000** | **210.4688** | **210.4688** | **4.5800e-003** | **5.1500e-003** | **212.1164** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.8134 | 5.7514 | 12.0428 | 0.0953 | 5.6790 | 0.1543 | 5.8333 | 1.5274 | 0.1471 | 1.6745 | 0.0000 | 9,053.9874 | 9,053.9874 | 0.0952 | 1.1058 | 9,385.9079 |
| Unmitigated | 0.8134 | 5.7514 | 12.0428 | 0.0953 | 5.6790 | 0.1543 | 5.8333 | 1.5274 | 0.1471 | 1.6745 | 0.0000 | 9,053.9874 | 9,053.9874 | 0.0952 | 1.1058 | 9,385.9079 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 1,183.14 | 1,183.14 | 1183.14 | 4,571,029 | 4,571,029 |
| Unrefrigerated Warehouse-No Rail | 2,616.86 | 2,616.86 | 2616.86 | 10,110,141 | 10,110,141 |
| Total | 3,800.00 | 3,800.00 | 3,800.00 | 14,681,171 | 14,681,171 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Asphalt Surfaces | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 14.70 | 6.60 | 6.60 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |
| Unrefrigerated Warehouse-No | 14.70 | 6.60 | 6.60 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Asphalt Surfaces | 0.677890 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.322110 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Unrefrigerated Warehouse-No Rail | 0.677890 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.322110 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 734.6371 | 734.6371 | 0.1189 | 0.0144 | 741.9013 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 734.6371 | 734.6371 | 0.1189 | 0.0144 | 741.9013 |
| NaturalGas Mitigated | 0.0569 | 0.5175 | 0.4347 | 3.1100e-003 | | 0.0393 | 0.0393 | | 0.0393 | 0.0393 | 0.0000 | 563.3915 | 563.3915 | 0.0108 | 0.0103 | 566.7395 |
| NaturalGas Unmitigated | 0.0569 | 0.5175 | 0.4347 | 3.1100e-003 | | 0.0393 | 0.0393 | | 0.0393 | 0.0393 | 0.0000 | 563.3915 | 563.3915 | 0.0108 | 0.0103 | 566.7395 |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 3.28712e+006 | 0.0177 | 0.1611 | 0.1354 | 9.7000e-004 | | 0.0123 | 0.0123 | | 0.0123 | 0.0123 | 0.0000 | 175.4130 | 175.4130 | 3.3600e-003 | 3.2200e-003 | 176.4554 |
| Unrefrigerated Warehouse-No Rail | 7.27044e+006 | 0.0392 | 0.3564 | 0.2994 | 2.1400e-003 | | 0.0271 | 0.0271 | | 0.0271 | 0.0271 | 0.0000 | 387.9785 | 387.9785 | 7.4400e-003 | 7.1100e-003 | 390.2841 |
| **Total** | | **0.0569** | **0.5175** | **0.4347** | **3.1100e-003** | | **0.0393** | **0.0393** | | **0.0393** | **0.0393** | **0.0000** | **563.3915** | **563.3915** | **0.0108** | **0.0103** | **566.7395** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 7.27044e+006 | 0.0392 | 0.3564 | 0.2994 | 2.1400e-003 | | 0.0271 | 0.0271 | | 0.0271 | 0.0271 | 0.0000 | 387.9785 | 387.9785 | 7.4400e-003 | 7.1100e-003 | 390.2841 |
| Unrefrigerated Warehouse-No Rail | 3.28712e+006 | 0.0177 | 0.1611 | 0.1354 | 9.7000e-004 | | 0.0123 | 0.0123 | | 0.0123 | 0.0123 | 0.0000 | 175.4130 | 175.4130 | 3.3600e-003 | 3.2200e-003 | 176.4554 |
| **Total** | | **0.0569** | **0.5175** | **0.4347** | **3.1100e-003** | | **0.0393** | **0.0393** | | **0.0393** | **0.0393** | **0.0000** | **563.3915** | **563.3915** | **0.0108** | **0.0103** | **566.7395** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 2.47213e+006 | 228.7307 | 0.0370 | 4.4900e-003 | 230.9924 |
| Unrefrigerated Warehouse-No Rail | 5.46785e+006 | 505.9064 | 0.0819 | 9.9200e-003 | 510.9089 |
| **Total** | | **734.6371** | **0.1189** | **0.0144** | **741.9014** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 2.47213e+006 | 228.7307 | 0.0370 | 4.4900e-003 | 230.9924 |
| Unrefrigerated Warehouse-No Rail | 5.46785e+006 | 505.9064 | 0.0819 | 9.9200e-003 | 510.9089 |
| **Total** | | **734.6371** | **0.1189** | **0.0144** | **741.9014** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 7.4557 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| Unmitigated | 7.4557 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.4616 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 6.9925 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.5300e-003 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| **Total** | **7.4557** | **1.5000e-004** | **0.0166** | **0.0000** | | **6.0000e-005** | **6.0000e-005** | | **6.0000e-005** | **6.0000e-005** | **0.0000** | **0.0323** | **0.0323** | **8.0000e-005** | **0.0000** | **0.0344** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.4616 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 6.9925 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.5300e-003 | 1.5000e-004 | 0.0166 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.0323 | 0.0323 | 8.0000e-005 | 0.0000 | 0.0344 |
| **Total** | **7.4557** | **1.5000e-004** | **0.0166** | **0.0000** | | **6.0000e-005** | **6.0000e-005** | | **6.0000e-005** | **6.0000e-005** | **0.0000** | **0.0323** | **0.0323** | **8.0000e-005** | **0.0000** | **0.0344** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| Unmitigated | 330.0596 | 13.1822 | 0.3145 | 753.3210 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 403.545 / 0 | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| **Total** | | **330.0596** | **13.1822** | **0.3145** | **753.3210** |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 403.545 / 0 | 330.0596 | 13.1822 | 0.3145 | 753.3210 |
| **Total** | | **330.0596** | **13.1822** | **0.3145** | **753.3210** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| Unmitigated | 332.9783 | 19.6785 | 0.0000 | 824.9395 |

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1640.36 | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| **Total** | | **332.9783** | **19.6785** | **0.0000** | **824.9395** |

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1640.36 | 332.9783 | 19.6785 | 0.0000 | 824.9395 |
| **Total** | | **332.9783** | **19.6785** | **0.0000** | **824.9395** |

## 9.0 Operational Offroad

Tracy Costco (Clean Truck Fleet Mitigation Applied) - San Joaquin County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# APPENDIX B.2

**Energy Outputs**

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: San Joaquin
Calendar Year: 2023, 2025
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | Population | Total VMT | Trips | Fuel Consumption | MPG | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San Joaquin | 2023 | All Other Buses | Aggregate | Aggregate | Diesel | 63.39460475 | 3393.93922 | 564.2119822 | 0.391421545 | **8.670803** | |
| San Joaquin | 2023 | LDA | Aggregate | Aggregate | Gasoline | 246367.0682 | 9973102.47 | 1138235.391 | 349.3216614 | **28.54991** | |
| San Joaquin | 2023 | LDA | Aggregate | Aggregate | Diesel | 705.734891 | 23139.8254 | 3023.214022 | 0.543997543 | **42.53664** | |
| San Joaquin | 2023 | LDT1 | Aggregate | Aggregate | Gasoline | 22016.87719 | 727225.714 | 95173.38769 | 30.52486616 | **23.82404** | |
| San Joaquin | 2023 | LDT1 | Aggregate | Aggregate | Diesel | 6.309776167 | 72.3140659 | 18.53577151 | 0.002954101 | **24.47922** | |
| San Joaquin | 2023 | LDT2 | Aggregate | Aggregate | Gasoline | 99986.64004 | 4006976.31 | 463638.6569 | 174.3583341 | **22.98127** | |
| San Joaquin | 2023 | LDT2 | Aggregate | Aggregate | Diesel | 269.0353638 | 11767.7731 | 1277.639106 | 0.369317903 | **31.86353** | |
| San Joaquin | 2023 | LHD1 | Aggregate | Aggregate | Gasoline | 9831.305478 | 343356.563 | 146471.803 | 37.0137846 | **9.276451** | |
| San Joaquin | 2023 | LHD1 | Aggregate | Aggregate | Diesel | 8858.793592 | 311287.78 | 111432.479 | 19.67413691 | **15.82218** | |
| San Joaquin | 2023 | LHD2 | Aggregate | Aggregate | Gasoline | 1172.202392 | 40932.8123 | 17464.06906 | 4.90823024 | **8.339628** | |
| San Joaquin | 2023 | LHD2 | Aggregate | Aggregate | Diesel | 3130.564849 | 115648.086 | 39378.56755 | 8.863291415 | **13.04798** | |
| San Joaquin | 2023 | MCY | Aggregate | Aggregate | Gasoline | 12111.77426 | 65765.9483 | 24223.54852 | 1.643730409 | **40.01018** | |
| San Joaquin | 2023 | MDV | Aggregate | Aggregate | Gasoline | 94539.47242 | 3309649.73 | 427287.8869 | 178.486066 | **18.5429** | |
| San Joaquin | 2023 | MDV | Aggregate | Aggregate | Diesel | 1386.649679 | 54072.4946 | 6485.715736 | 2.267270858 | **23.84916** | |
| San Joaquin | 2023 | MH | Aggregate | Aggregate | Gasoline | 1507.494843 | 13134.1796 | 150.8097841 | 2.977418428 | **4.411264** | |
| San Joaquin | 2023 | MH | Aggregate | Aggregate | Diesel | 642.7961913 | 5646.6428 | 64.27961913 | 0.600452961 | **9.403972** | |
| San Joaquin | 2023 | Motor Coach | Aggregate | Aggregate | Diesel | 17.50069597 | 2493.47591 | 402.1659934 | 0.455354651 | **5.475899** | |
| San Joaquin | 2023 | OBUS | Aggregate | Aggregate | Gasoline | 184.2186442 | 8143.5346 | 3685.846633 | 1.733278965 | **4.69834** | |
| San Joaquin | 2023 | PTO | Aggregate | Aggregate | Diesel | 0 | 19769.5175 | 0 | 4.013121008 | **4.92622** | |
| San Joaquin | 2023 | SBUS | Aggregate | Aggregate | Gasoline | 127.6658449 | 7011.40481 | 510.6633795 | 0.69096273 | **10.1473** | |
| San Joaquin | 2023 | SBUS | Aggregate | Aggregate | Diesel | 488.0661519 | 10999.7571 | 7067.197879 | 1.346323697 | **8.170217** | |
| San Joaquin | 2023 | T6 CAIRP Class 4 | Aggregate | Aggregate | Diesel | 10.21525791 | 684.779876 | 234.7466267 | 0.077405114 | **8.846701** | |
| San Joaquin | 2023 | T6 CAIRP Class 5 | Aggregate | Aggregate | Diesel | 13.70885779 | 939.491781 | 315.0295519 | 0.106056052 | **8.858446** | |
| San Joaquin | 2023 | T6 CAIRP Class 6 | Aggregate | Aggregate | Diesel | 43.24157557 | 2453.39435 | 993.6914066 | 0.273109788 | **8.98318** | |
| San Joaquin | 2023 | T6 CAIRP Class 7 | Aggregate | Aggregate | Diesel | 74.64743229 | 15398.8197 | 1715.397994 | 1.609252898 | **9.568925** | **MHD** |
| San Joaquin | 2023 | T6 Instate Delivery Class 4 | Aggregate | Aggregate | Diesel | 243.75384 | 8276.65194 | 3478.367297 | 1.005561316 | **8.230877** | **8.579141** |
| San Joaquin | 2023 | T6 Instate Delivery Class 5 | Aggregate | Aggregate | Diesel | 156.2432876 | 5383.85911 | 2229.591714 | 0.657027122 | **8.194272** | |
| San Joaquin | 2023 | T6 Instate Delivery Class 6 | Aggregate | Aggregate | Diesel | 682.6025228 | 23363.9411 | 9740.738001 | 2.839033489 | **8.229541** | |
| San Joaquin | 2023 | T6 Instate Delivery Class 7 | Aggregate | Aggregate | Diesel | 122.4768589 | 6703.21055 | 1747.744776 | 0.802391793 | **8.354037** | |
| San Joaquin | 2023 | T6 Instate Other Class 4 | Aggregate | Aggregate | Diesel | 449.8451938 | 18399.4289 | 5200.21044 | 2.166542487 | **8.492531** | |
| San Joaquin | 2023 | T6 Instate Other Class 5 | Aggregate | Aggregate | Diesel | 1174.570894 | 51943.6226 | 13578.03953 | 6.096265009 | **8.520565** | |
| San Joaquin | 2023 | T6 Instate Other Class 6 | Aggregate | Aggregate | Diesel | 912.5417949 | 38573.6428 | 10548.98315 | 4.50612298 | **8.560273** | |
| San Joaquin | 2023 | T6 Instate Other Class 7 | Aggregate | Aggregate | Diesel | 553.092214 | 25667.2012 | 6393.745994 | 2.950154535 | **8.70029** | |
| San Joaquin | 2023 | T6 Instate Tractor Class 6 | Aggregate | Aggregate | Diesel | 10.69132111 | 510.925844 | 123.591672 | 0.060247854 | **8.480399** | |
| San Joaquin | 2023 | T6 Instate Tractor Class 7 | Aggregate | Aggregate | Diesel | 696.5366058 | 42802.4924 | 8051.963163 | 4.748833943 | **9.013264** | |
| San Joaquin | 2023 | T6 OOS Class 4 | Aggregate | Aggregate | Diesel | 5.905142679 | 392.334655 | 135.7001788 | 0.044317954 | **8.852725** | |
| San Joaquin | 2023 | T6 OOS Class 5 | Aggregate | Aggregate | Diesel | 7.890998517 | 538.212595 | 181.3351459 | 0.060737656 | **8.861267** | |
| San Joaquin | 2023 | T6 OOS Class 6 | Aggregate | Aggregate | Diesel | 24.97157764 | 1406.36491 | 573.8468541 | 0.156409596 | **8.991551** | |
| San Joaquin | 2023 | T6 OOS Class 7 | Aggregate | Aggregate | Diesel | 40.57354344 | 10226.0217 | 932.3800283 | 1.062980063 | **9.620144** | |
| San Joaquin | 2023 | T6 Public Class 4 | Aggregate | Aggregate | Diesel | 32.09216486 | 1056.60486 | 164.6328057 | 0.140824099 | **7.503012** | |
| San Joaquin | 2023 | T6 Public Class 5 | Aggregate | Aggregate | Diesel | 76.27568061 | 2776.64108 | 391.2942415 | 0.361173048 | **7.687841** | |
| San Joaquin | 2023 | T6 Public Class 6 | Aggregate | Aggregate | Diesel | 126.4582156 | 4446.297 | 648.7306462 | 0.576020372 | **7.718993** | |
| San Joaquin | 2023 | T6 Public Class 7 | Aggregate | Aggregate | Diesel | 152.7305258 | 6768.06936 | 783.5075973 | 0.883776286 | **7.658125** | |
| San Joaquin | 2023 | T6 Utility Class 5 | Aggregate | Aggregate | Diesel | 33.47606031 | 1364.93307 | 428.493572 | 0.154770907 | **8.819055** | |
| San Joaquin | 2023 | T6 Utility Class 6 | Aggregate | Aggregate | Diesel | 6.356456131 | 257.430851 | 81.36263848 | 0.029104667 | **8.845002** | |
| San Joaquin | 2023 | T6 Utility Class 7 | Aggregate | Aggregate | Diesel | 7.230830053 | 358.500092 | 92.55462468 | 0.040337535 | **8.887506** | |
| San Joaquin | 2023 | T6TS | Aggregate | Aggregate | Gasoline | 560.525111 | 27400.6685 | 11214.98642 | 5.873758607 | **4.664929** | |
| San Joaquin | 2023 | T7 CAIRP Class 8 | Aggregate | Aggregate | Diesel | 1500.771839 | 308143.872 | 34487.73687 | 51.00604804 | **6.04132** | **HHD** |
| San Joaquin | 2023 | T7 NNOOS Class 8 | Aggregate | Aggregate | Diesel | 1343.474448 | 364734.036 | 30873.04281 | 59.83110996 | **6.09606** | **5.596459** |
| San Joaquin | 2023 | T7 NOOS Class 8 | Aggregate | Aggregate | Diesel | 562.3598205 | 132501.396 | 12923.02868 | 21.97566159 | **6.029461** | |
| San Joaquin | 2023 | T7 Other Port Class 8 | Aggregate | Aggregate | Diesel | 28.6781176 | 5381.65764 | 469.174004 | 0.90785985 | **5.927851** | |
| San Joaquin | 2023 | T7 POAK Class 8 | Aggregate | Aggregate | Diesel | 131.1211785 | 13188.0173 | 2145.142481 | 2.26470624 | **5.823279** | |
| San Joaquin | 2023 | T7 POLA Class 8 | Aggregate | Aggregate | Diesel | 139.588006 | 18353.09 | 2283.659779 | 3.154875131 | **5.817374** | |
| San Joaquin | 2023 | T7 Public Class 8 | Aggregate | Aggregate | Diesel | 387.066761 | 16533.9411 | 1985.652484 | 3.205449572 | **5.158072** | |
| San Joaquin | 2023 | T7 Single Concrete/Transit Mix Class 8 | Aggregate | Aggregate | Diesel | 118.1878034 | 8595.90453 | 1113.329108 | 1.467125303 | **5.859012** | |
| San Joaquin | 2023 | T7 Single Dump Class 8 | Aggregate | Aggregate | Diesel | 486.5561857 | 30707.0394 | 4583.359269 | 5.327318734 | **5.76407** | |
| San Joaquin | 2023 | T7 Single Other Class 8 | Aggregate | Aggregate | Diesel | 1040.735731 | 57042.4876 | 9803.730584 | 9.736964144 | **5.858344** | |
| San Joaquin | 2023 | T7 SWCV Class 8 | Aggregate | Aggregate | Diesel | 175.044521 | 11346.9523 | 805.2047965 | 4.507153801 | **2.517543** | |
| San Joaquin | 2023 | T7 Tractor Class 8 | Aggregate | Aggregate | Diesel | 2638.276559 | 211937.817 | 38334.1584 | 34.91925222 | **6.069369** | |
| San Joaquin | 2023 | T7 Utility Class 8 | Aggregate | Aggregate | Diesel | 23.22093261 | 1080.67322 | 297.2279374 | 0.186573576 | **5.792209** | |
| San Joaquin | 2023 | T7IS | Aggregate | Aggregate | Gasoline | 2.419215607 | 60.0081934 | 48.40366587 | 0.018776223 | **3.195967** | |
| San Joaquin | 2023 | UBUS | Aggregate | Aggregate | Gasoline | 49.369827 | 3719.55506 | 197.479308 | 0.791708132 | **4.698139** | |
| San Joaquin | 2023 | UBUS | Aggregate | Aggregate | Diesel | 78.33872382 | 5427.523 | 313.3548953 | 0.602229331 | **9.012386** | |
| San Joaquin | 2025 | All Other Buses | Aggregate | Aggregate | Diesel | 67.92171408 | 3454.27959 | 604.5032553 | 0.395338932 | **8.737514** | |
| San Joaquin | 2025 | LDA | Aggregate | Aggregate | Gasoline | 247812.193 | 10065418.7 | 1143376.643 | 340.6379829 | **29.54873** | |
| San Joaquin | 2025 | LDA | Aggregate | Aggregate | Diesel | 620.8563183 | 19917.7375 | 2643.071074 | 0.459921869 | **43.30678** | |
| San Joaquin | 2025 | LDT1 | Aggregate | Aggregate | Gasoline | 20969.62889 | 704503.526 | 90823.61908 | 28.55436416 | **24.67236** | |
| San Joaquin | 2025 | LDT1 | Aggregate | Aggregate | Diesel | 5.057977491 | 54.7985719 | 14.33247387 | 0.002232746 | **24.54313** | |
| San Joaquin | 2025 | LDT2 | Aggregate | Aggregate | Gasoline | 105887.2734 | 4297523.94 | 491668.9279 | 179.0193905 | **24.00591** | |
| San Joaquin | 2025 | LDT2 | Aggregate | Aggregate | Diesel | 305.5941154 | 13558.4186 | 1463.961841 | 0.410704288 | **33.01261** | |
| San Joaquin | 2025 | LHD1 | Aggregate | Aggregate | Gasoline | 9450.489324 | 335570.018 | 140798.2097 | 34.90157426 | **9.614753** | |
| San Joaquin | 2025 | LHD1 | Aggregate | Aggregate | Diesel | 8447.684296 | 292201.982 | 106261.2413 | 18.38163512 | **15.89641** | |
| San Joaquin | 2025 | LHD2 | Aggregate | Aggregate | Gasoline | 1129.168714 | 39496.2437 | 16822.93138 | 4.600897482 | **8.584465** | |
| San Joaquin | 2025 | LHD2 | Aggregate | Aggregate | Diesel | 3098.911716 | 112092.227 | 38980.41096 | 8.493201579 | **13.19788** | |
| San Joaquin | 2025 | MCY | Aggregate | Aggregate | Gasoline | 12009.69999 | 64631.0827 | 24019.39998 | 1.598967718 | **40.42051** | |
| San Joaquin | 2025 | MDV | Aggregate | Aggregate | Gasoline | 92446.53152 | 3253692.9 | 417141.1232 | 169.0306745 | **19.24913** | |
| San Joaquin | 2025 | MDV | Aggregate | Aggregate | Diesel | 1393.091492 | 51951.9772 | 6420.977754 | 2.139013823 | **24.28782** | |
| San Joaquin | 2025 | MH | Aggregate | Aggregate | Gasoline | 1345.73466 | 11738.0981 | 134.6272954 | 2.660033836 | **4.412763** | |
| San Joaquin | 2025 | MH | Aggregate | Aggregate | Diesel | 631.6240768 | 5453.24118 | 63.16240768 | 0.580283559 | **9.397546** | |
| San Joaquin | 2025 | Motor Coach | Aggregate | Aggregate | Diesel | 18.80772922 | 2514.51501 | 432.2016174 | 0.452917647 | **5.551815** | |
| San Joaquin | 2025 | OBUS | Aggregate | Aggregate | Gasoline | 170.8324994 | 7309.03024 | 3418.016649 | 1.52248184 | **4.800734** | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San Joaquin | 2025 | PTO | Aggregate | Aggregate | Diesel | 0 | 20105.4227 | 0 | 3.98427046 | **5.046199** | | |
| San Joaquin | 2025 | SBUS | Aggregate | Aggregate | Gasoline | 131.6189784 | 7271.29468 | 526.4759134 | 0.71341232 | **10.19228** | | |
| San Joaquin | 2025 | SBUS | Aggregate | Aggregate | Diesel | 490.2787139 | 10849.6548 | 7099.235777 | 1.320741795 | **8.214819** | **MHD** | |
| San Joaquin | 2025 | T6 CAIRP Class 4 | Aggregate | Aggregate | Diesel | 10.57610418 | 697.742444 | 243.038874 | 0.077548733 | **8.997471** | **8.711536** | |
| San Joaquin | 2025 | T6 CAIRP Class 5 | Aggregate | Aggregate | Diesel | 14.00551629 | 958.755772 | 321.8467643 | 0.106617779 | **8.992457** | | |
| San Joaquin | 2025 | T6 CAIRP Class 6 | Aggregate | Aggregate | Diesel | 47.29566683 | 2488.35531 | 1086.854424 | 0.272426579 | **9.13404** | | |
| San Joaquin | 2025 | T6 CAIRP Class 7 | Aggregate | Aggregate | Diesel | 78.11014265 | 15772.0773 | 1794.971078 | 1.605687139 | **9.822634** | | |
| San Joaquin | 2025 | T6 Instate Delivery Class 4 | Aggregate | Aggregate | Diesel | 252.424868 | 8475.97193 | 3602.102866 | 1.019116289 | **8.316982** | | |
| San Joaquin | 2025 | T6 Instate Delivery Class 5 | Aggregate | Aggregate | Diesel | 162.4907366 | 5516.89416 | 2318.742812 | 0.666350411 | **8.279269** | | |
| San Joaquin | 2025 | T6 Instate Delivery Class 6 | Aggregate | Aggregate | Diesel | 708.1406495 | 23932.0747 | 10105.16707 | 2.87788442 | **8.315857** | | |
| San Joaquin | 2025 | T6 Instate Delivery Class 7 | Aggregate | Aggregate | Diesel | 127.2799027 | 6929.15534 | 1816.284212 | 0.825964977 | **8.389164** | | |
| San Joaquin | 2025 | T6 Instate Other Class 4 | Aggregate | Aggregate | Diesel | 457.3843802 | 18839.146 | 5287.363435 | 2.200026822 | **8.563144** | | |
| San Joaquin | 2025 | T6 Instate Other Class 5 | Aggregate | Aggregate | Diesel | 1233.945904 | 53254.2945 | 14264.41465 | 6.208167542 | **8.578102** | | |
| San Joaquin | 2025 | T6 Instate Other Class 6 | Aggregate | Aggregate | Diesel | 939.5521797 | 39531.7219 | 10861.2232 | 4.582174014 | **8.627285** | | |
| San Joaquin | 2025 | T6 Instate Other Class 7 | Aggregate | Aggregate | Diesel | 601.2468734 | 26326.7381 | 6950.413857 | 3.002944814 | **8.766974** | | |
| San Joaquin | 2025 | T6 Instate Tractor Class 6 | Aggregate | Aggregate | Diesel | 11.09411194 | 521.271565 | 128.2479341 | 0.060836197 | **8.568444** | | |
| San Joaquin | 2025 | T6 Instate Tractor Class 7 | Aggregate | Aggregate | Diesel | 742.8431118 | 44239.5012 | 8587.266373 | 4.878765067 | **9.067766** | | |
| San Joaquin | 2025 | T6 OOS Class 4 | Aggregate | Aggregate | Diesel | 6.191325924 | 405.515484 | 142.2766697 | 0.044545776 | **9.103343** | | |
| San Joaquin | 2025 | T6 OOS Class 5 | Aggregate | Aggregate | Diesel | 8.158025029 | 556.294323 | 187.4714152 | 0.061223253 | **9.086324** | | |
| San Joaquin | 2025 | T6 OOS Class 6 | Aggregate | Aggregate | Diesel | 27.75525515 | 1453.61298 | 637.8157633 | 0.156720574 | **9.275189** | | |
| San Joaquin | 2025 | T6 OOS Class 7 | Aggregate | Aggregate | Diesel | 42.05361037 | 10569.5739 | 966.3919663 | 1.066856767 | **9.90721** | | |
| San Joaquin | 2025 | T6 Public Class 4 | Aggregate | Aggregate | Diesel | 30.96340517 | 1050.77782 | 158.8422685 | 0.137051326 | **7.667039** | | |
| San Joaquin | 2025 | T6 Public Class 5 | Aggregate | Aggregate | Diesel | 77.40598482 | 2785.90976 | 397.0927021 | 0.357713881 | **7.788095** | | |
| San Joaquin | 2025 | T6 Public Class 6 | Aggregate | Aggregate | Diesel | 124.4648645 | 4446.56253 | 638.5047549 | 0.566454177 | **7.849819** | | |
| San Joaquin | 2025 | T6 Public Class 7 | Aggregate | Aggregate | Diesel | 148.2002736 | 6742.4666 | 760.2674038 | 0.856702113 | **7.870258** | | |
| San Joaquin | 2025 | T6 Utility Class 5 | Aggregate | Aggregate | Diesel | 33.80713566 | 1371.26265 | 432.7313364 | 0.154052822 | **8.90125** | | |
| San Joaquin | 2025 | T6 Utility Class 6 | Aggregate | Aggregate | Diesel | 6.404694197 | 258.753793 | 81.98008572 | 0.028984726 | **8.927246** | | |
| San Joaquin | 2025 | T6 Utility Class 7 | Aggregate | Aggregate | Diesel | 7.233394318 | 359.399463 | 92.58744727 | 0.039964166 | **8.993043** | | |
| San Joaquin | 2025 | T6TS | Aggregate | Aggregate | Gasoline | 531.0756316 | 27321.54 | 10625.76124 | 5.695995374 | **4.796623** | **HHD** | |
| San Joaquin | 2025 | T7 CAIRP Class 8 | Aggregate | Aggregate | Diesel | 1559.383676 | 317454.145 | 35834.63687 | 51.17555421 | **6.203238** | **5.689878** | |
| San Joaquin | 2025 | T7 NNOOS Class 8 | Aggregate | Aggregate | Diesel | 1399.986354 | 379791.503 | 32171.68641 | 59.50406302 | **6.382615** | | |
| San Joaquin | 2025 | T7 NOOS Class 8 | Aggregate | Aggregate | Diesel | 592.9033383 | 137971.507 | 13624.91871 | 22.13949036 | **6.231919** | | |
| San Joaquin | 2025 | T7 Other Port Class 8 | Aggregate | Aggregate | Diesel | 31.09466321 | 5773.39367 | 508.7086901 | 0.965450648 | **5.979999** | | |
| San Joaquin | 2025 | T7 POAK Class 8 | Aggregate | Aggregate | Diesel | 137.4284865 | 13680.6366 | 2248.330039 | 2.333991731 | **5.861476** | | |
| San Joaquin | 2025 | T7 POLA Class 8 | Aggregate | Aggregate | Diesel | 157.478818 | 19849.822 | 2576.353462 | 3.419583803 | **5.804748** | | |
| San Joaquin | 2025 | T7 Public Class 8 | Aggregate | Aggregate | Diesel | 386.4284577 | 16615.451 | 1982.377988 | 3.157962941 | **5.261446** | | |
| San Joaquin | 2025 | T7 Single Concrete/Transit Mix Class 8 | Aggregate | Aggregate | Diesel | 121.0999578 | 8533.43151 | 1140.761603 | 1.428680336 | **5.972947** | | |
| San Joaquin | 2025 | T7 Single Dump Class 8 | Aggregate | Aggregate | Diesel | 518.3758674 | 30855.2217 | 4883.100671 | 5.328325632 | **5.790791** | | |
| San Joaquin | 2025 | T7 Single Other Class 8 | Aggregate | Aggregate | Diesel | 1163.187559 | 58572.1124 | 10957.22681 | 9.897066107 | **5.918129** | | |
| San Joaquin | 2025 | T7 SWCV Class 8 | Aggregate | Aggregate | Diesel | 167.5568448 | 10862.3368 | 770.7614863 | 4.227120943 | **2.569677** | | |
| San Joaquin | 2025 | T7 Tractor Class 8 | Aggregate | Aggregate | Diesel | 2947.082282 | 219605.844 | 42821.10556 | 35.73125002 | **6.146044** | | |
| San Joaquin | 2025 | T7 Utility Class 8 | Aggregate | Aggregate | Diesel | 24.5522509 | 1096.54573 | 314.2688115 | 0.187591616 | **5.845388** | | |
| San Joaquin | 2025 | T7IS | Aggregate | Aggregate | Gasoline | 1.372290651 | 54.2951776 | 27.45679134 | 0.014900233 | **3.643915** | | |
| San Joaquin | 2025 | UBUS | Aggregate | Aggregate | Gasoline | 50.67993554 | 3818.16315 | 202.7197421 | 0.812722391 | **4.697992** | | |
| San Joaquin | 2025 | UBUS | Aggregate | Aggregate | Diesel | 73.34639924 | 4977.17265 | 293.3855969 | 0.526331001 | **9.456355** | | |

## On-road Mobile (Operational) Energy Usage

**Unmitigated:**

Step 1:

Therefore:

**Average Daily VMT:**

| 30,429 | Source: CalEEMod |
|---|---|

Step 2: Given:

**Fleet Mix (CalEEMod Output)**

| LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37.37% | 3.63% | 11.71% | 10.11% | 1.74% | 0.42% | 0.87% | 32.21% | 0.03% | 0.02% | 1.58% | 0.08% | 0.23% |

And:

**Gasoline MPG Factors for each Vehicle Class - Year 2025 (EMFAC2021 Output)**

| LDA | LDT1 | LDT2 | MDV | MCY | MH |
|---|---|---|---|---|---|
| 29.549 | 24.672 | 24.006 | 19.249 | 40.421 | 4.413 |

**Diesel MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)**

| LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | SBUS |
|---|---|---|---|---|---|---|
| 15.896 | 13.198 | 8.712 | 5.690 | 4.801 | 9.456 | 8.215 |

Therefore:

**Weighted Average MPG Factors**

Gasoline: **26.8** Diesel: **6.4**

Step 3: **Therefore:**

| | | | |
|---|---|---|---|
| **733** | **daily gallons of gasoline** | **1,694** | **daily gallons of diesel** |

**or**

| | | | |
|---|---|---|---|
| **267,504** | **annual gallons of gasoline** | **618,486** | **annual gallons of diesel** |

## Off-road Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source.

| | | | | |
|---|---|---|---|---|
| **Given Factor:** | **634.6** | **metric tons** | **CO2** | **(provided in CalEEMod Output File)** |
| Conversion Factor: | 2204.6262 | pounds | per metric ton | |
| **Intermediate Result:** | **1,399,062** | **pounds** | **CO2** | |
| Conversion Factor: | 22.38 | pounds | CO2 per 1 gallon of diesel fuel | Source: U.S. EIA, 2016 |
| **Final Result:** | **62,514** | **gallons** | **diesel fuel** | http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11 |

| Mitigated Onsite Scenario | Total CO2 (MT/yr) (provided in CalEEMod Output File) |
|---|---|
| Site Preparation | 151.7451 |
| Grading | 247.3924 |

# On-road Mobile (Construction) Energy Usage - Site Preparation

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

18

**Worker Trip Length (miles) (CalEEMod Output)**

16.8

Therefore:

**Average Worker Daily VMT:**

**302**

Step 2: Given:

**Assumed Fleet Mix for Workers** (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

| LDA | LDT1 | LDT2 |
|---|---|---|
| 0.5 | 0.25 | 0.25 |

And:

**Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2023**

| LDA | LDT1 | LDT2 |
|---|---|---|
| 28.55 | 23.82 | 22.98 |

Therefore:

**Weighted Average Worker MPG Factor**

**26.0**

Step 3: **Therefore:**

**11.6 Worker daily gallons of gasoline**

Step 4: 90 **# of Days (CalEEMod Output)**

Therefore:

**Result:** **1,048** **Total gallons of gasoline**

## On-road Mobile (Construction) Energy Usage - Grading

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1:

**Total Daily Worker Trips (CalEEMod Output)**

20

**Total Hauling Trips (CalEEMod Output)**

750

**Worker Trip Length (miles) (CalEEMod Output)**

16.8

**Hauling Trip Length (miles) (CalEEMod Output)**

20

Therefore:

**Average Worker Daily VMT:**

**336**

**Average Vendor Daily VMT:**

**15,000**

Step 2: Given:

**Assumed Fleet Mix for Workers**

| LDA | LDT1 | LDT2 |
|---|---|---|
| 0.5 | 0.25 | 0.25 |

(Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

**Fleet Mix for Workers (Conservative Estimate)**

| MHD | HHD |
|---|---|
| 0% | 100% |

And:

**Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2023**

| LDA | LDT1 | LDT2 |
|---|---|---|
| 28.55 | 23.82 | 22.98 |

**Diesel:**

| MHD | HHD |
|---|---|
| 8.58 | 5.60 |

Therefore:

**Weighted Average Worker MPG Factor**

**26.0**

**Weighted Average Hauling (Diesel) MPG Factor**

**5.6**

Step 3: **Therefore:**

**12.9 Worker daily gallons of gasoline**

Step 4: 90 **# of Days (CalEEMod Output)**

Therefore:

**Result:** **1,164** **Total gallons of gasoline**

Therefore:

**2,680** **Total gallons of diesel**

## On-road Mobile (Construction) Energy Usage - Building Construction

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1:

**Total Daily Worker Trips (CalEEMod Output)**

1,834

Note: Assumes 5% of workers are on-site on a given day.

**Total Daily Vendor Trips (CalEEMod Output)**

716

Note: Assumes 5% of workers are on-site on a given day.

**Worker Trip Length (miles) (CalEEMod Output)**

16.8

**Vendor Trip Length (miles) (CalEEMod Output)**

6.6

Therefore:

**Average Worker Daily VMT:**

**30,811**

**Average Vendor Daily VMT:**

**4,726**

Step 2:

Given:

**Assumed Fleet Mix for Workers** (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

| LDA | LDT1 | LDT2 |
|---|---|---|
| 0.5 | 0.25 | 0.25 |

**Assumed Fleet Mix for Vendors**

**Fleet Mix for Workers (CalEEMod Output)**

| MHD | HHD |
|---|---|
| 100% | 0% |

And:

**MPG Factors for each Vehicle Class (from EMFAC2021) - Year 2023**

**Gasoline:**

| LDA | LDT1 | LDT2 |
|---|---|---|
| 28.55 | 23.82 | 22.98 |

**Diesel:**

| MHD | HHD |
|---|---|
| 8.58 | 5.60 |

Therefore:

**Weighted Average Worker (Gasoline) MPG Factor**

**26.0**

**Weighted Average Vendor (Diesel) MPG Factor**

**8.6**

Step 3:

**Therefore:**

**1,186** **Worker daily gallons of gasoline**

**Therefore:**

**551** **Vendor daily gallons of diesel**

Step 4:

150 **# of Days (CalEEMod Output)**

Therefore:

**177,919** **Total gallons of gasoline**

Therefore:

**82,624** **Total gallons of diesel**

# On-road Mobile (Construction) Energy Usage - Paving

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

| 15 |
|---|

**Worker Trip Length (miles) (CalEEMod Output)**

| 16.8 |
|---|

Therefore:

**Average Worker Daily VMT:**

**252**

Step 2: Given:

**Assumed Fleet Mix for Workers** (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

| LDA | LDT1 | LDT2 |
|---|---|---|
| 0.5 | 0.25 | 0.25 |

And:

**Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2023**

| LDA | LDT1 | LDT2 |
|---|---|---|
| 28.55 | 23.82 | 22.98 |

Therefore:

**Weighted Average Worker MPG Factor**

**26.0**

Step 3: **Therefore:**

**9.7 Worker daily gallons of gasoline**

Step 4: 60 **# of Days (CalEEMod Output)**

Therefore:

**Result:** **582** **Total gallons of gasoline**

# On-road Mobile (Construction) Energy Usage - Architectural Coating

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

| | | |
|---|---|---|
| 367 | 5% | **18** |

Note: Assumes 5% of workers are on-site on a given day.

**Worker Trip Length (miles) (CalEEMod Output)**

16.8

Therefore:

**Average Worker Daily VMT:**

**308**

Step 2: Given:

**Assumed Fleet Mix for Workers** (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

| LDA | LDT1 | LDT2 |
|---|---|---|
| 0.5 | 0.25 | 0.25 |

And:

**Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2023**

| LDA | LDT1 | LDT2 |
|---|---|---|
| 28.55 | 23.82 | 22.98 |

Therefore:

**Weighted Average Worker MPG Factor**

**26.0**

Step 3: **Therefore:**

**11.9 Worker daily gallons of gasoline**

Step 4: 120 **# of Days (CalEEMod Output)**

Therefore:

**Result:** **1,424** **Total gallons of gasoline**

# APPENDIX B.3

## Health Risk Assessment

# ANALYSIS OF PUBLIC HEALTH RISKS

## FOR THE

## TRACY COSTCO DEPOT

## TRACY CALIFORNIA

## JUNE 8, 2022

## PROJECT TITLE

Tracy Costco Depot

## PREPARED BY:

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APPENDIX 2 TRIP GENERATION TECHNICAL MEMORANDUM
APPENDIX 3 AERMOD OUTPUT FILE
APPENDIX 4 HARP2 OUTPUT FILE

## INTRODUCTION

This Health Risk Assessment (HRA) was prepared to assess potential public health risks that may be present at the proposed Tracy Costco Depot Project in the city of Tracy, San Joaquin County, California. This report analyzes the emissions of toxic air pollutants within the project area and their impacts on public health.

## PROJECT DESCRIPTION

### *PROJECT LOCATION*

The Project site is located at 16000 West Schulte Road in unincorporated San Joaquin County, California (see Figure 1). The Project site is within the Tracy Sphere of Influence (SOI) 10-Year Planning Horizon and is immediately adjacent to the Tracy city limits to the north of the site.

The Project site is immediately south of the intersection of Bud Lyons Way and West Schulte Road. The Project site is bounded on the north by West Schulte Road, on the west by an unnamed driveway serving the adjacent rural residence, on the south by the Delta Mendota Canal, and on the east by vacant agricultural land. The Project site is located within Sections 35 of Township 2 South, Range 4 East Mount Diablo Base Meridian (MDBM). Figure 1 show the Project's vicinity.

### *EXISTING SURROUNDING USES*

Surrounding land uses include warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area, located in the City of Tracy), vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

### *PROJECT CHARACTERISTICS*

The Project would include the construction and subsequent operation of two Costco Direct Delivery Center (DDC) buildings (approximately 543,325 sf for Building 1 and 1,201,726 sf for Building 2) totaling approximately 1,745,051 sf on the 103.0-acre development portion of the Project site. Building 1 is anticipated to serve as a regional ecommerce fulfillment distribution center primarily for large and bulky items. Building 2 is anticipated to serve as a warehouse for high turnover merchandise sold at warehouse stores and as a pallet repair and a Return to Vendor (RTV) facility. The Project would also include the required circulation, parking, and utility improvements. The site plan is shown in Figure 2.

## SCOPE OF RISK ASSESSMENT

Preparation of risk assessments is a three-step process. The first step is to identify potential contaminants that may lead to public health risks. The second step is to assess the magnitude of contaminants that may reach the public (exposure assessment). The last step is to calculate the magnitude of the health risk as a result of exposure to harmful contaminants on the basis of the toxicology of the contaminants.

The Office of Environmental Health Hazard Assessment, and the San Joaquin Valley Air Pollution Control District (SJVAPCD) provide guidance on the procedures that should be used, including, toxicological data for individual contaminants. This risk assessment is based on the guidance provided within these guidance documents. It should be noted that while this risk assessment uses certain procedures and data from these Guidelines, this assessment is not intended to satisfy the reporting requirements under AB-2588 "Air Toxics" Hot Spots program.

The health risks that are evaluated in this study include:

- Residential Cancer Risk (70-year exposure; start at third trimester);
- Workplace Cancer Risk (40-year exposure; start at age 16); and
- Acute and Chronic Hazard Indices.

The 70-year risk applies to residential areas where exposure may potentially occur 24 hours/day, 365 days/year. The 40-year risk is applicable to workplace exposure and therefore accounts for a reduced exposure for the fact that individuals typically would be exposed 8-hrs per day, 5 days per week, and 50 weeks per year. Non-cancer risks can be described as acute (short-term, exposure) or chronic health impacts.

## SIGNIFICANCE CRITERIA

The following significance criteria shown in Table 1, based on guidance from the SJVAPCD, are used in this report to assess the significance of public health risks.

***TABLE 1 THRESHOLDS OF SIGNIFICANCE FOR PUBLIC HEALTH RISKS***

| *Risk Metric* | *Significance Threshold* |
|---|---|
| Residential Cancer Risk | 20 per million |
| Workplace Cancer Risk | 20 per million |
| Chronic and Acute non-cancer hazard Indices | non-cancer health hazard exposure index of 1.0 |

*SOURCE: SJVAPCD, 2015.*

As shown in Table 1, a project that contributes a cancer risk in excess of 20 new cases in a population of one million persons at identified receptors, or a non-cancer hazard index of greater than or equal to 1.0 would be considered to have a significant project-level impact.

## EMISSION SOURCES AND EXPOSURE

The main source of toxic air pollutants (TACs) by the proposed Project is diesel particulate matter (DPM) from truck idle and mobile emissions. Based on numerous studies by the California Air Resources Board (ARB), DPM represents the largest single contributor to public health risks. Additionally, in its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Exposure to diesel exhaust can have immediate health effects. Diesel exhaust

can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

Emissions from the following project sources were analyzed and are shown in Table 2:

- Truck on-site and off-site mobile emissions
- Truck on-site idling emissions
- Truck TRUs

***TABLE 2: EMISSION SOURCE ASSUMPTIONS***

| Source Type / Emission | Configuration | Assumptions |
|---|---|---|
| **On- and Off-site Mobile Diesel Truck Circulation (DPM)** | *Modeled as line-volume sources*<br>Release Height = 6 ft<br>Plume Height = 12 ft<br>Plume Width = 12 ft (width of a truck)<br>Line Lengths = based on path of travel | • On-site and off-site travel of 612 trucks per day (Kimley Horn, 2021).<br>• Traveling distance based on proposed site plan layout and anticipated ingress/egress routes.<br>• Both on-site and off-site mobile circulation modeled.<br>• Off-site mobile routes modeled up to approximately 0.25 miles from project site boundaries.<br>• $PM_{10}$ mobile emissions factor provided by EMFAC 2021 (Parameters: San Joaquin County, Annual, Year 2025; emission factor for T7 Tractor Class 8) |
| **On-site Diesel Truck Idling (DPM)** | *Modeled as point sources*<br>Release Height = 12 ft<br>Diameter = 0.1 meter<br>Velocity = 57.1 m/s @ 1500 rpm<br>Temperature = 366 K | • On-site Idle of 612 trucks per day (Kimley Horn, 2021)<br>• 5 minutes idling per vehicle<br>• $PM_{10}$ mobile emissions factor provided by CARB's EMFAC2021 idling emission factors for 2025 HHDT diesel trucks. |
| **TRUs (DPM)** | *Modeled as point sources*<br>Release Height = 13 ft<br>Diameter = 0.044 meter<br>Velocity = 49.0 m/s<br>Temperature = 501 K | • Trucks are assumed to run their TRUs for 15 minutes per hour.<br>• 34 hp rated TRUs<br>• Emission factor (Source: ARB Guidelines for in-use Diesel-Fueled Transport Refrigeration Units TRU)<br>• 0.53 load factor<br>• 15% of trucks have TRUs bases on fleet mix (Source: ATA) |

## DAILY TRUCK TRIPS AND ROUTES

The total diesel truck trips generated by the proposed project is based on Technical Memorandum for the proposed project prepared by Kimley Horn in 2021. According to Kimley Horn, the average total daily truck traffic includes 612 heavy-duty truck trips per day. The Technical Memorandum is provided in Appendix 2.

The off-site diesel truck routes were modeled consistent with the trip distribution for heavy trucks as provided in Figure 12 of Kimley Horn's Technical Memorandum (see Appendix 2 of this report for further detail), at least 0.25 miles away from the Project site (in accordance with San Joaquin Valley Air Pollution Control District guidance). As shown in Kimley Horn's Technical Memorandum, the diesel truck trips are anticipated to travel between the Project site I-580 and I-205. The routes from the Project site to and from these routes were modeled based on the ingress/egress points as provided in the Project site plan (see Figure 2 of this report). Consistent with Kimley Horn's Technical Memorandum, it was assumed that all heavy-duty trucks enter at the Schulte Road entrance (located at the northeastern corner of the Project site), and exit at the central exist (located across from Bud Lyons Way). The trucks would use Schulte road to enter and exit the project site.

Separately, the on-site circulation of trucks was modeled to account for the diesel truck travel throughout the entirety of the internal circulation route. Specifically, on-site circulation was modelled to account for internal Project site travel between each of the ingress/egress locations and the circulation pattern that surrounds the warehouses (for docking and loading/unloading) and the diesel truck parking areas.

## EMISSION RATES

Table 3 provides emissions rates by source and emissions factors. For calculations, data outputs, and reference documents please see Appendix 1.

***TABLE 3: EMISSION RATES BY SOURCE***

| Source | Pollutant | Volume/Size | Emission Factor | Emissions Pounds/Year |
|---|---|---|---|---|
| On-site Diesel Truck (Mobile) Circulation | DPM | 612 truck trips per day traveling 1.97 miles | 0.005584 g/mile | 2.71 |
| Off-site Diesel Truck (Mobile) Circulation | DPM | 612 truck trips per day | 0.005584 g/mile | 4.55 |
| On-site Diesel Truck Idling | DPM | 612 trucks per day idling 5 min | 0.25 g/hr -vehicle | 5.13 |
| On-site Diesel TRUs | DPM | 612 trucks per day idling for 15 min | 0.02 g/hp-hr | 6.66 |

*SOURCES: EMFAC 2021; AERMOD; KIMLEY HORN.*

## EXPOSURE ASSESSMENT

Exposure assessment involves translating the emission rate (e.g., lbs/hr, g/hr) of individual toxic air contaminants into the concentration (e.g., grams/cubic meter g /sec $m^2$ or parts per million) of each toxic air contaminant. The key step in performing an exposure assessment is the application of an air dispersion model. The dispersion model incorporates the local meteorological data (wind speed, wind direction, local temperature, inversions, etc.), stack height, and exhaust flow characteristics, into the dispersion of individual air contaminant. The Lakes Environmental AERMOD Version 10.2.1 (AERMOD Version 21112) dispersion model was employed for this assessment. The AERMOD output file is shown in Appendix 3.

**Modeling Receptors:** Receptors were placed at locations of nearby sensitive receptors, including residential and workplace locations. Residential receptors were located at each of the nearby residential receptors, as previously described, as follows:

- A cluster of farmhouses/residences is located along the western portion of the Project site, adjacent to the Project site;
- A cluster of residences is located approximately 2,000 feet to the southwest of the Project site;
- Additional scattered residences are located approximately 2,200 to 3,000 feet to the south and southwest of the Project site;
- Residences are located approximately 900 feet to the southeast of the Project site; and
- An additional residence is located approximately 2,650 feet to the southeast of the Project site.

Additionally, workplace receptors were placed at various locations within the Project site, as well as surrounding the Project site boundary. This allows for an analysis of the receptors that have the potential be most affected by the TACs generated by the proposed project. Lastly, a receptor 21 x 21 receptor modeling grid was included in the modeling, at a distance of 350 meters apart, to provide additional resolution to the modeling (it should be noted that although a receptor modeling grid is not required by the SJVAPCD, it provides additional refinement to the TAC risk contours).

**Meteorological Data**: Five years of meteorological data was used in the exposure assessment. The meteorological ("Met") data (wind speed, wind direction, temperature, etc.) were recorded at the Tracy, CA location for the latest years of data available from the SJVAPCD. This location was the closest location MET data was available.

**Building Downwash**: The effects of building downwash on air dispersion from the Project warehouses and the warehouse located just to the north of the Project site (i.e. the Southern Carlson Distribution Center) were modeled within AERMOD.

## RISK ASSESSMENT

Once the emissions rates of individual air contaminants have been calculated, and an air dispersion model has been run through AERMOD, the next step in determining health risks is to

determine the cancer risk, and acute and chronic incident rates. Period and 1-hour dispersion files we used in combination with HARP-2 risk modelling software to calculate risk scenarios for residential, and workplace cancer rates, as well as acute and chronic incidences. The Hotspots Analysis and Reporting Program (HARP) is a software suite used to assist with the programmatic requirements of the Air Toxics "Hot Spots" Program [Assembly Bill (AB) 2588]. HARP combines the tools needed to implement the requirements of AB 2588, such as reporting a facilities emissions inventory, determining a facilities prioritization score, conducting air dispersion modeling, and performing a facility health risk assessment. This study utilized the HARP2 Air Dispersion and Risk Tool with dispersion plot files created in AERMOD. After the risk assessment was complete, HARP-2 plot files were then imported back into AREMOD for spatial and visual representation, and analysis of impact areas.

The Intake Rate Percentile sets the intake rate at which a person is exposed to the air pollutant. This study utilized the high-end intake rate to assess risk at the 95th percentile exposure rate for risk scenarios (see Appendix 4 HARP-2 project summary report). Additionally, residential cancer risk is assessed using a 70-year exposure duration starting at the third trimester; workplace cancer risks are assessed at a 40-year exposure duration with age 16 being the first potential exposure year.

## RISK ASSESSMENT RESULTS

The results of the risk analysis indicate that cancer risks vary depending on the exposure scenario (residential or worker) and on location. As would be expected, locations nearest the Project site have the greatest exposure and the associated risks are considerably lower as distance from the project site increases. Table 4 displays the residential and workplace cancer risk, and acute and chronic incidence rate results at nearest receptors. Figure 3 provides wind patterns at the Tracy, CA location where meteorological data was used for the modeling.

***TABLE 4: SUMMARY OF MAXIMUM HEALTH RISKS***

| *RISK METRIC* | *MAXIMUM RISK* | *SIGNIFICANCE THRESHOLD* | *IS THRESHOLD EXCEEDED?* |
|---|---|---|---|
| Residential Cancer Risk (70-year exposure) | 0.52 | 20 per million | No |
| Workplace Cancer Risk (40-year exposure) | 0.72 | 20 per million | No |
| Chronic (non-cancer) | <0.01 | Hazard Index ≥1 | No |
| Acute (non-cancer) [1] | 0 | Hazard Index ≥1 | No |

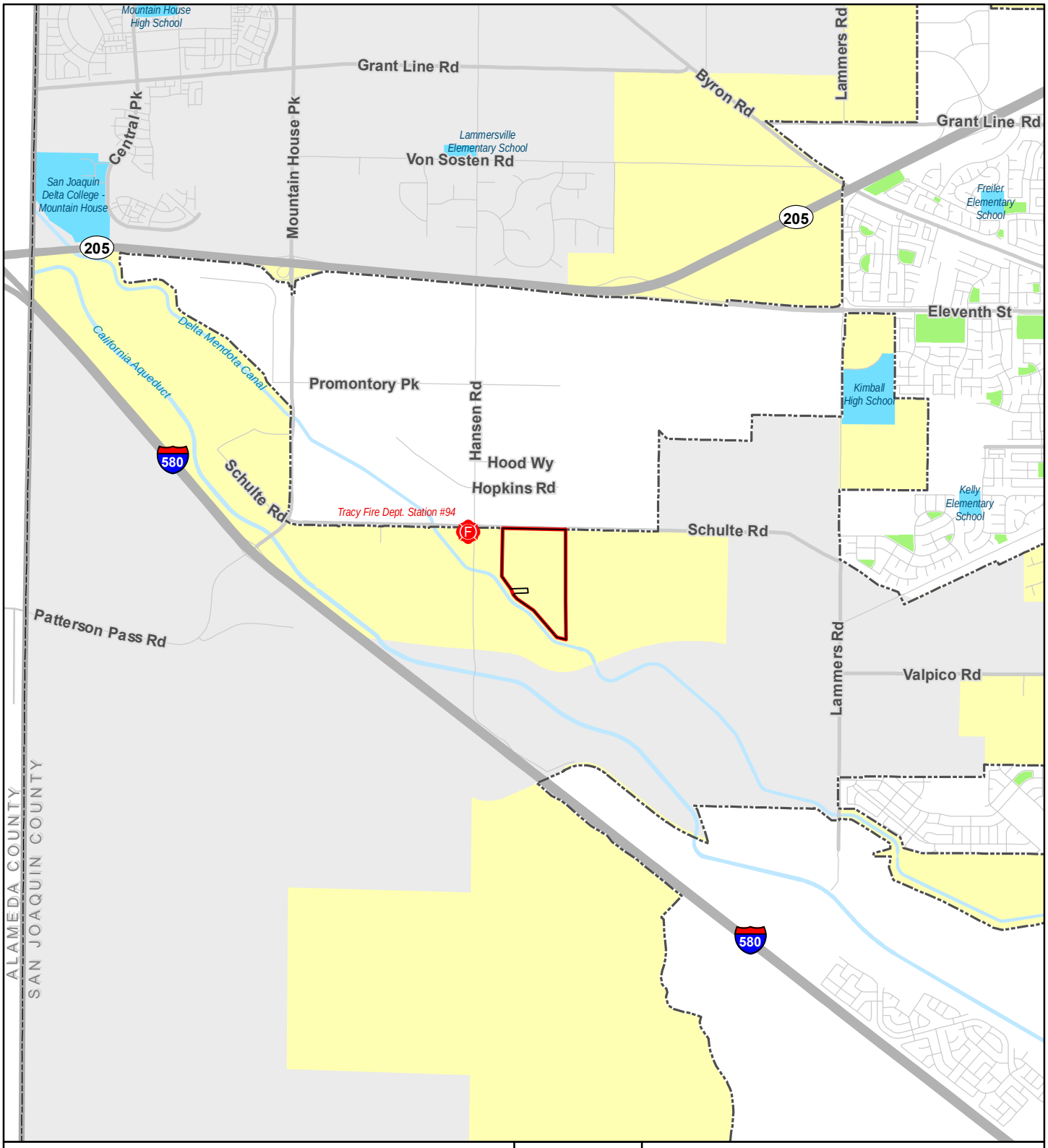
*SOURCES: AERMOD 10.2.1 (LAKES ENVIRONMENTAL SOFTWARE, 2022); AND HARP-2 AIR DISPERSION AND RISK TOOL.*

The TAC emissions from the project result from the on-site and off-site truck travel, and on-site idling of diesel-fueled vehicles. The nearest sensitive receptors are those that surround the Project site, to the west, southwest, and southeast.

Overall, the results show that residential 70-year cancer risk would remain below the threshold of 20 in a million at areas near the project site that contain residential receptors, at 0.52 per million (at the location of maximum cancer risk). The sensitive receptor with this maximum cancer risk is located at 25730 Hansen Road, Tracy, CA 95377, to the west of the Project site. As shown in Figure 3, the wind patterns in the area generally blow from the west to the east. The modeling results show that the residences with the highest risk are the farmhouses/residences located along the western portion of the Project site, adjacent to the Project site. However, it is very unlikely any individual would remain at the same location for 70 years; therefore, this result represents a conservative estimate.

The results also show that 40-year workplace cancer risk would remain below the threshold of 20 in a million (the SJVPACD threshold) at the project site, with a maximum value measured within the Project site at 0.72 per million (at the location of maximum measured cancer risk).

Chronic or long-term exposures and Acute exposure to DPM can result is non-cancer health effects. Chronic and Acute Non-Cancer Hazards results show that the acute and chronic risk on and near the project site would remain below the hazard index of ≥1.




**Legend**

- Project Site/ Annexation Area
- Development Area
- Tracy City Limits
- Tracy Sphere of Influence
- San Joaquin County
- School
- Park
- Fire Station

N

0 ¼ ½

Miles

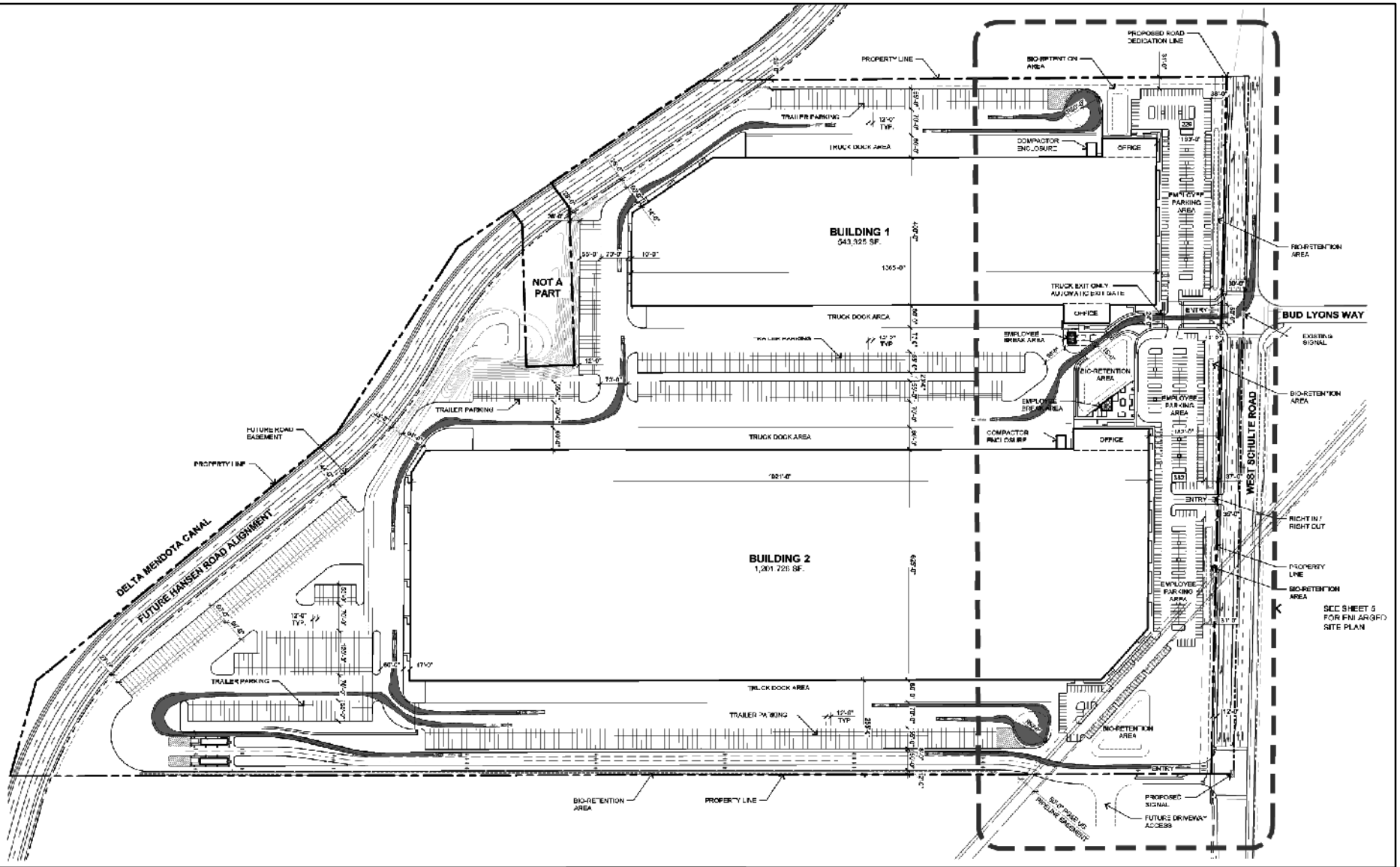
*Sources: San Joaquin County GIS. Map date: October 25, 2019. Revised: June 28, 2021.*

**TRACY COSTCO DEPOT PROJECT**

Figure 2.0-2. Project Vicinity

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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N

0 150 300

Feet

**TRACY COSTCO DEPOT PROJECT**

Figure 2.0-4.Site Plan

*Source: David Babcock + Associates, June 16, 2021. Map date: August 26, 2021.*

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

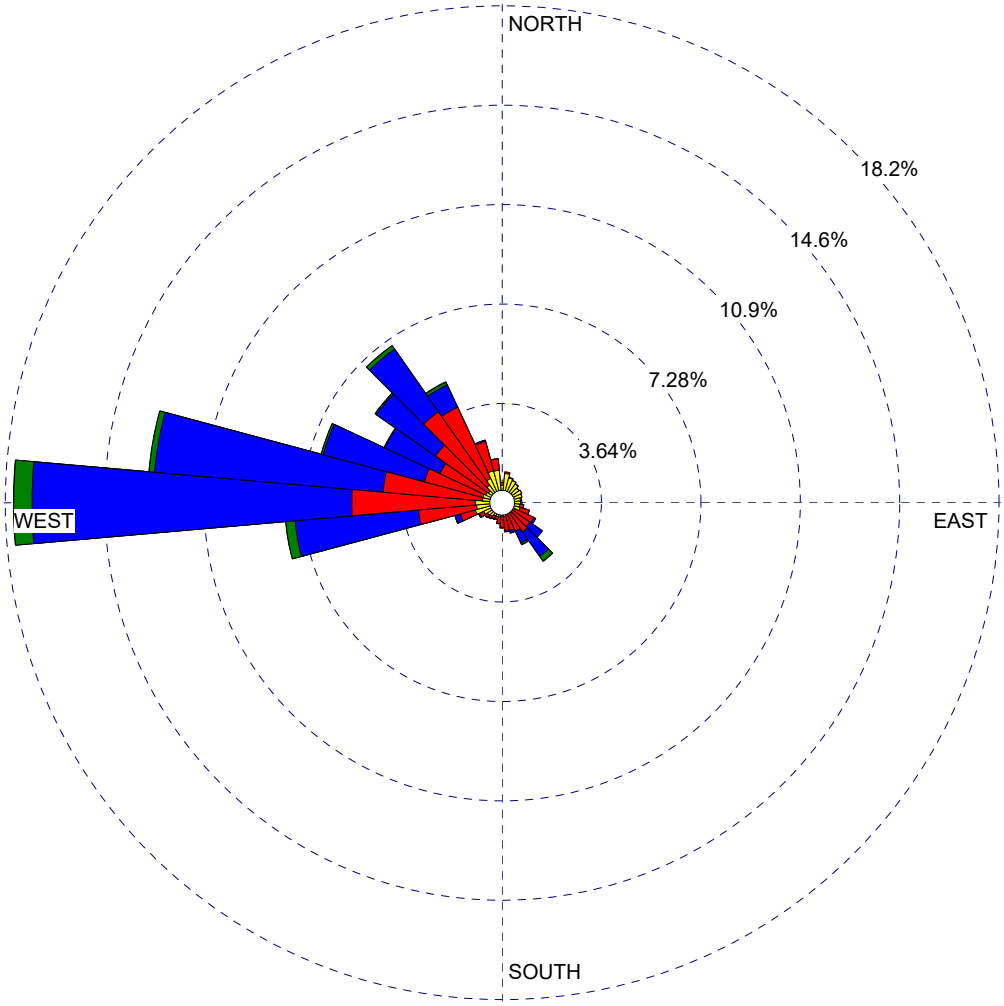
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WIND ROSE PLOT:

**Station #99008**

DISPLAY:

**Wind Speed**
**Direction (blowing from)**




WIND SPEED
(Knots)

- >= 21.58
- 17.11 - 21.58
- 11.08 - 17.11
- 7.00 - 11.08
- 4.08 - 7.00
- 0.97 - 4.08

Calms: 0.86%

| | | | |
|---|---|---|---|
| COMMENTS: | DATA PERIOD:<br>**Start Date: 1/1/2004 - 00:00**<br>**End Date: 12/31/2008 - 23:59** | COMPANY NAME: | |
| | | MODELER: | |
| | CALM WINDS:<br>**0.86%** | TOTAL COUNT:<br>**43848 hrs.** | |
| | AVG. WIND SPEED:<br>**9.41 Knots** | DATE:<br>**1/28/2022** | PROJECT NO.: |

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## REPORT PREPARERS

This document was prepared by De Novo Planning Group, Inc. of El Dorado Hills under the direction of the City of Tracy. De Novo Planning Group staff participating in document preparation included the following:

- Steve McMurtry, Principal
- Josh Smith, Senior Planner

## REFERENCES

California Air Resources Board. 2015. HARP, and AERMOD Course 296 *User's Guide for Health Risk Assessment and Dispersion Molding.*

California Air Resources Board. 2021. EMFAC2021 Web Database. PM10 Mobile Emissions Factors.

California Environmental Protection Agency. 2013. Air Resources Board (ARB) Monitoring and Laboratory Division *Revised Emission Factors for Phase II Vehicle Fueling at California Gasoline Dispensing Facilities December 23, 2013.*

Kimley Horn. 2021. Technical Memorandum. Costco Direct Delivery Center Traffic Analysis December 16, 2021.

Kyle Melching. 2016. San Joaquin Valley Air Pollution Control District (SJVAPCD). (Email Communications on 3/25/2016].

Leland Vilalvazo, and David Garner. 2015 and 2016. San Joaquin Valley Air Pollution Control District (SJVAPCD). [Discussion of methods and impacts for project HRA] (Personal communications, 9/1/15, 9/21/15, 11/30/15, 1/4/16, 12/13/15, 1/6/15, 1/11/16).

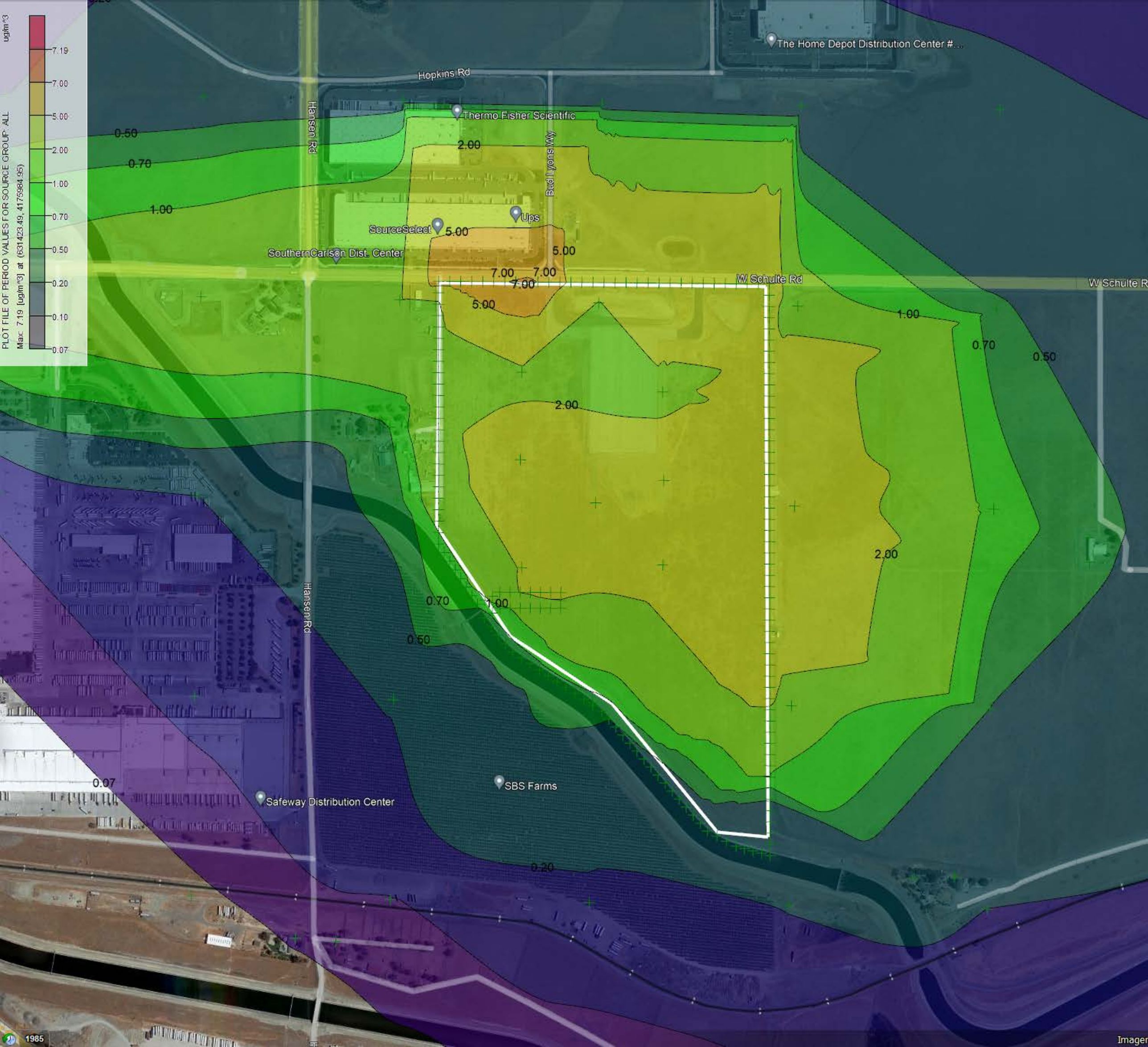
SJVAPCD. 2002. San Joaquin Valley Air Pollution Control District. 2002. *Guide for Assessing and Mitigating Air Quality Impacts.*

SJVAPCD. 2010. San Joaquin Valley Air Pollution Control District, *Guidance for Air Dispersion Modeling.*

SJVAPCD. 2015. San Joaquin Valley Air Pollution Control District. APR – 1906. Framework for Performing Health Risk Assessments.

Yu Vu. 2020. San Joaquin Valley Air Pollution Control District (SJVAPCD). (Email Communications on 8/27/2020, 8/31/2020, 10/7/2020, 10/8/2020, 10/27/2020].

Residential Cancer Risk Contours


ug/m^3
7.19
7.00
5.00
2.00
1.00
0.70
0.50
0.20
0.10
0.07
PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL
Max: 7.19 [ug/m^3] at (631423.49, 4175984.95)
The Home Depot Distribution Center #...
Hopkins Rd
Hansen Rd
Thermo Fisher Scientific
Bud Lyons Wy
Ups
SourceSelect
SouthernCarlson Dist. Center
W Schulte Rd
W Schulte R
0.50
0.70
1.00
2.00
5.00
7.00
SBS Farms
Safeway Distribution Center
0.07
0.20
1985
Imager

Workplace Risk Contours

ug/m^3
0.722
0.700
0.500
0.200
0.100
0.070
0.050
0.020
0.010
0.007
PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL
Max: 0.722 [ug/m^3] at (631423.49, 4175984.95)
FedEx Ground
Fedex Distribution
Hood Wy
Hansen Rd
The Home Depot Distribution Center #...
Hopkins Rd
Thermo Fisher Scientific
Bud Lyons Wy
Ups
SourceSelect
SouthernCarlson Dist. Center
W Schulte Rd
0.200
0.500
0.700
0.100
0.070
0.050
0.020
0.007
SBS Farms
Safeway Distribution Center
1985

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# Appendix 1 - Emissions Calculations:

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: San Joaquin
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | **PM10_RUNEX** |
|---|---|---|---|---|---|---|
| San Joaquin | 2025 | T7 Tractor Class 8 | Aggregate | Aggregate | Diesel | **0.0055837** |

## Mobile Truck Emissions - On-site Mobile

meters per mile: 1609.34 pounds per gram: 0.002205

| Assumptions: | | | Source: |
|---|---|---|---|
| 1. Distance travelled on-site per truck (line segment): | 1.974096 | miles | AERMOD |
| 2. # of trucks per day (total): | 612 | trucks | Kimley Horn |
| 3. Proportion of project site traveled per truck per day: | 0.5 | | Based on site plan and layout. |
| 3. PM10 Mobile Em. Factor (San Joaquin County, Year 2025 Aggregate MPH, T7 Tractor Class 8: | | | **0.005584** g/mile |

Therefore:
Total daily PM10 On-site Mobile Emissions Generated by the project:

**3.3729648 g/day-all trucks**
0.00743611 lbs/day-all trucks
**2.71417856 lbs/year-all trucks**

Max Hr Emissions
Two times the average trip generation over the course of 1 hour, based on the given 24-hour daily totals (conservative estimate)

**0.000620 lbs/hour-all trucks**

## Mobile Truck Emissions - Off-site Mobile - Exit headed West

meters per mile: 1609.34 pounds per gram: 0.002205

| Assumptions: | | | Source: |
|---|---|---|---|
| 1. Distance travelled on-site per truck (line segment): | 0.71023 | miles | AERMOD |
| 2. # of truck trips per day: | 612 | truck trips | Kimley Horn |
| 3. DPM Mobile EF (San Joaquin County, Year 2025 Aggregate MPH, T7 Tractor Class 8): | | | EMFAC2021 (v1.0.1) |
| Note: T7 Tractor Class 8 EF was used for a conservative EF (large truck class). | **0.0055837** | g/mile | |

Therefore:
Total daily PM10 On-site Mobile Emissions Generated:

**2.42701549 g/day-all trucks**
0.00535065 lbs/day-all trucks
**1.95298612 lbs/year-all trucks**

Max Hr Emissions
Two times the average trip generation over the course of 1 hour, based on the given 24-hour daily totals (conservative estimate)

**0.000446 lbs/hour-all trucks**

## Mobile Truck Emissions - Off-site Mobile - Entrance from West

meters per mile: 1609.34 pounds per gram: 0.002205

| Assumptions: | | | Source: |
|---|---|---|---|
| 1. Distance travelled on-site per truck (line segment): | 0.94598 | miles | AERMOD |
| 2. # of truck trips per day (prorated - 6 routes): | 612 | truck trips | Kimley Horn |
| 3. DPM Mobile EF (San Joaquin County, Year 2025 Aggregate MPH, T7 Tractor Class 8): | | | EMFAC2021 (v1.0.1) |
| Note: T7 Tractor Class 8 EF was used for a conservative EF (large truck class). | | **0.0055837** | g/mile |

Therefore:
Total daily PM10 On-site Mobile Emissions Generated by the project:

**3.23262622 g/day-all trucks**
0.00712671 lbs/day-all trucks
**2.60125003 lbs/year-all trucks**

Max Hr Emissions
Two times the average trip generation over the course of 1 hour, based on the given 24-hour daily totals (conservative estimate)

**0.000594 lbs/hour-all trucks**

**Truck Idling**

CARB EMFAC2021 idling emission factors for 2022 HHDT diesel trucks: PM10 **0.25** g/hr-truck Source: CARB correspondance

| | | |
|---|---|---|
| 0.010416667 | g/5 minutes-truck | Note: assuming 5 minutes of active idling per truck |
| 0.010416667 | g/day-truck | |
| 612 | Total # of trucks per day | Source: Kimley Horn |
| 6.375 | g/day-all trucks | |
| 2326.875 | g/year-all trucks | |
| **5.129875163** | lbs/year-all trucks | |
| 0.265625 | g/hr-all trucks | |
| 0.004427083 | g/min-all trucks | |
| 7.37847E-05 | g/sec-all trucks | |

pounds per gram: 0.002205

As provided by the Kimley Horn Traffic Study (2021): 63 Peak hour truck trips (maximum peak hour truck trips is used for the sake of a conservative analysis)

| | |
|---|---|
| 0.651041667 | g/5 minutes-26 vehicles |
| **0.0014353** | lbs/5 minutes-26 vehicles |

| | | | |
|---|---|---|---|
| **Annual Emissions:** | **0.366419654** | lbs/year-all trucks for each of the | **14** idling points |
| **Max Hr Emissions:** | **0.0001025** | for each sampling point, for max 1 hr | |

**Truck TRU (Idling)**

pounds per gram: 0.002205

0.02 g/hp-hr source: ARB
34 hp rated TRU engines

0.15 15% of trucks are refrigerated trucks (based on the # of 500,000 trucks in the U.S being reefers and approximately 3.2 million trucks in use nationwide). Source ATA

0.53 Load Factor of 0.53 based Walmart Riverwalk Marketplace HRA Impact Sciences, Inc

0.25 Trucks are expected to run their TRUs for 15 minutes per hour (Leland Vilalvazo, phone conversation) On/Off Cycle Factor

612 Total # of trucks per day (note: truck trips are round trips; hence, total # of trucks is equal to half the number of truck trips)
Source: Kimley Horn
1 Max hours trucks are assumed to be idle on-site

**8.27118 Emissions (g/day)**

| **Total** | |
|---|---|
| **8.27118** | **Emissions (g/day)** |
| | |
| **3,019** | **Emissions (g/year)** |
| **6.656** | **Emissions (lbs/year)** |
| **0.475** | **Emissions (lbs/year)** |

Note: For each of the 14 point sources

| **Total Max 1 Hr** | |
|---|---|
| **1.0338975** | **Emissions (g/hr)** |
| | |
| **1.0338975** | **Emissions (g/hour)** |
| **0.00228** | **Emissions (lbs/hour)** |
| **0.0001628** | **Emissions (lbs/hour)** |

Note: For each of the 14 point sources

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# Appendix 2 – Trip Generation Technical Memorandum:

| Land Uses | Project Size | AM PEAK HOUR | | | PM PEAK HOUR | | | Daily[3] |
|---|---|---|---|---|---|---|---|---|
| | | Total Peak Hour | IN | OUT | Total Peak Hour | IN | OUT | |
| **Trip Generation Rates** | | | | | | | | |
| **Project Use** | | | | | | | | |
| Costco Ecommerce Warehouse[1] | - ksf | 0.23 | 94% | 6% | 0.05 | 21% | 79% | 2.18 |
| **Trips Generated** | | | | | | | | |
| **Building 1** | **543.326 ksf** | **125** | **118** | **7** | **27** | **6** | **21** | **1183** |
| *Passenger Cars[2]* | | *86* | *81* | *5* | *21* | *5* | *16* | *802* |
| *Trucks[2]* | | *39* | *37* | *2* | *6* | *1* | *5* | *381* |
| **Building 2** | **1,201.727 ksf** | **276** | **259** | **17** | **60** | **13** | **47** | **2,617** |
| *Passenger Cars[2]* | | *190* | *179* | *11* | *47* | *10* | *37* | *1774* |
| *Trucks[2]* | | *86* | *80* | *6* | *13* | *3* | *10* | *843* |
| ***TOTAL*** | | ***401*** | ***377*** | ***24*** | ***87*** | ***19*** | ***68*** | ***3,800*** |
| ***Passenger Cars*** | | ***276*** | ***260*** | ***16*** | ***68*** | ***15*** | ***53*** | ***2,576*** |
| ***Trucks*** | | ***125*** | ***117*** | ***8*** | ***19*** | ***4*** | ***15*** | ***1,224*** |

Trip Rates

| | AM | PM | AM+PM | Daily | AM+PM/Daily |
|---|---|---|---|---|---|
| ITE LU 154 | 0.08 | 0.1 | 0.18 | 1.4 | 12.9% |
| Costco | 0.23 | 0.05 | 0.28 | **2.2** | 12.9% |

***NOTES***

*1. Trip generation provided by Kittleson Tracy Costco Depot Transportation Impact Analysis Report (August 28, 2017)*

*2. ITE guidance for high-cube and warehousing facilities used, 2016. The percentage of passenger car vehicles for Short-Term Storage, Transload, & Cold Storage is the following:*
*Daily: 67.8%*
*AM: 69.2%*
*PM: 78.3%*

*3. Daily trip rate was calculated based on ratios from ITE LU 154.*

Kimley»Horn

# MEMORANDUM

**From:** Frederik Venter, PE and Colin Ogilvie | Kimley-Horn and Associates

**To:** Robert Armijo, PE | City of Tracy

**Date:** December 16, 2021

**Re:** **Costco Direct Delivery Center Traffic Analysis**

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## 1. Executive Summary

The proposed Costco Direct Delivery Center (Project) consists of two buildings totaling 1,782,317 square feet of warehouse space located south of Old Schulte Road.

The Project proposes three driveways along Old Schulte Road (two signals and one right-in, right-out).

The project will generate 401 AM and 87 PM peak hour trips. In the AM 30.8% and in the PM 21.7% will be trucks, respectively.

The following sections summarize the findings of this report:

*Traffic Review*

**VMT Analysis**

The proposed Costco distribution warehouse project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.2 VMT per Employee. The evaluation tool estimates that the Project would generate 24.8 VMT per Employee, and the Project exceeds the threshold by 170%.

**TDM Program**

This program recommends TDM measures that would individually reduce the Project's VMT and trips with the goal of obtaining a feasible maximum of 15% VMT reduction. **Table 4** lists the toolbox of potential TDM measures that could partially mitigate the Project's VMT impact. Maximum TDM reductions are provided for each TDM element. The applicant will select specific TDM measures in consultation with the City to partially mitigate the VMT impact.

This TDM program aims to achieve a feasible maximum of 15% VMT reduction, with the opportunity for XX% VMT reduction coming from the VMT Banking Fee Program as discussed after this section.

For the TDM program, the following TDM measures are being proposed:

1. TDM Measure 1
2. TDM Measure 2
3. TDM Measure 3

**VMT Banking Fees**

The City of Tracy VMT Banking Fee Program is a programmatic approach to respond to the need for feasible VMT mitigation programs. Programmatic approaches that rely on collectively funding larger projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The VMT Banking Fee Program calculates the cost per VMT reduction as $633.11. Therefore, to achieve a the XX% reduction needed after implementation of the TDM program, the project would be responsible to pay $XX.XX. This is calculated as XX% being equivalent to a 1.0 VMT per employee reduction. Since there are XX employees and each employee needs to reduce by 1.0 VMT at a cost of $633.11 per VMT the calculation is as follows:

*VMT Banking Fee = XX employees x 1.0 VMT per employee x $633.11 per VMT*

## Table 1 – TDM Measures

| Transportation Demand Management Measure | Description | Max VMT Reduction |
|---|---|---|
| **Transit Strategies** | | |
| Parking Cash-Out | Provide employees a choice of forgoing current parking for a cash payment to be determined by the employer. The higher the cash payment, the higher the reduction. | 2.0% |
| Transit Stops | Coordinate with local transit agency to provide bus stop near the site. Real time transportation information displays support on-the-go decision making to support sustainable trip making. | 2% |
| Implement Neighborhood Shuttle | Implement project-operated or project-sponsored neighborhood shuttle serving residents, employees, and visitors of the project site | 5% |
| Transit Subsidies | Involves the subsidization of transit fare for residents and employees of the project site. This strategy assumes transit service is already present in the project area. | 5% |
| | Pays for employees to use local transit. This could either be a discounted ticket or a full-reimbursed transit ticket. | |
| **Communication & Information Strategies** | | |
| Travel Behavior Change Program | Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a web site that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. DIBS | 4% |
| Promotions & Marketing | Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program. DIBS | |
| **Commuting Strategies** | | |
| Employer Sponsored Vanpool or Shuttle | Implementation of employer-sponsored employee vanpool or shuttle providing new opportunities for access to connect employees to the project site. | 5% |
| Preferential Carpool / Vanpool Parking Spaces | Reserved carpool / vanpool spaces closer to the building entrance. | 1% |
| Emergency Ride Home (ERH) Program | Provides an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. DIBS | 4% |
| On-site Childcare | Provides on-site childcare to remove the need to drive a child to daycare at a separate location. | 2% |
| Telecommuting Alternative work schedule | Four-Ten work schedule results in 20% weekly VMT reduction, 10% trip reduction equals 15% VMT reduction | 20% |
| **Shared Mobility Strategies** | | |
| Ride Share Program | Increases vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Need a point person form the business on-site | 5% |
| Employee/Employer Car Share | Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third-party vendor to extend membership-based service to an area, or implementing a project-specific fleet that supports the residents and employees on -site. | 1% |
| | Provide an on-site car vehicle for employees to use for short trips. This allows for employees to run errands or travel for lunch. | 1% |
| Designated Parking Spaces for Car Share Vehicles | Reserved car share spaces closer to the building entrance. | 1% |
| **Bicycle Infrastructure Strategies** | | |
| Bike Share Program | Participate in a bike share program/On site bike share program | 1% |

**Table 1 (Cont.) – TDM Measures**

| Transportation Demand Management Measure | Description | Max VMT Reduction |
|---|---|---|
| **Bicycle Infrastructure Strategies** | | |
| Implement/Improve On-street Bicycle Facility | Implements or provides funding for improvements to corridors and crossings for bike networks identified within a one-half mile buffer area of the project boundary, to support safe and comfortable bicycle travel. | 1% |
| Include Bike Parking Per City Code | Implements short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations | |
| Include Secure Bike Parking and Showers | Implements additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel. | |
| Bicycle Repair Station / Services | On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation. | |
| **Neighborhood Enhancement Strategies** | | |
| Pedestrian Network Improvements | Implements pedestrian network improvements throughout and around the project site that encourages people to walk. | 2% |
| **Miscellaneous Strategies** | | |

Notes:
1. DIBS is a transportation program designed by the San Joaquin Council of Governments to incentivize carpooling or alternative modes of transportation. The website is located here: https://www.dibsmyway.com/

### Background Plus Project

Deficiencies in LOS operations, exacerbated or caused by the project, will either be fully or partially eliminated by implementing the following improvements for Background conditions. Background conditions include Existing plus approved project traffic on the study road network. All improvements listed were also identified in the Cordes Phase 2nd Consistency Analysis (June 2020) except for Intersection #11 which is triggered by the Costco project.

- Intersection #1 - International Parkway & I-205 Westbound Ramps (AM Peak Hour)
  - Restripe westbound off-ramp to provide two left-turn lanes and one shared through/right lane and optimize signal timings per Cordes Ranch Specific Plan Final EIR TRANS-1 mitigation measure.
  - AM intersection operations improve from an LOS F to a LOS A.
- Intersection #3 - International Parkway & Old Schulte Road (AM and PM Peak Hours)
  - Per the *Final Traffic Operations Analysis Report (FTOAR) For the Interstate 580/International Parkway/Patterson Pass Road Interchange in Tracy, CA*, a diverging diamond interchange should be constructed at Intersections #4 & #5. The FTOAR recommended an additional northbound right turn at Intersection #3 and to restripe the existing eastbound outside shared through/right lane to be a dedicated eastbound right turn.
  - Refer to the FTOAR for more information regarding LOS improvements.
- Intersection #4 - International Parkway & I-580 Westbound Ramps (AM and PM Peak Hours)
  - A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term.

  - Refer to the FTOAR for more information regarding LOS improvements.
- Intersection #5 - International Parkway & I-580 Eastbound Ramps (AM and PM Peak Hours)
  - A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term.
  - Refer to the FTOAR for more information regarding LOS improvements.
- Intersection #6 - Hansen Road & Old Schulte Road (AM Peak Hour)
  - Add one additional westbound and eastbound through lane at the intersection to establish a four-lane facility to the Safeway driveway along Old Schulte Road. Based on SimTraffic microsimulation analysis, the 95$^{th}$-percentile queue from the westbound lane merge between Intersection #6 and the Delta-Mendota Canal bridge backs up into the intersection. Therefore, the Project shall widen the Delta-Mendota Canal bridge to continue the four lanes to the Safeway driveway.
  - AM intersection operations improve from LOS E to LOS C.
- Intersection #11 – Lammers Road & Old Schulte Road (AM Peak Hour)
  - Provide an overlap phase for the eastbound right turn.
  - AM intersection operations improve from LOS E to LOS D.
- Intersection #12 - Lammers Road & Western Pacific Way (AM Peak Hour)
  - Signalize and construct a northbound right-turn and southbound left-turn lanes plus the median of the future widening.
  - AM intersection operations improve from LOS F to LOS C.
- Intersection #13 - Lammers Road & Valpico Road (AM Peak Hour)
  - Signalize intersection and construct a southbound left-turn lane. It is anticipated that widening to a four-lane roadway will occur from Old Schulte Road to Valpico Road with subsequent intersection improvements.
  - AM intersection operations improve from LOS F to LOS C
- The above various intersection widening improvements along Old Schulte Road result in a continuous four lane facility between the easterly Project driveway and the Safeway driveway on the west side of the Delta-Mendota Canal. Subsequently, the bridge across the canal shall also be widened. If the bridge is not widened, the 95% queue will extend into the Old Schulte Rd/Hansen Rd intersection in the westbound direction during the AM peak period.
- The project shall, at a minimum, provide emergency access to the future Hansen Road. It is anticipated that the property immediately west of the Project site (APN 209-23-025) may develop in the near future and that Hansen Road will be extended to Old Schulte Road.

**Table 2** provides a summary of improvements as well as the Costco Obligations for the Background Plus Project Conditions.

**Cumulative Plus Project**

No additional improvements have been identified for Cumulative Conditions, The Project will, however, pay the City TIF fees.

Kimley»Horn

## Table 2 – Costco Obligations (Background Plus Project Conditions)

| Costco Intersection # | Intersection /Location | Peak Hour | Background Plus Project Conditions | | |
|---|---|---|---|---|---|
| | | | Improvement | Recommended Costco Improvement? | Costco Project Obligation |
| 1 | International Pkwy & I-205 WB Ramps | AM | Restripe westbound off-ramp to provide two left-turn lanes and one shared through/right lane and optimize signal timings per Cordes Ranch Specific Plan Final EIR TRANS-1 mitigation measure. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco shall pay a fair share contribution towards improvements. |
| 3 | International Pkwy & Old Schulte Rd | AM & PM | Per the *Final Traffic Operations Analysis Report (FTOAR) For the Interstate 580/International Parkway/Patterson Pass Road Interchange in Tracy, CA*, a diverging diamond interchange should be constructed at Intersections #4 & #5. The FTOAR recommended an additional northbound right turn at Intersection #3 and to restripe the existing eastbound outside shared through/right lane to be a dedicated eastbound right turn. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco shall pay a fair share contribution towards improvements. |
| 4 | International Pkwy & I-580 WB | AM & PM | A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term. | Impact Fees | Pay TIF |
| 5 | International Pkwy & I-580 EB | AM & PM | A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term. | Impact Fees | Pay TIF |
| 6[1] | Hansen Road & Old Schulte Rd | AM | Add one additional westbound and eastbound through lane at the intersection to establish a four-lane facility to the Safeway driveway along Old Schulte Road. | Y | Costco to implement |
| 11 | Lammers Rd & Old Schulte Rd | AM | Provide an overlap phase for the eastbound right turn. | Y | Costco to implement |
| 12[1] | Lammers Rd & Western Pacific Way | AM | Signalize and construct a northbound right-turn and southbound left-turn lanes plus the median of the future widening. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco may pay a fair share contribution towards improvements. |
| 13 | Lammers Rd & Valpico Rd | AM | Signalize intersection and construct a southbound left-turn lane. It is anticipated that widening to a four-lane roadway will occur from Old Schulte Road to Valpico Road with subsequent intersection improvements. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco may pay a fair share contribution towards improvements. |
| - | Delta Mendota Bridge | - | Based on SimTraffic microsimulation analysis, the 95th-percentile queue from the westbound lane merge between Intersection #6 and the Delta-Mendota Canal bridge backs up into the intersection. Therefore, the Project shall widen the Delta-Mendota Canal bridge to continue the four lanes to the Safeway driveway. Old Schulte Road shall be a four-lane divided arterial from Hansen Road to the Safeway Driveway once this improvement is implemented. TIF credits will be due to Costco. | Y | Costco to implement |

Notes:
1. Costco will construct improvement if not already implemented by another development. This improvement is anticipated to be included in the City of Tracy Transportation Master Plan (TMP) Fee Program Update. If included, Costco could receive reimbursement for improvements within the fee program.
2. Kimley-Horn traffic study identified TIF, this is not reflected in the conditions.

*Engineering Review*

**Table 3** provides the summary of the engineering comments for the Project.

**Table 3 – Engineering Review Summary**

| Section | Recommendations/Comments |
|---|---|
| Driveway Access Review | • Driveway #1 - Revise striping to the following: 1 left turn and 1 through/right turn lane.<br>• Driveway #2 - Provide Stop (R1-1), Right Turn Only (R3-5R), and One Way (R6-1) signage.<br>• Driveway #3 - A left turn lane and a right turn pocket are needed for the signal.<br>• Emergency vehicle access(es) may be required off Hansen Road. |
| Internal Circulation Review | • Approximately 100 feet is provided between Old Schulte Road and the internal drive aisle. This is only enough space for 4 passenger car vehicles or 1 STAA and 1 passenger car vehicle per lane. Since this is the only location where a passenger car can perform a left turn out of the site, this is not adequate during the shift change peaks. To alleviate congestion at this point, it is recommended to provide an eastbound U-turn lane (that could potentially convert to a future left turn lane) at the Old Schulte Road and Project Driveway #3 signalized intersection.<br>• At Project Driveway #1, the northern internal crosswalk should be removed as this will conflict with vehicles entering and exiting the Project. This crossing should occur at the signal instead or at the southern internal crosswalk.<br>• Provide a three way stop at the Project Driveway #1 internal intersection with the inbound movement as the free movement.<br>• No project detail is known for the eastern adjacent parcel that will share Project Driveway #3. The cross access shown will be reviewed in the future, once a development application is submitted for the adjacent parcel.<br>• Provide clear signage and/or pavement markings for trucks entering Project Driveway #3 that designates security versus bypass lanes.<br>• Provide truck turning templates at reverse curve within Project Driveway #3. |
| Vehicle Turning Templates | • STAA trucks are unable to perform northbound right turn at Driveways #1. Design modifications to the proposed curb are required to allow STAA trucks to perform necessary movements to access the site.<br>• STAA trucks are unable to perform eastbound and northbound right turns at Driveways #3. Design modifications to the proposed curb are required to allow STAA trucks to perform necessary movements to access the site.<br>• A westbound left turn must be provided at Driveway #3 and it must accommodate a STAA truck turning template. |
| External Network Review | • Provide more detail on the transitions between existing conditions on both the east and west end of the Project limits.<br>• Provide the striping at the intersection of Old Schulte Road and Project Driveway #3. This approach must include a westbound left turn pocket that can accommodate a CA-STAA truck.<br>• Revise the signing and striping for the southbound movement at Old Schulte Road and Bud Lyons Way. Provide one left turn and one through/right lane.<br>• The Westbound right turn lane at the intersection of Old Schulte Road and Bud Lyons is existing and should be shown on the plan set.<br>• Provide eastbound shoulder stripe.<br>• Lengthen the westbound left turn lane at Project Driveway #1 to accommodate 375 feet of deceleration and 150 feet of storage.<br>• Emergency vehicles access(es) may be required off Hansen Road. In addition, the City typically requires all street frontage improvements to be constructed by the Project developer. |

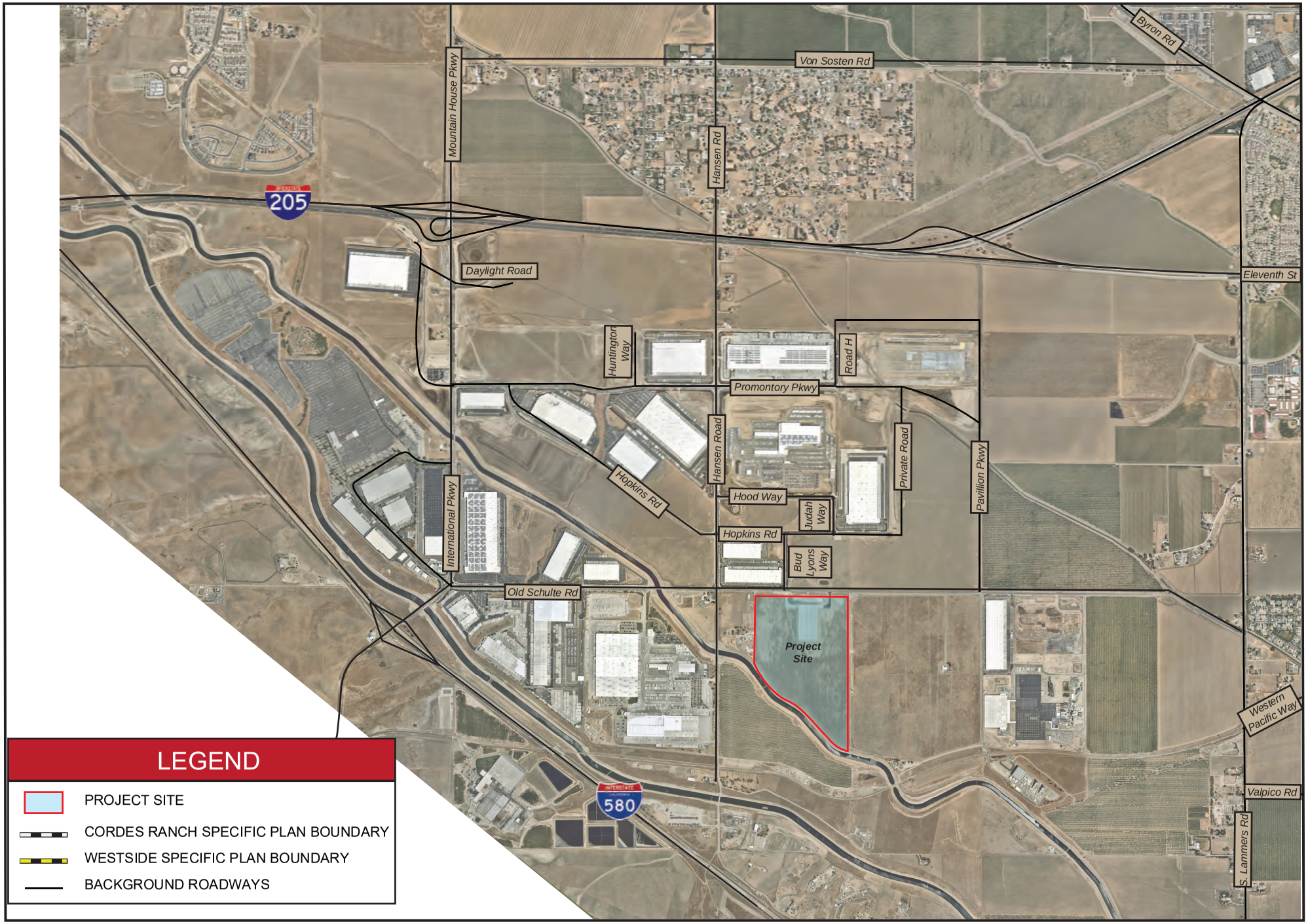
## 2. Introduction

This memorandum presents a traffic review of the Costco Direct Delivery Center (Project) located south of Old Schulte Road (West Schulte Road) and north of the proposed Hansen Road Extension in Tracy, California. The Project consists of two warehouse buildings:

- Building 1: 543,326 Square Feet
- Building 2: 1,201,727 Square Feet
- Total: 1,745,053 Square Feet

**Figure 1** provides a Project vicinity map. The Project is located on agricultural land in the City of Tracy Sphere of Influence. Adjacent development includes industrial uses in the County of San Joaquin and Cordes Ranch. Regional access to the site is via I-205 and I-580 via the Mountain House and Patterson Pass interchanges, respectively. Additional industrial development is also occurring to the east of the Project site, and the future Westside Specific Plan area is located to the northeast of the site. The Project will be annexed into the City.

The Project site plan is shown in **Figure 2**. The Project proposes three access points along Old Schulte Road (two signals and one right-in, right-out) and none along the future Hansen Road.




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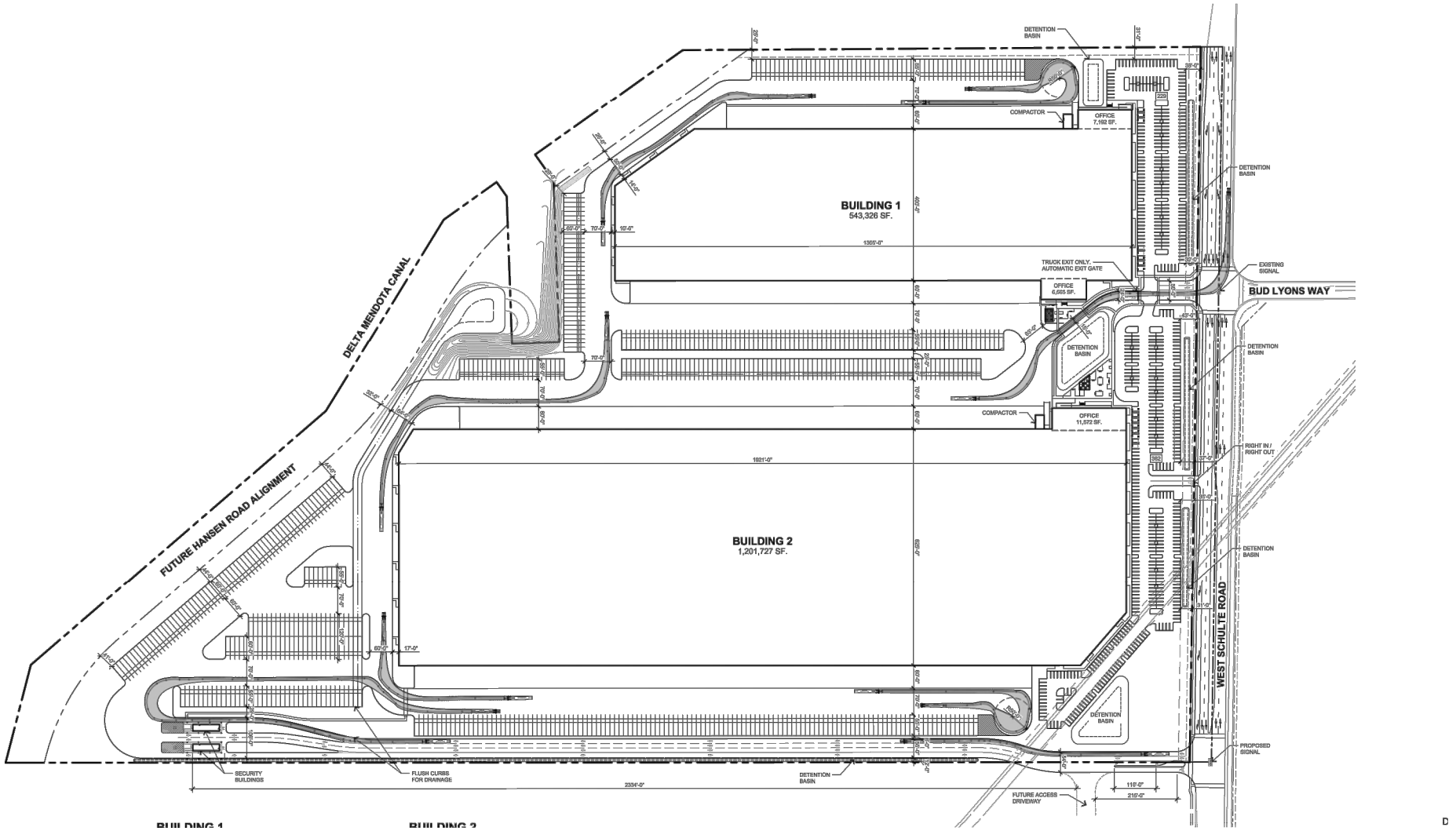
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Figure 1

Project Vicinity Map

Costco Depot Traffic Analysis

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Figure 2

Project Site Plan

December 2021

Tracy Costco Direct Delivery Center

## 3. VMT Analysis

*VMT Calculations*

In 2018, the California state legislature, in approving Senate Bill (SB) 743, directed the Office of Planning and Research to develop guidelines for assessing transportation impacts based on vehicle miles traveled, or VMT. In response to SB 743, CEQA and its implementing guidelines (CEQA Guidelines) were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts. As described in CEQA Guidelines Section 15064.3(a):

*Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.*

This section of the Guidelines continues to set forth the criteria for analyzing transportation impacts. Currently, the City is studying their own thresholds, but none have been adopted.

In 2013, SB 743 was signed into law by California Governor Jerry Brown with a goal of reducing Greenhouse Gas (GHG) emissions, promoting the development of infill land use projects and multimodal transportation networks, and to promote a diversity of land uses within developments. One significant outcome resulting from this statue is the removal of automobile delay and congestion, commonly known as Level of Service (LOS), as a basis for determining significant transportation impacts under the California Environmental Quality Act (CEQA).

The Governor's Office of Planning and Research (OPR) has documented recommended analysis guidelines for SB 743 in its *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) which provides for Vehicle Miles Traveled (VMT) as the principal measure to replace LOS for determining significant transportation impacts. VMT is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. OPR selected VMT, in part, because jurisdictions are already familiar with this metric. VMT is already used in CEQA to study other potential impacts such as Greenhouse Gases (GHG), air quality, and energy impacts and is used in planning for regional Sustainable Communities Strategies (SCS).

VMT also allows for an analysis of a project's impact throughout the City rather than only in the vicinity of the proposed project, allowing for a better understanding of the full extent of a project's transportation-related impact. It should be noted that SB 743 still allows the City of Tracy to use LOS for other planning purposes outside the scope of CEQA.

Understanding how the local roadway network functions from an engineering standpoint is still critical to local land use agencies to monitor traffic flow, identify safety issues, establish fees and manage congestion. However, for the purposes of evaluating environmental impacts under CEQA, the new regulations have removed congestion from the range of required subjects analyzed within CEQA documents.

The proposed Costco Direct Delivery Center project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.2 VMT per Employee. The evaluation

tool estimates that the Project would generate 24.8 VMT per Employee, and the Project exceeds the threshold by 170%.

Per the City's VMT threshold and SB 743 guidelines, the Project causes a significant transportation impact. For projects that would cause a VMT impact, VMT reduction strategies such as introducing transportation demand management (TDM), or additional multimodal infrastructure can be implemented to reasonably mitigate the VMT impact which is estimated from research literature and case studies.

*Potential Mitigations*

The Project exceeds the City threshold by 170% and this reduction is not feasible. The California Air Pollution Control Officers Association (CAPCOA) indicates that up to 15% of VMT reduction can reasonably be achieved. The Project has the option to "purchase" additional VMT from the VMT banking fee above 15%. For the purpose of this report, a maximum of 15% is assumed.

**TDM Program**

This program recommends TDM measures that would individually reduce the Project's VMT and trips with the goal of obtaining a feasible maximum of 15% VMT reduction. **Table 4** lists the toolbox of potential TDM measures that could partially mitigate the Project's VMT impact. Maximum TDM reductions are provided for each TDM element. The applicant will select specific TDM measures in consultation with the City to partially mitigate the VMT impact.

This TDM program aims to achieve a feasible maximum of 15% VMT reduction, with the opportunity for XX% VMT reduction coming from the VMT Banking Fee Program as discussed after this section.

For the TDM program, the following TDM measures are being proposed:

4. TDM Measure 1
5. TDM Measure 2
6. TDM Measure 3

**VMT Banking Fees**

The City of Tracy VMT Banking Fee Program is a programmatic approach to respond to the need for feasible VMT mitigation programs. Programmatic approaches that rely on collectively funding larger projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The VMT Banking Fee Program calculates the cost per VMT reduction as $633.11. Therefore, to achieve a the XX% reduction needed after implementation of the TDM program, the project would be responsible to pay $XX.XX. This is calculated as XX% being equivalent to a 1.0 VMT per employee reduction. Since there are XX employees and each employee needs to reduce by 1.0 VMT at a cost of $633.11 per VMT the calculation is as follows:

*VMT Banking Fee = XX employees x 1.0 VMT per employee x $633.11 per VMT*

## Table 4 – TDM Measures

| Transportation Demand Management Measure | Description | Max VMT Reduction |
|---|---|---|
| **Transit Strategies** | | |
| Parking Cash-Out | Provide employees a choice of forgoing current parking for a cash payment to be determined by the employer. The higher the cash payment, the higher the reduction. | 2.0% |
| Transit Stops | Coordinate with local transit agency to provide bus stop near the site. Real time transportation information displays support on-the-go decision making to support sustainable trip making. | 2% |
| Implement Neighborhood Shuttle | Implement project-operated or project-sponsored neighborhood shuttle serving residents, employees, and visitors of the project site | 5% |
| Transit Subsidies | Involves the subsidization of transit fare for residents and employees of the project site. This strategy assumes transit service is already present in the project area. | 5% |
| | Pays for employees to use local transit. This could either be a discounted ticket or a full-reimbursed transit ticket. | |
| **Communication & Information Strategies** | | |
| Travel Behavior Change Program | Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a web site that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. DIBS | 4% |
| Promotions & Marketing | Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program. DIBS | |
| **Commuting Strategies** | | |
| Employer Sponsored Vanpool or Shuttle | Implementation of employer-sponsored employee vanpool or shuttle providing new opportunities for access to connect employees to the project site. | 5% |
| Preferential Carpool / Vanpool Parking Spaces | Reserved carpool / vanpool spaces closer to the building entrance. | 1% |
| Emergency Ride Home (ERH) Program | Provides an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. DIBS | 4% |
| On-site Childcare | Provides on-site childcare to remove the need to drive a child to daycare at a separate location. | 2% |
| Telecommuting Alternative work schedule | Four-Ten work schedule results in 20% weekly VMT reduction, 10% trip reduction equals 15% VMT reduction | 20% |

## Table 4 (Cont.) – TDM Measures

| Transportation Demand Management Measure | Description | Max VMT Reduction |
|---|---|---|
| **Shared Mobility Strategies** | | |
| Ride Share Program | Increases vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Need a point person from the business on-site | 5% |
| Employee/Employer Car Share | Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third-party vendor to extend membership-based service to an area, or implementing a project-specific fleet that supports the residents and employees on -site. | 1% |
| | Provide an on-site car vehicle for employees to use for short trips. This allows for employees to run errands or travel for lunch. | 1% |
| Designated Parking Spaces for Car Share Vehicles | Reserved car share spaces closer to the building entrance. | 1% |
| **Bicycle Infrastructure Strategies** | | |
| Bike Share Program | Participate in a bike share program/On site bike share program | 1% |
| Implement/Improve On-street Bicycle Facility | Implements or provides funding for improvements to corridors and crossings for bike networks identified within a one-half mile buffer area of the project boundary, to support safe and comfortable bicycle travel. | 1% |
| Include Bike Parking Per City Code | Implements short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations | |
| Include Secure Bike Parking and Showers | Implements additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel. | |
| Bicycle Repair Station / Services | On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation. | |
| **Neighborhood Enhancement Strategies** | | |
| Pedestrian Network Improvements | Implements pedestrian network improvements throughout and around the project site that encourages people to walk. | 2% |
| **Miscellaneous Strategies** | | |

Notes:
1. DIBS is a transportation program designed by the San Joaquin Council of Governments to incentivize carpooling or alternative modes of transportation. The website is located here: https://www.dibsmyway.com/

## 4. Analysis Methodology

*Study Intersections*

The following intersections were analyzed for this study:

1. International Pkwy & I-205 WB Ramps
2. International Pkwy & I-205 EB Ramps
3. International Pkwy & Old Schulte Rd
4. International Pkwy & I-580 WB Ramps
5. International Pkwy & I-580 EB Ramps
6. Hansen Rd & Old Schulte Rd
7. Bud Lyons Wy/Project Driveway #1 & Old Schulte Rd
8. Project Driveway #2 & Old Schulte Rd
9. Project Driveway #3 & Old Schulte Rd
10. Pavillion Pkwy & Old Schulte Rd
11. Lammers Rd & Old Schulte Rd
12. Lammers Rd & Western Pacific Wy
13. Lammers Rd & Valpico Rd

These intersections were selected based on the City threshold established in the City of Tracy Transportation Master Plan and the General Plan. The intersection analysis will not be used for CEQA purposes but only for conditions of approval for implementing engineering improvements.

*Study Conditions*

The following scenarios were analyzed to determine if the Project causes study intersections to degrade to an unacceptable level of service (LOS):

- **Background Conditions** – represents the following:
  - Existing traffic counts
    - May 2019 traffic counts
    - One supplemental count at Old Schulte Road and Bud Lyons Way was collected on November 19, 2020 from 5:00 AM to 8:00 AM and 3:00 PM to 6:00 PM while the COVID-19 pandemic and associated shelter in place restrictions were in effect. The industrial facilities near the count location were operational and counts were reviewed against pre-pandemic volumes and deemed acceptable to use for this study.
  - Plus Approved but unconstructed projects' traffic volumes
    - Cordes Ranch Scheme 170A Transportation Impact Analysis dated November 1, 2017
    - Cordes Ranch 2nd Consistency Analysis (Phase 1K) Traffic Study Memorandum dated June 30, 2020
- **Background Plus Project Conditions** – represents Background Conditions plus traffic generated by the proposed Project

- **Cumulative Conditions** – represents the following:
    - Future 2035 volumes derived from the City of Tracy Travel Demand Model, excluding the Project site traffic
    - Plus Project trips from the Cordes Ranch 2nd Consistency Analysis (Phase 1K) Traffic Study Memorandum dated June 30th, 2020
- **Cumulative Plus Project Conditions** – represents Cumulative Conditions along with traffic generated by the proposed Project

## 5. Background Conditions

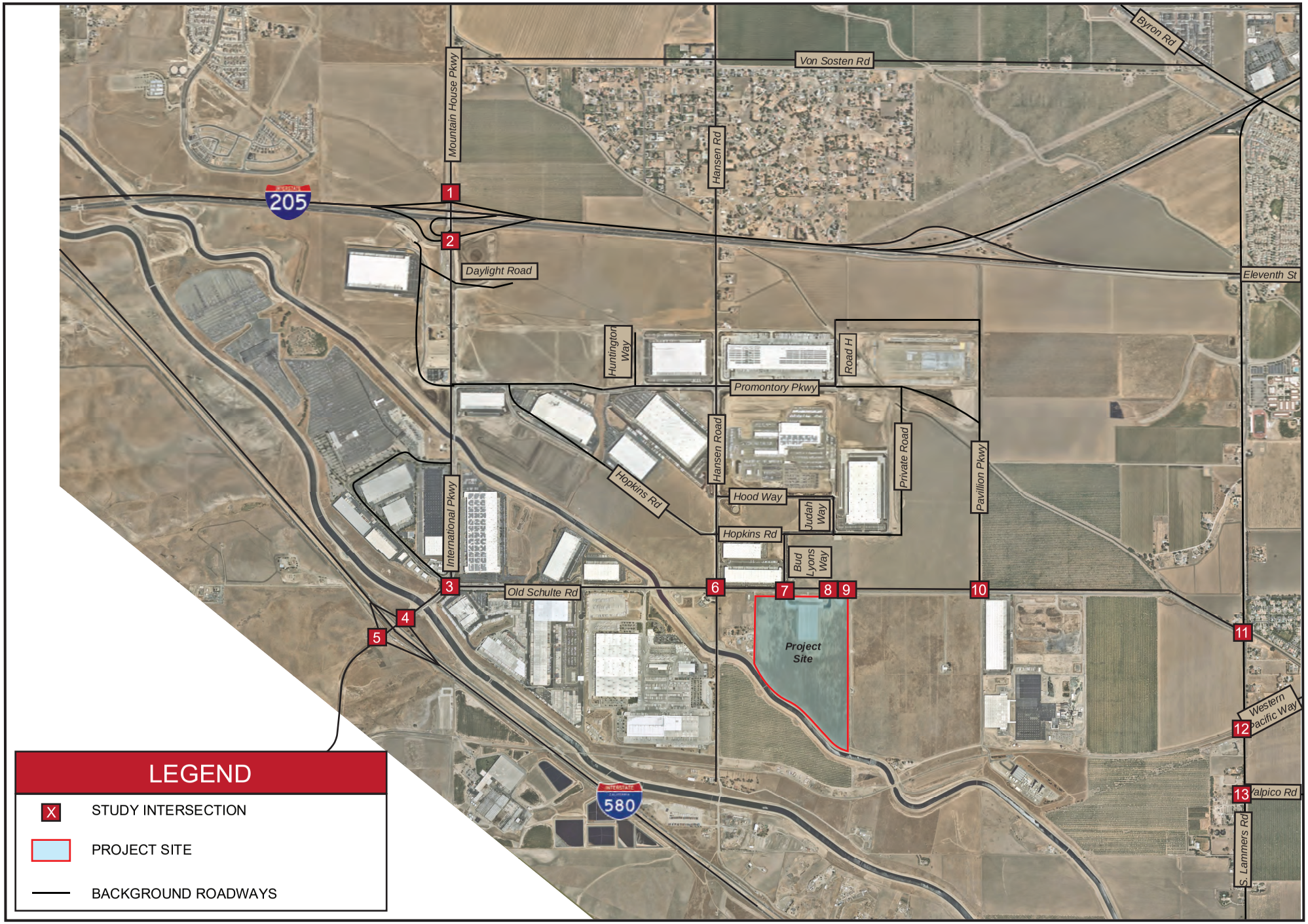
Background Conditions are based on Existing Conditions traffic volumes plus traffic generated by approved but unconstructed projects. Background Conditions also assumed an updated roadway network reflecting the Cordes Ranch Phase 1K street improvement plan.

The Background Conditions roadway network is shown in **Figure 3**. The Background Conditions lane geometry is shown in **Figure 4** and traffic volumes are shown in **Figure 5**.

Results of the Background Conditions level of service analysis are presented in **Table 5**. All intersections operated at acceptable levels of service except for the following:

- Intersection #1 - International Pkwy & I-205 WB Ramps (AM Peak Hour)
- Intersection #3 - International Pkwy & Old Schulte Rd (AM and PM Peak Hours)
- Intersection #4 - International Pkwy & I-580 WB Ramps (AM and PM Peak Hours)
- Intersection #5 - International Pkwy & I-580 EB Ramps (AM and PM Peak Hours)
- Intersection #6 - Hansen Rd & Old Schulte Rd (AM Peak Hour)
- Intersection #7 - Bud Lyons Wy/Project Driveway #1 & Old Schulte Rd (AM Peak Hour)
- Intersection #10 - Pavillion Pkwy & Old Schulte Rd (AM Peak Hour)
- Intersection #12 - Lammers Rd & Western Pacific Wy (AM Peak Hour)
- Intersection #13 - Lammers Rd & Valpico Rd (AM Peak Hour)

Analysis output sheets for Background Conditions are provided in the **Appendix**.




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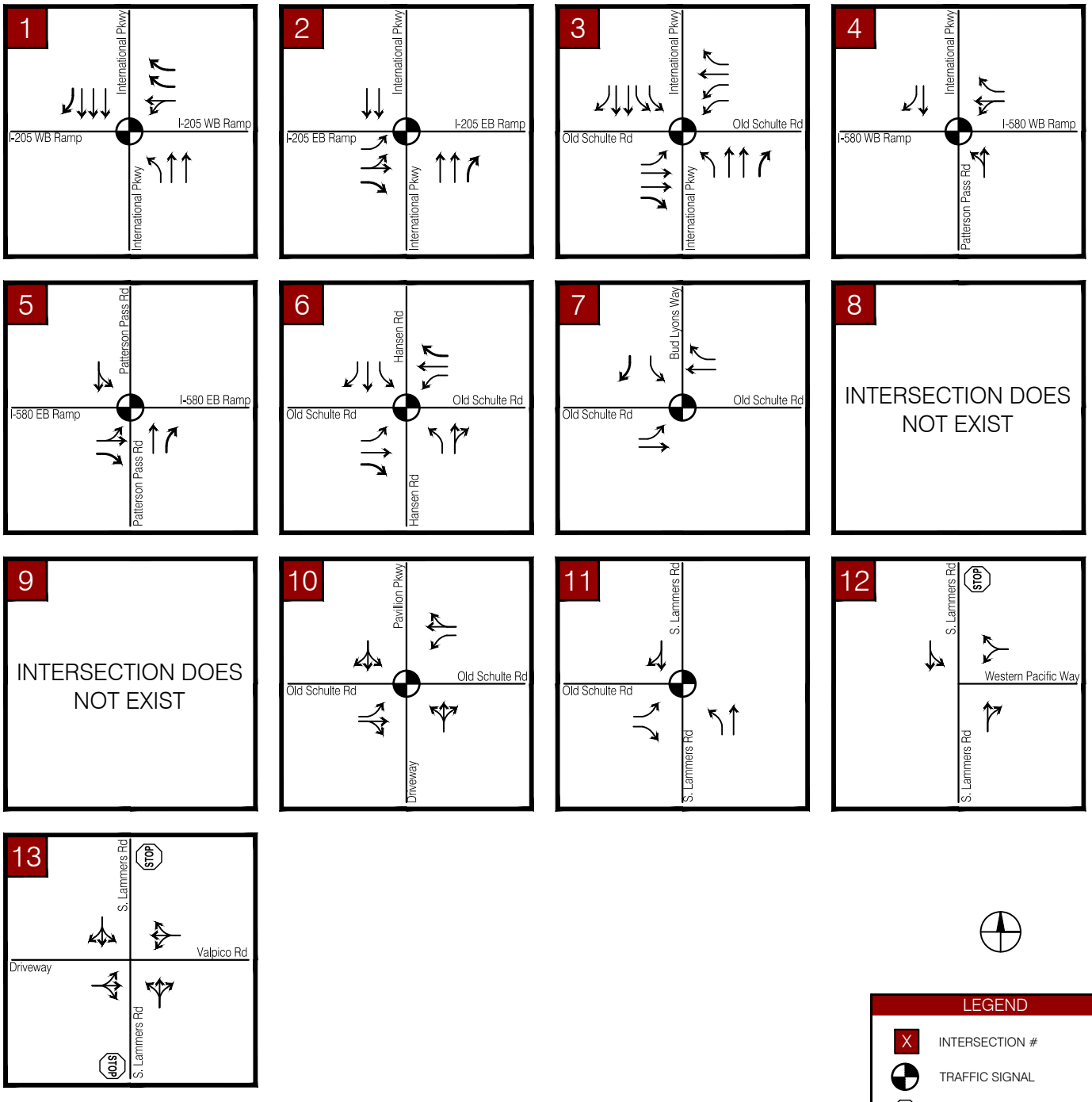
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Figure 3

Background Conditions Overview Map

Costco Depot Traffic Analysis

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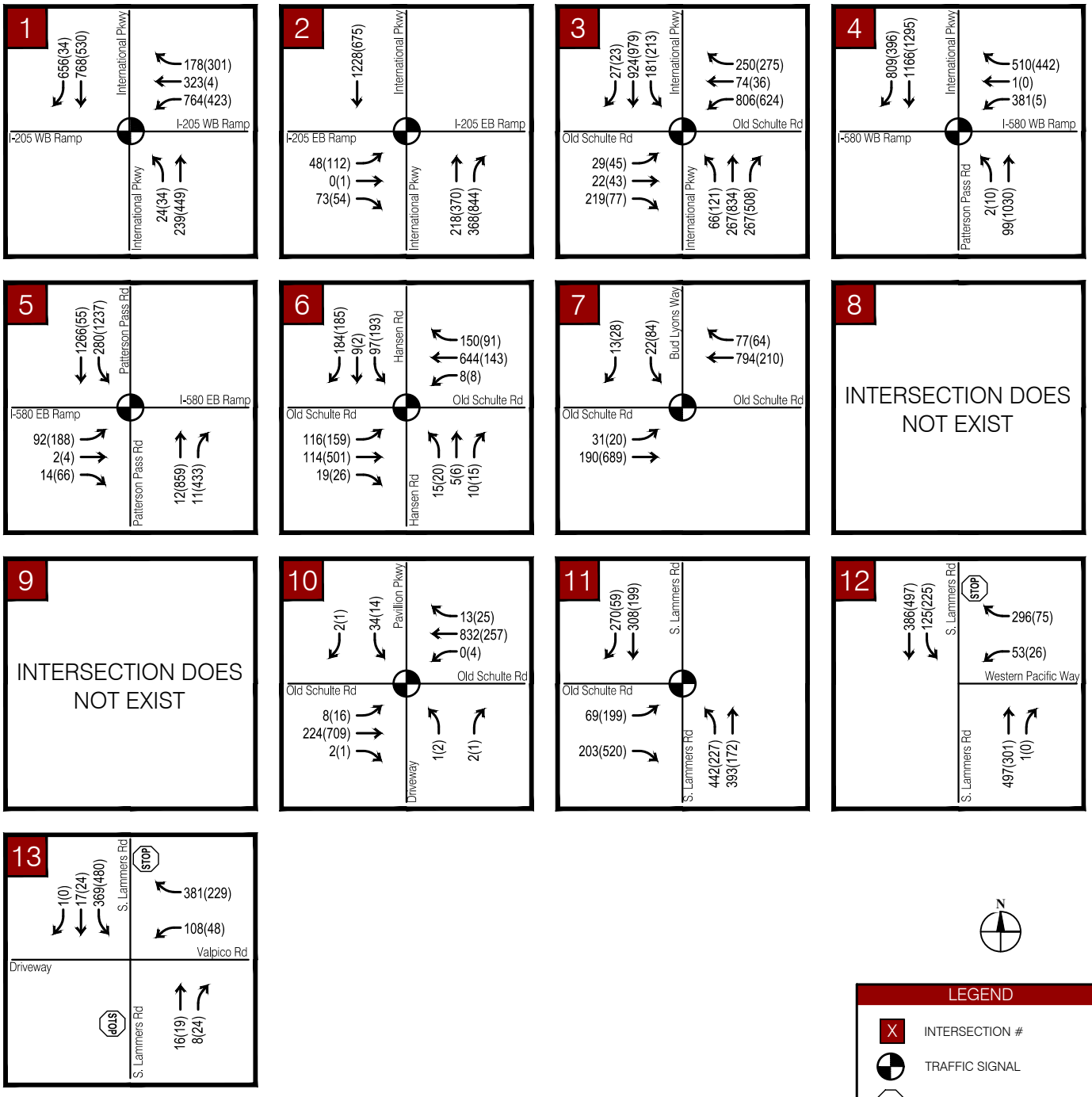
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Figure 4

Background Conditions

Lane Geometry and Traffic Control

Tracy Costco Direct Delivery Center




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Figure 5

Background Conditions

Peak Hour Volumes

Tracy Costco Direct Delivery Center

## Table 5 – Background Conditions LOS Summary Results

| # | Intersection | Agency | Control | Background Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | **-** | **229.2** | **F** | **-** | 13.4 | B |
| 2 | International Pkwy & I-205 EB Ramps | Caltrans | Signal | - | 6.1 | A | - | 12.5 | B |
| 3 | International Pkwy & Old Schulte Rd | Tracy | Signal | **-** | **146.9** | **F** | **-** | **150.9** | **F** |
| 4 | International Pkwy & I-580 WB Ramps | Caltrans | Signal | **-** | **369.7** | **F** | **-** | **427.4** | **F** |
| 5 | International Pkwy & I-580 EB Ramps | Caltrans | Signal | **-** | **160.8** | **F** | **-** | **424.1** | **F** |
| 6 | Hansen Road & Old Schulte Rd | Tracy | Signal | **-** | **58.0** | **E** | - | 37.0 | D |
| 7 | Bud Lyons Wy/Project Dwy #1 & Old Schulte Rd | Tracy | Signal | **-** | **91.4** | **F** | - | 9.4 | A |
| 8 | Project Dwy #2 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | |
| | Worst Approach | | | | | | | | |
| 9 | Project Dwy #3 & Old Schulte Rd | Tracy | - | Intersection Does Not Exit | | | | | |
| 10 | Pavillion Pkwy & Old Schulte Rd | Tracy | Signal | - | 19.9 | B | - | 11.9 | B |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | 52.9 | D | - | 32.6 | C |
| 12 | Western Pacific Wy & Old Schulte Rd | Tracy | TWSC | **-** | **-** | **-** | - | - | - |
| | Worst Approach | | | **WB** | **114.6** | **F** | WB | 24.1 | C |
| 13 | Lammers Rd & Valpico Rd | Tracy | TWSC | **-** | **-** | **-** | - | - | - |
| | Worst Approach | | | **WB** | **92.3** | **F** | WB | 26.8 | D |

Note:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

## 6. Trip Generation, Distribution, and Assignment

*Trip Generation*

Trip generation for the proposed Costco development was calculated using the E-Commerce trip generation rates provided by Kittleson's *Tracy Costco Depot Transportation Impact Analysis Report* (August 28, 2017). These rates were then split into passenger car and truck trips based on ITE guidance for high-cube and warehousing facilities. These rates were compared against the City trip rates and ITE trip rates. The e-commerce rates from Costco are higher than the City and ITE trip rates.

The proposed Project is anticipated to generate 401 AM peak hour (377 IN / 24 OUT) and 87 PM peak hour (19 IN / 68 OUT) gross trips.

**Table 6 - Trip Generation**

| Land Uses | Project Size | AM PEAK HOUR | | | | PM PEAK HOUR | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total Peak Hour | IN | / | OUT | Total Peak Hour | IN | / | OUT |
| **Trip Generation Rates** | | | | | | | | | |
| **Project Use** | | | | | | | | | |
| Costco E-commerce Warehouse[1] | - KSF | 0.23 | 94% | / | 6% | 0.05 | 21% | / | 79% |
| **Trips Generated** | | | | | | | | | |
| **Building 1** | **543.326 KSF** | **125** | **118** | **/** | **7** | **27** | **6** | **/** | **21** |
| *Passenger Cars[2]* | | *86* | *81* | */* | *5* | *21* | *5* | */* | *16* |
| *Trucks[2]* | | *39* | *37* | */* | *2* | *6* | *1* | */* | *5* |
| **Building 2** | **1,201.727 KSF** | **276** | **259** | **/** | **17** | **60** | **13** | **/** | **47** |
| *Passenger Cars[2]* | | *190* | *179* | */* | *11* | *47* | *10* | */* | *37* |
| *Trucks[2]* | | *86* | *80* | */* | *6* | *13* | *3* | */* | *10* |
| ***TOTAL*** | | ***401*** | ***377*** | ***/*** | ***24*** | ***87*** | ***19*** | ***/*** | ***68*** |
| ***Passenger Cars*** | | ***276*** | ***260*** | ***/*** | ***16*** | ***68*** | ***15*** | ***/*** | ***53*** |
| ***Trucks*** | | ***125*** | ***117*** | ***/*** | ***8*** | ***19*** | ***4*** | ***/*** | ***15*** |

***NOTES***

1. Trip generation provided by Kittleson's *Tracy Costco Depot Transportation Impact Analysis Report* (August 28, 2017).

2. ITE's *High-Cube Warehouse Vehicle Trip Generation Analysis*, 2016. The percentage of passenger car vehicles for Short-Term Storage, Transload, & Cold Storage is the following:
Daily: 67.8%
AM: 69.2%
PM: 78.3%

*Trip Distribution and Assignment*

**Project Background Conditions**

Trips were distributed along the roadway network based on the Cordes Ranch EIR. The following provides the passenger car distribution for Project Background Conditions:

- 23% to/from the east along I-580
- 3% to/from the west along I-580
- 2% to/from the west along I-205

- 15% to/from the north along Mountain House Parkway
- 26% to/from the east along I-205
- 6% to/from the north along Lammers Road
- 23% to/from the east along Valpico Road
- 2% to/from the south along Lammers Road

The following provides the assumed truck distribution that was provided by Kittelson:

- 37% to/from the east along I-580
- 19% to/from the west along I-580
- 11% to/from the west along I-205
- 33% to/from the east along I-205

Refer to **Figure 6** and **Figure 7** for the Project Background Conditions passenger car trip distribution and assignment, respectively. Refer to **Figure 8** and **Figure 9** for the Project Background Conditions truck trip distribution and assignment, respectively.

**Project Cumulative Conditions**

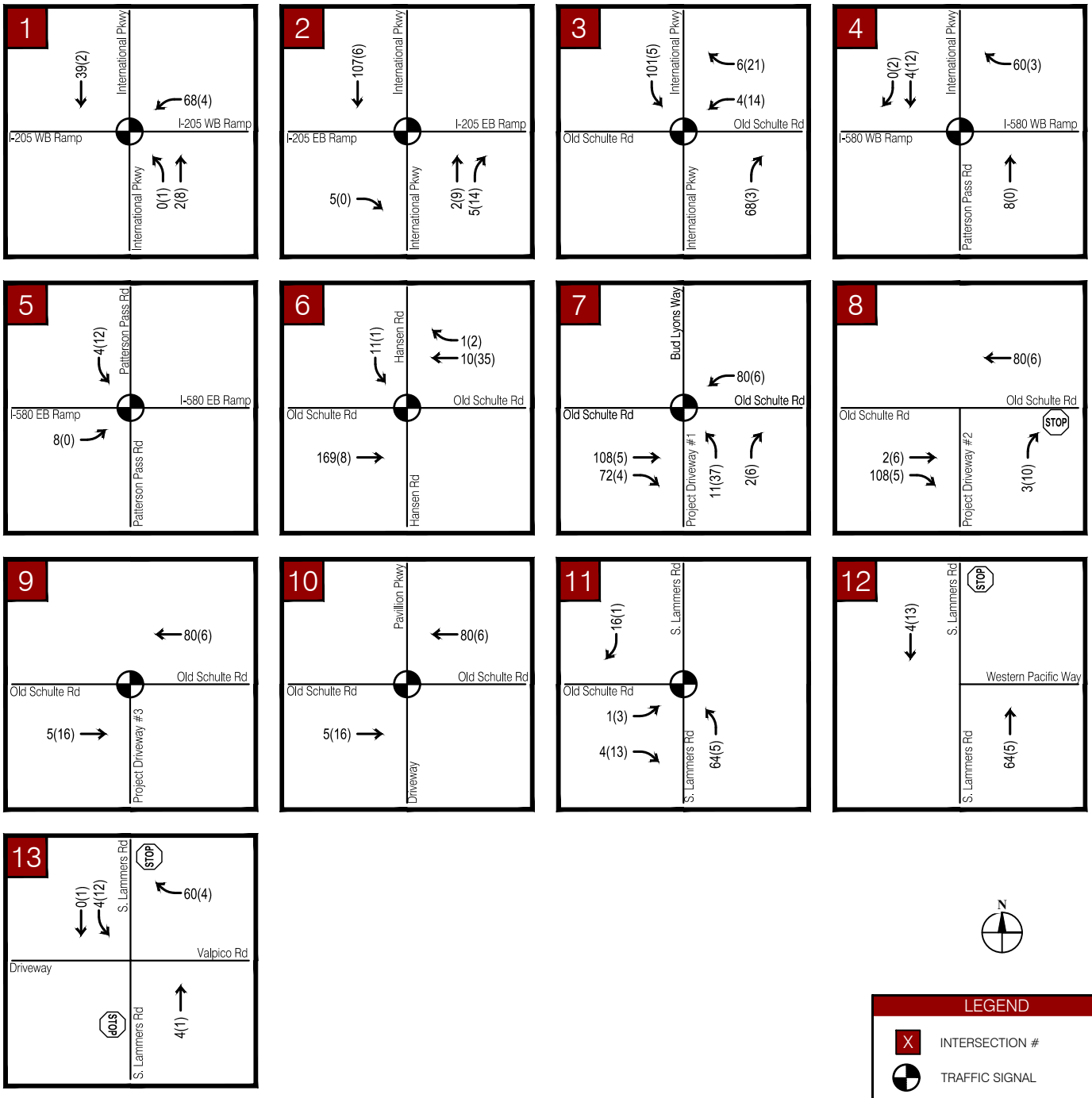
The following provides the passenger car distribution derived from the City's 2035 travel demand model for Project Cumulative Conditions:

- 12% to/from the east along I-580
- 3% to/from the west along I-580
- 2% to/from the west along I-205
- 15% to/from the north along Mountain House Parkway
- 26% to/from the east along I-205
- 10% to/from the north along Lammers Road
- 10% to/from the east along Promontory Parkway
- 9% to/from the east along Valpico Road
- 6% to/from the south along Lammers Road
- 7% to/from the east along Hansen Road

The assumed truck distribution remained the same between Project Background and Project Cumulative Conditions. Refer to **Figure 10** and **Figure 11** for the Project Cumulative Conditions passenger car trip distribution and assignment, respectively. Refer to **Figure 12** and **Figure 13** for the Project Cumulative Conditions truck trip distribution and assignment, respectively. Trips for the Project Cumulative Conditions are based on the trip generation provided in **Table 6**.




Figure 6
Passenger Car Project Trip Distribution
Background Plus Project Conditions




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Figure 7

Passenger Car Background Project Assignment

Background Plus Project Conditions

Tracy Costco Direct Delivery Center



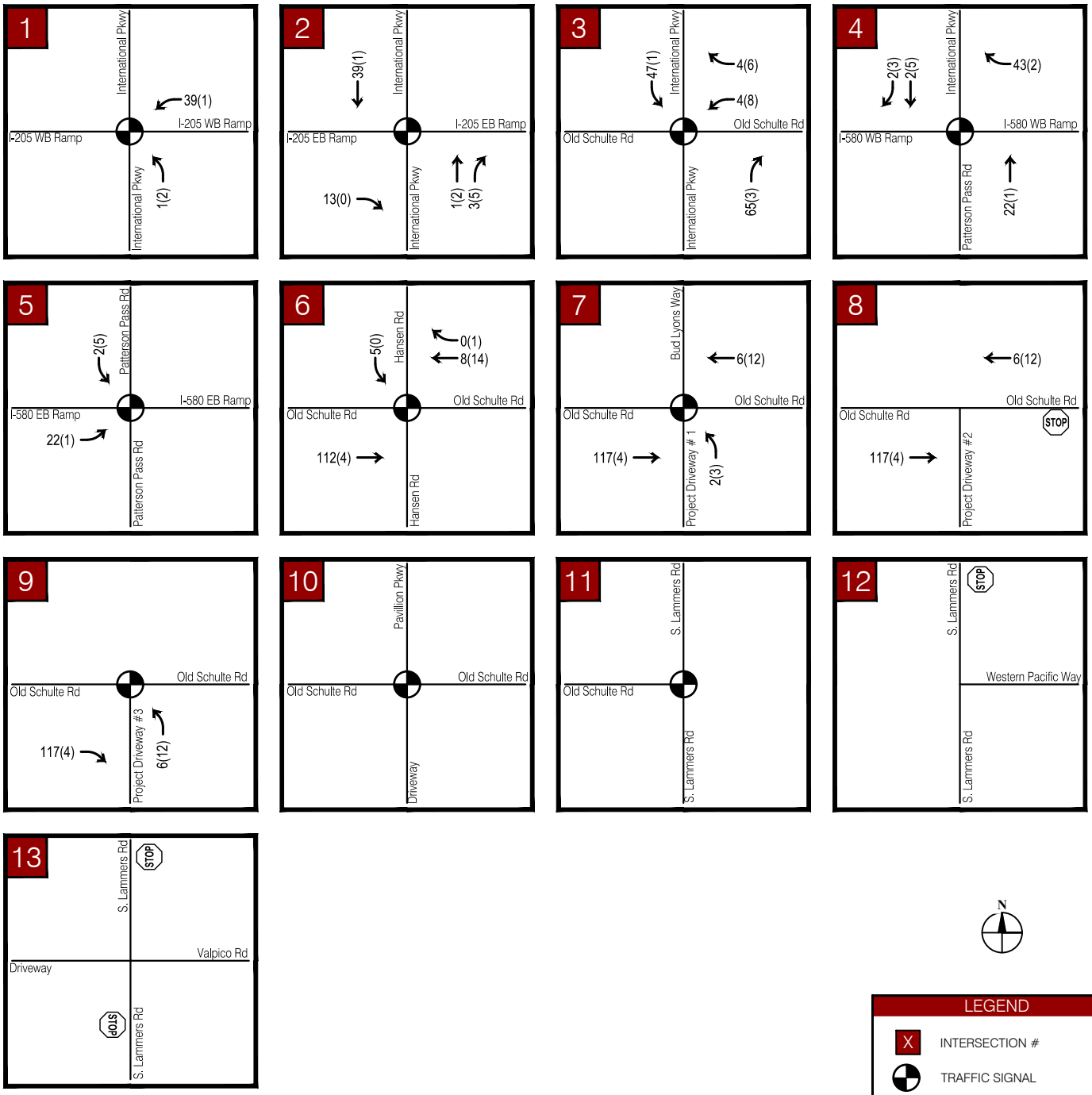

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Figure 8
Truck Project Trip Distribution
Background Plus Project Conditions

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Costco Depot Traffic Analysis




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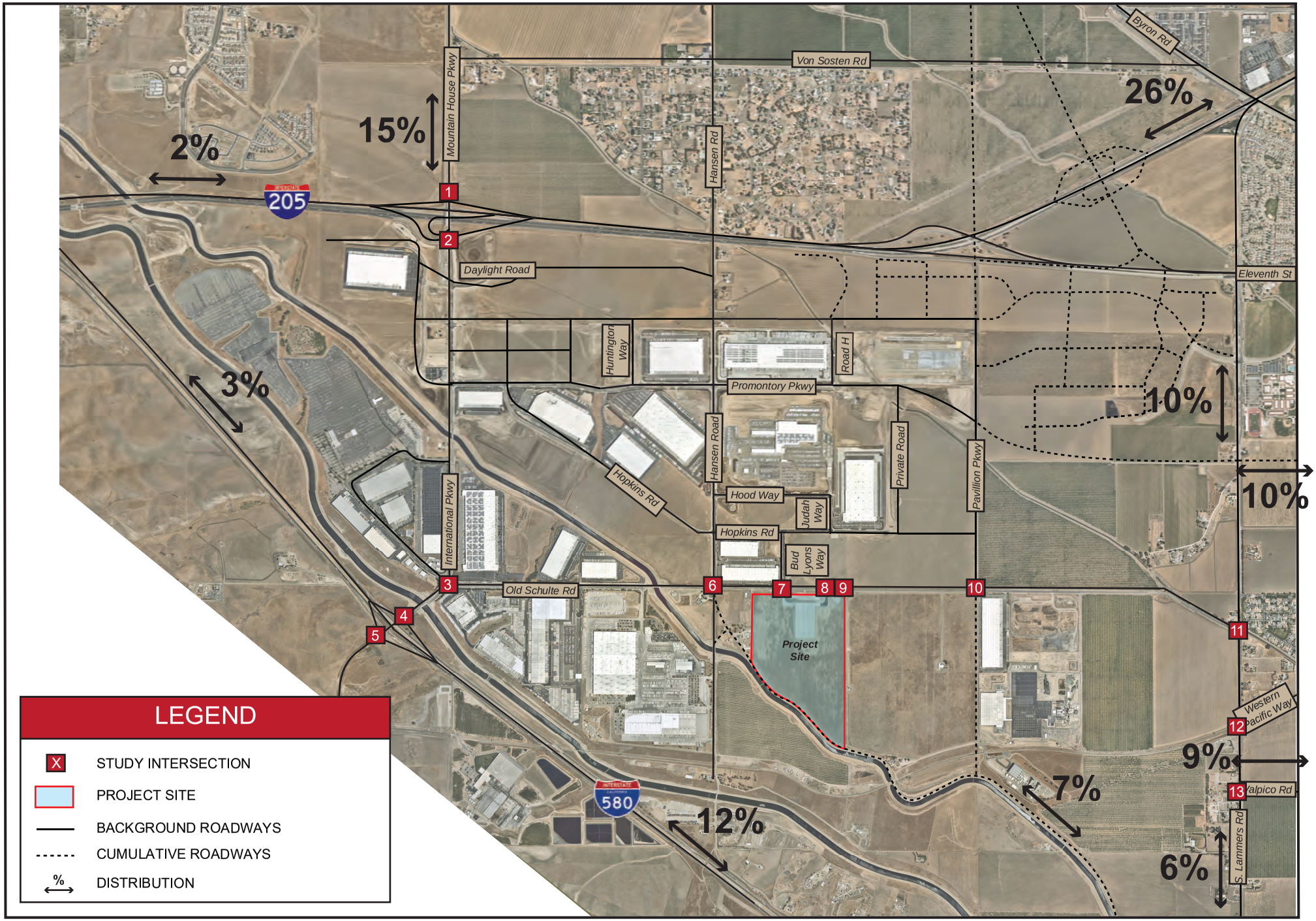
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Figure 9

Truck Background Project Assignment

Background Plus Project Conditions

Tracy Costco Direct Delivery Center



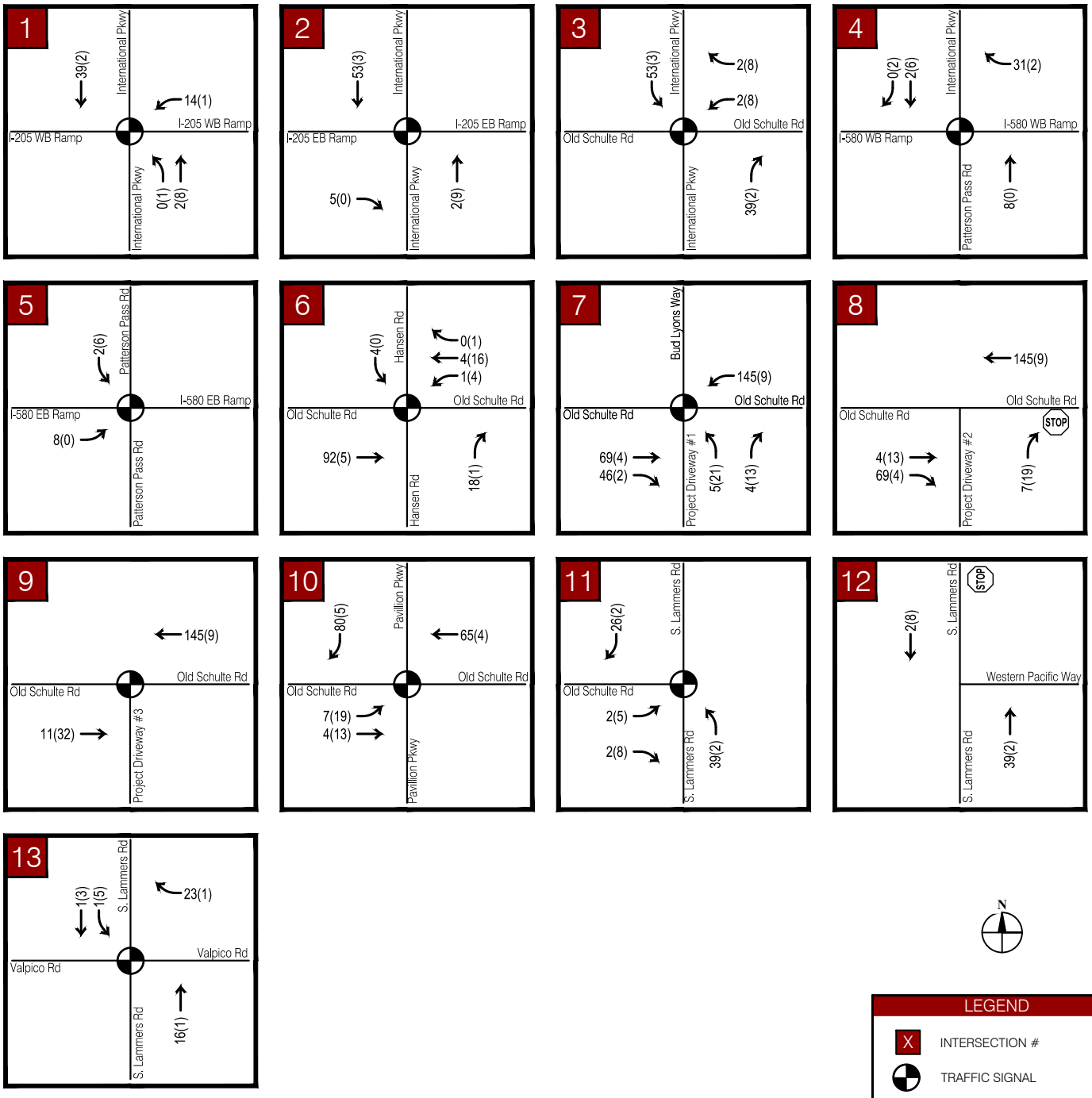

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Figure 10
Passenger Car Project Trip Distribution
Cumulative Plus Project Conditions

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Costco Depot Traffic Analysis




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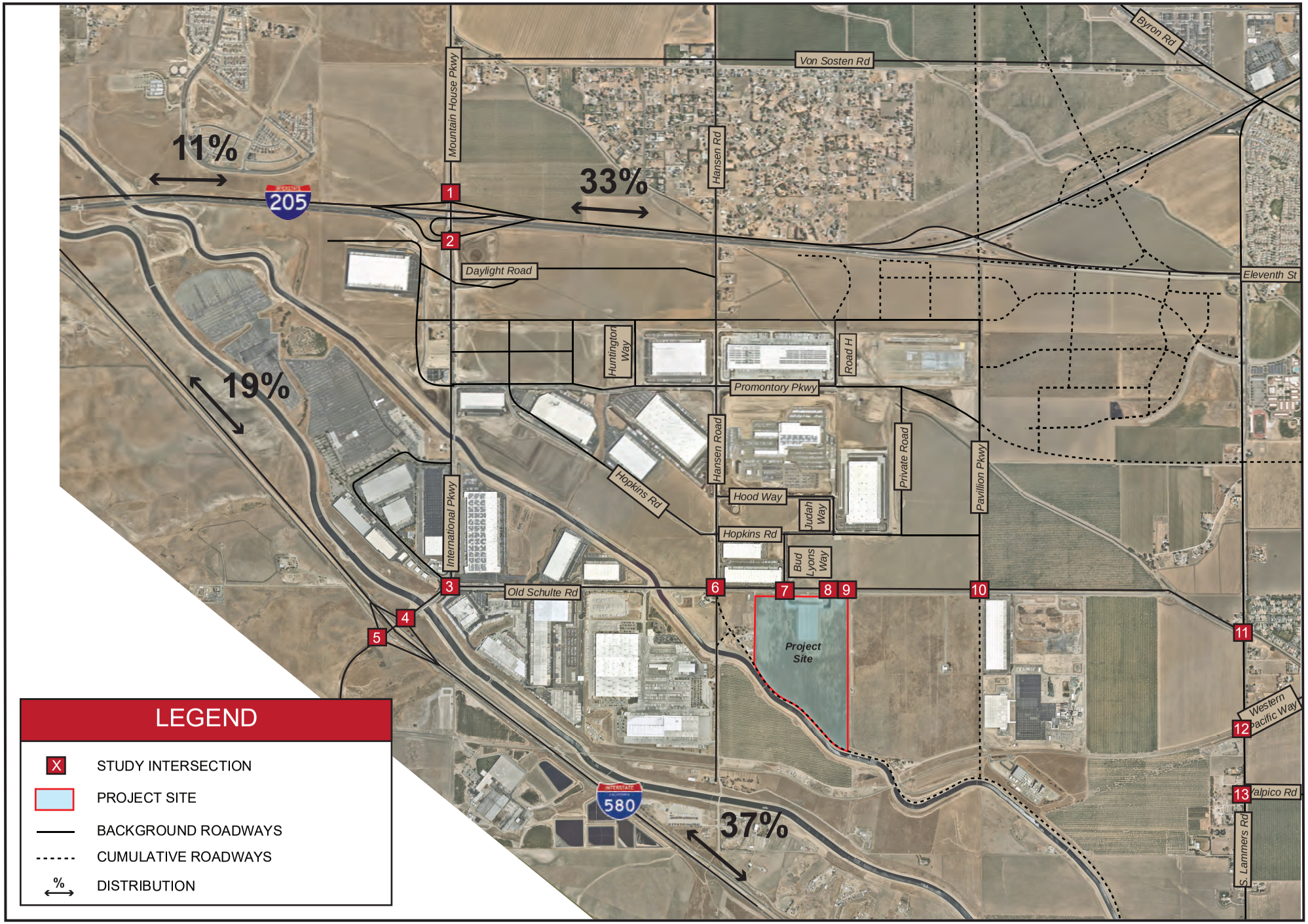
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Figure 11

Passenger Car Cumulative Project Assignment

Cumulative Plus Project Conditions

Tracy Costco Direct Delivery Center




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Figure 12
Truck Project Trip Distribution
Cumulative Plus Project Conditions

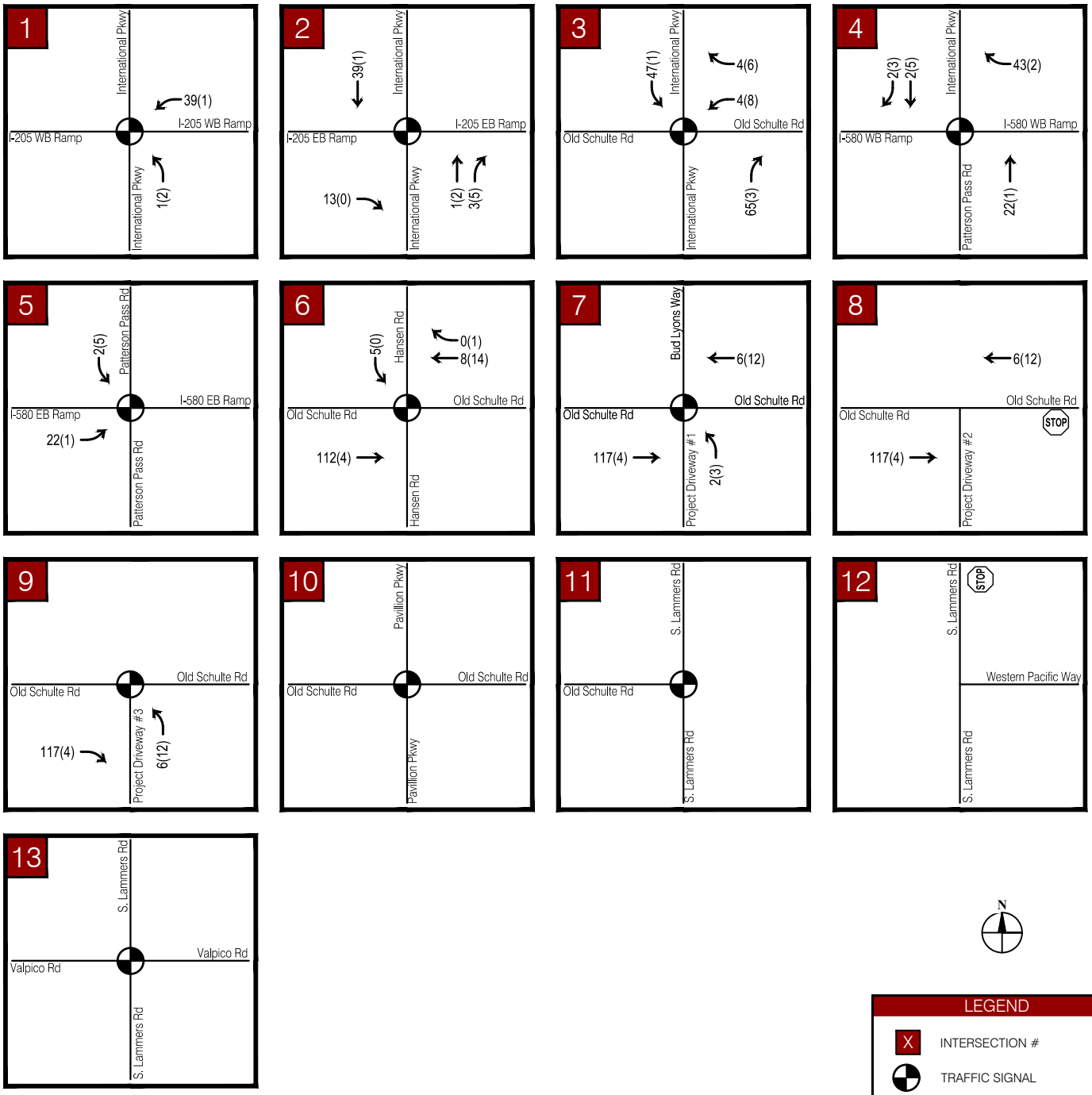



Figure 13

Truck Cumulative Project Assignment

Cumulative Plus Project Conditions

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December 2021

Tracy Costco Direct Delivery Center

## 7. Background Plus Project Conditions

Background Plus Project Conditions are based on Background Conditions traffic volumes plus traffic generated by the proposed Project. The roadway network is based on Background Conditions plus improvements anticipated to be constructed by the Project:

- Widen Old Schulte Road to four through lanes along the Project's frontage
- Add south leg and eastbound right turn lane and westbound left turn lane at Project Driveway #1
- Add new signalized intersection, eastbound right turn lane and westbound left turn lane at Project Driveway #3

The Background Plus Project Conditions roadway network is shown in **Figure 14** and the volumes are shown in **Figure 15**.

Results of the Background Plus Project Conditions levels of service analysis are presented in **Table 7**. Travel patterns on Old Schulte Road are peak period based (i.e. westbound in the morning and eastbound in the evening). The Project primarily adds traffic in the opposing, non-peak, direction during the peak periods. The following intersections operated at unacceptable levels of service and recommended improvements have been provided:

- Intersection #1 - International Pkwy & I-205 WB Ramps (AM Peak Hour)
    - Restripe westbound off-ramp to provide two left-turn lanes and one shared through/right lane and optimize signal timings per Cordes Ranch Specific Plan Final EIR TRANS-1 mitigation measure.
- Intersection #3 - International Pkwy & Old Schulte Rd (AM and PM Peak Hours)
    - Per the *Final Traffic Operations Analysis Report (FTOAR) For the Interstate 580/International Parkway/Patterson Pass Road Interchange in Tracy, CA*, a diverging diamond interchange should be constructed at Intersections #4 & #5. The FTOAR recommended an additional northbound right turn at Intersection #3 and to restripe the existing eastbound outside shared through/right lane to be a dedicated eastbound right turn.
- Intersection #4 - International Pkwy & I-580 WB Ramps (AM and PM Peak Hours)
    - A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term.
- Intersection #5 - International Pkwy & I-580 EB Ramps (AM and PM Peak Hours)
    - A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term.
- Intersection #6 - Hansen Rd & Old Schulte Rd (AM Peak Hour)
    - Add one additional westbound and eastbound through lane at the intersection to establish a four-lane facility to the Safeway driveway along Old Schulte Road. Based on SimTraffic microsimulation analysis, the 95$^{th}$-percentile queue from the westbound lane merge between Intersection #6 and the Delta-Mendota Canal bridge backs up into the intersection. Therefore, the Project shall widen the bridge to continue the four lanes to the Safeway driveway.

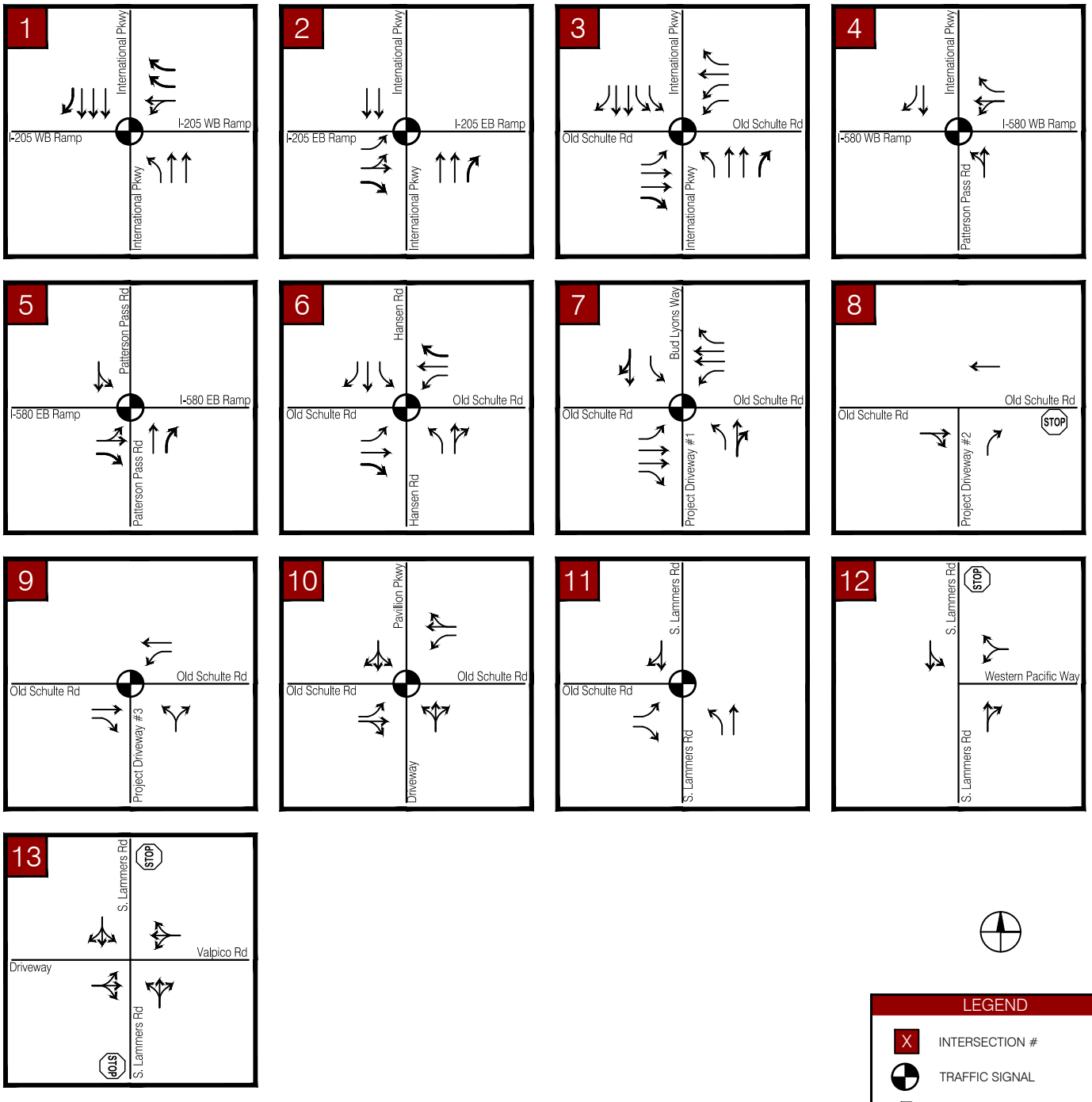
- Intersection #11 – Lammers Rd & Old Schulte Rd (AM Peak Hour)
    - Provide an overlap phase for the eastbound right turn.
- Intersection #12 - Lammers Rd & Western Pacific Wy (AM Peak Hour)
    - Signalize and construct a northbound right-turn and southbound left-turn lanes plus the median of the future widening.
- Intersection #13 - Lammers Rd & Valpico Rd (AM Peak Hour)
    - Signalize intersection and construct a southbound left-turn lane. It is anticipated that widening to a four-lane roadway will occur from Old Schulte Road to Valpico Road with subsequent intersection improvements.
- The above various intersection widening improvements along Old Schulte Road result in a continuous four lane facility between the easterly Project driveway and the Safeway driveway on the west side of the Delta-Mendota Canal. Subsequently, the bridge across the canal shall also be widened. If the bridge is not widened, the 95% queue will extend into the Old Schulte Rd/Hansen Rd intersection in the westbound direction during the AM peak period.
- The project shall, at a minimum, provide emergency access to the future Hansen Road. It is anticipated that the properties west of the Project site may develop in the near future and that Hansen Road will be extended to Old Schulte Road.

All recommended improvements match those from the Cordes Ranch 2nd Consistency Analysis (June, 2020) except at Intersection #11. No improvements were required at Intersection #11 in the Cordes Ranch 2nd Consistency Analysis during Background Conditions; therefore, the improvements provided for Intersection #11 would be an interim solution until the cumulative intersection geometry is constructed.

It should be noted that for some intersections, the reported delay improved with the addition of the project trips. The reason for this occurrence is because the trips were predominately added to the through lane movements, which had a lower movement delay than the average intersection delay, and thereby decreases the overall average delay.

Analysis output sheets for Background Plus Project and Background Plus Project (Improvements) are provided in the **Appendix**.

**Table 9** provides Costco project obligations for the Background Plus Project Conditions.




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Figure 14

Background Plus Project

Lane Geometry and Traffic Control

Tracy Costco Direct Delivery Center

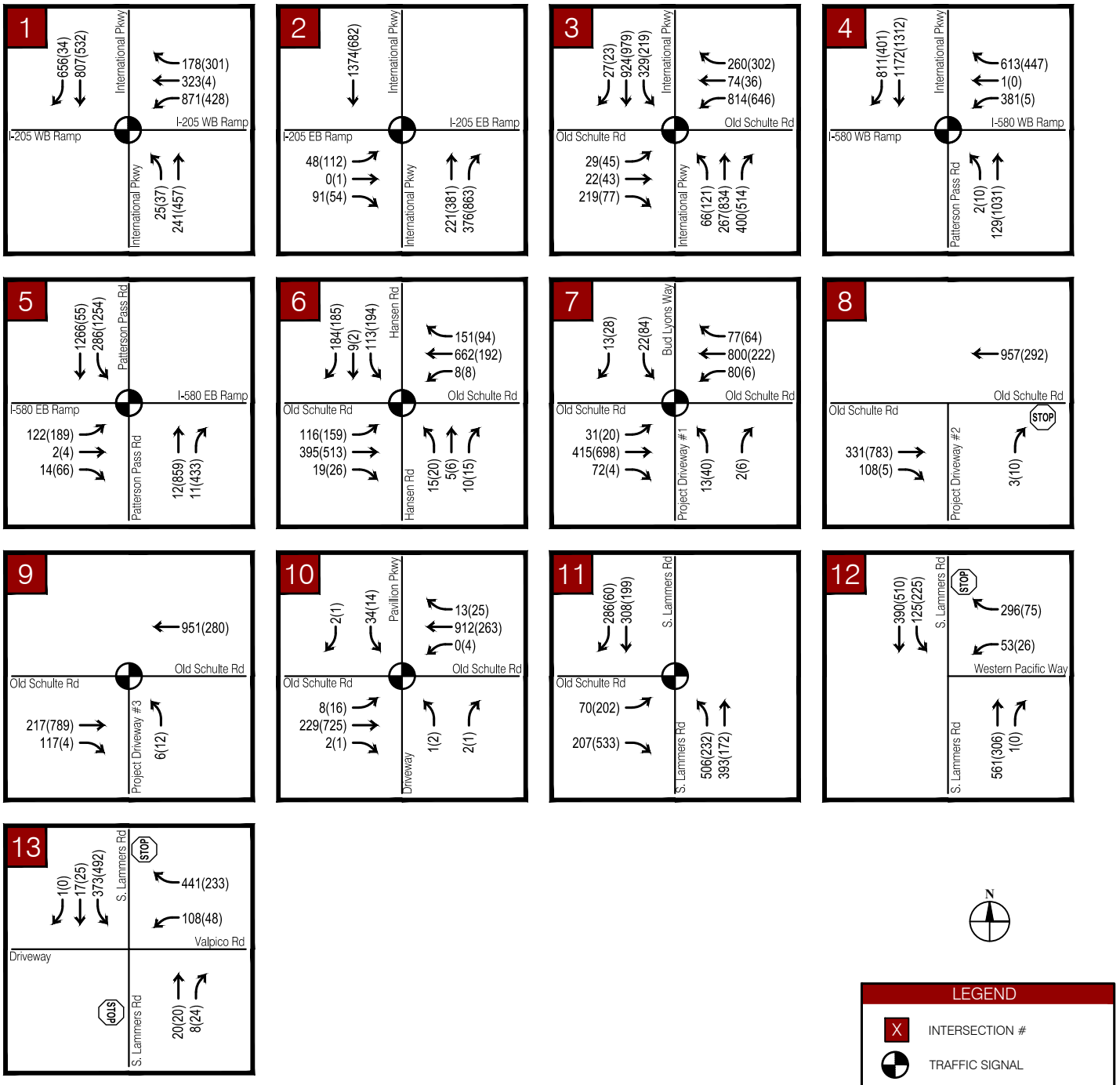



Figure 15

Background Plus Project

Peak Hour Volumes

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Tracy Costco Direct Delivery Center

## Table 7 – Background Plus Project Conditions LOS Summary

| # | Intersection | Agency | Control | Background Conditions | | | | | | Background Plus Project Conditions | | | | | | Project Impact? (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | | AM Peak | | | PM Peak | | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS | MVMT | Delay | LOS | MVMT | Delay | LOS | |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | - | **229.2** | **F** | - | 13.4 | B | - | **268.9** | **F** | - | 13.7 | B | **Y** |
| 2 | International Pkwy & I-205 EB Ramps | Caltrans | Signal | - | 6.1 | A | - | 12.5 | B | - | 6.8 | A | - | 13.5 | B | - |
| 3 | International Pkwy & Old Schulte Rd | Tracy | Signal | - | **146.9** | **F** | - | **150.9** | **F** | - | **171.5** | **F** | - | **166.6** | **F** | **Y** |
| 4 | International Pkwy & I-580 WB Ramps | Caltrans | Signal | - | **369.7** | **F** | - | **427.4** | **F** | - | **369.6** | **F** | - | **437.1** | **F** | **Y** |
| 5 | International Pkwy & I-580 EB Ramps | Caltrans | Signal | - | **160.8** | **F** | - | **424.1** | **F** | - | **162.6** | **F** | - | **433.4** | **F** | **Y** |
| 6 | Hansen Road & Old Schulte Rd | Tracy | Signal | - | **58.0** | **E** | - | 37.0 | D | - | **56.5** | **E** | - | 37.7 | D | N |
| 7 | Bud Lyons Wy/Project Dwy #1 & Old Schulte Rd | Tracy | Signal | - | **91.4** | **F** | - | 9.4 | A | - | 27.2 | C | - | 25.2 | C | N |
| 8 | Project Dwy #2 & Old Schulte Rd | Tracy | TWSC | Intersection Does Not Exist | | | | | | - | - | - | - | - | - | N |
| | Worst Approach | | | | | | | | | NB | 9.7 | A | NB | 11.3 | B | |
| 9 | Project Dwy #3 & Old Schulte Rd | Tracy | Signal | Intersection Does Not Exit | | | | | | - | 6.4 | A | - | 3.5 | A | N |
| 10 | Pavillion Pkwy & Old Schulte Rd | Tracy | Signal | - | 19.9 | B | - | 11.9 | B | - | 15.9 | B | - | 12.2 | B | |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | 52.9 | D | - | 32.6 | C | - | **66.9** | **E** | - | 34.7 | C | **Y** |
| 12 | Western Pacific Wy & Old Schulte Rd | Tracy | TWSC | - | - | - | - | - | - | - | - | - | - | - | - | **Y** |
| | Worst Approach | | | **WB** | **114.6** | **F** | WB | 24.1 | C | **WB** | **162.5** | **F** | WB | 25.2 | D | |
| 13 | Lammers Rd & Valpico Rd | Tracy | TWSC | - | - | - | - | - | - | - | - | - | - | - | - | **Y** |
| | Worst Approach | | | **WB** | **92.3** | **F** | WB | 26.8 | D | **WB** | **122.4** | **F** | WB | 29.0 | D | |

Note:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

6 An impact is determined if the intersection delay increases by more than 5 seconds

## Table 8 – Background Plus Project (Improvements) Conditions LOS Summary

| # | Intersection | Agency | Control | Background Plus Project Conditions | | | | | | Improvement Control | Background Plus Project (Improvements) Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | | | AM Peak | | | PM Peak | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS | | MVMT | Delay | LOS | MVMT | Delay | LOS |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | - | **268.9** | **F** | - | 13.7 | B | Signal | - | 9.8 | A | - | 7.2 | A |
| 3 | International Pkwy & Old Schulte Rd | Tracy | Signal | - | **171.5** | **F** | - | **166.6** | **F** | - | **Refer to FTOAR for improvements** | | | | | |
| 4 | International Pkwy & I-580 WB Ramps | Caltrans | Signal | - | **369.6** | **F** | - | **437.1** | **F** | | | | | | | |
| 5 | International Pkwy & I-580 EB Ramps | Caltrans | Signal | - | **162.6** | **F** | - | **433.4** | **F** | | | | | | | |
| 6 | Hansen Road & Old Schulte Rd | Tracy | Signal | - | **56.5** | **E** | - | 37.7 | D | Signal | - | 25.7 | C | - | 27.7 | C |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | **66.9** | **E** | - | 34.7 | C | Signal | - | 48.2 | D | - | 21.5 | C |
| 12 | Western Pacific Way & W. Schulte Rd | Tracy | TWSC | - | - | - | - | - | - | Signal | - | 24.2 | C | - | 8.6 | A |
| | Worst Approach | | | **WB** | **162.5** | **F** | WB | 25.2 | D | | | | | | | |
| 13 | Lammers Rd & Valpico Rd | Tracy | TWSC | - | - | - | - | - | - | Signal | - | 32.6 | C | - | 16.8 | B |
| | Worst Approach | | | **WB** | **122.4** | **F** | WB | 29.0 | D | | | | | | | |

Notes:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

6 An impact is determined if the intersection delay increases by more than 5 seconds

## Table 9 – Costco Obligations (Background Plus Project Conditions)

| Costco Intersection # | Intersection /Location | Peak Hour | Background Plus Project Conditions | | |
|---|---|---|---|---|---|
| | | | Improvement | Recommended Costco Improvement? | Costco Project Obligation |
| 1 | International Pkwy & I-205 WB Ramps | AM | Restripe westbound off-ramp to provide two left-turn lanes and one shared through/right lane and optimize signal timings per Cordes Ranch Specific Plan Final EIR TRANS-1 mitigation measure. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco shall pay a fair share contribution towards improvements. |
| 3 | International Pkwy & Old Schulte Rd | AM & PM | Per the *Final Traffic Operations Analysis Report (FTOAR) For the Interstate 580/International Parkway/Patterson Pass Road Interchange in Tracy, CA*, a diverging diamond interchange should be constructed at Intersections #4 & #5. The FTOAR recommended an additional northbound right turn at Intersection #3 and to restripe the existing eastbound outside shared through/right lane to be a dedicated eastbound right turn. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco shall pay a fair share contribution towards improvements. |
| 4 | International Pkwy & I-580 WB | AM & PM | A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term. | Impact Fees | Pay TIF |
| 5 | International Pkwy & I-580 EB | AM & PM | A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term. | Impact Fees | Pay TIF |
| 6[1] | Hansen Road & Old Schulte Rd | AM | Add one additional westbound and eastbound through lane at the intersection to establish a four-lane facility to the Safeway driveway along Old Schulte Road. | Y | Costco to implement |
| 11 | Lammers Rd & Old Schulte Rd | AM | Provide an overlap phase for the eastbound right turn. | Y | Costco to implement |
| 12[1] | Lammers Rd & Western Pacific Way | AM | Signalize and construct a northbound right-turn and southbound left-turn lanes plus the median of the future widening. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco may pay a fair share contribution towards improvements. |
| 13 | Lammers Rd & Valpico Rd | AM | Signalize intersection and construct a southbound left-turn lane. It is anticipated that widening to a four-lane roadway will occur from Old Schulte Road to Valpico Road with subsequent intersection improvements. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco may pay a fair share contribution towards improvements. |
| - | Delta Mendota Bridge | - | Based on SimTraffic microsimulation analysis, the 95th-percentile queue from the westbound lane merge between Intersection #6 and the Delta-Mendota Canal bridge backs up into the intersection. Therefore, the Project shall widen the Delta-Mendota Canal bridge to continue the four lanes to the Safeway driveway. Old Schulte Road shall be a four-lane divided arterial from Hansen Road to the Safeway Driveway once this improvement is implemented. TIF credits will be due to Costco. | Y | Costco to implement |

Notes:
1. Costco will construct improvement if not already implemented by another development. This improvement is anticipated to be included in the City of Tracy Transportation Master Plan (TMP) Fee Program Update. If included, Costco could receive reimbursement for improvements within the fee program.
2. Kimley-Horn traffic study identified TIF, this is not reflected in the conditions.

## 8. Cumulative Conditions

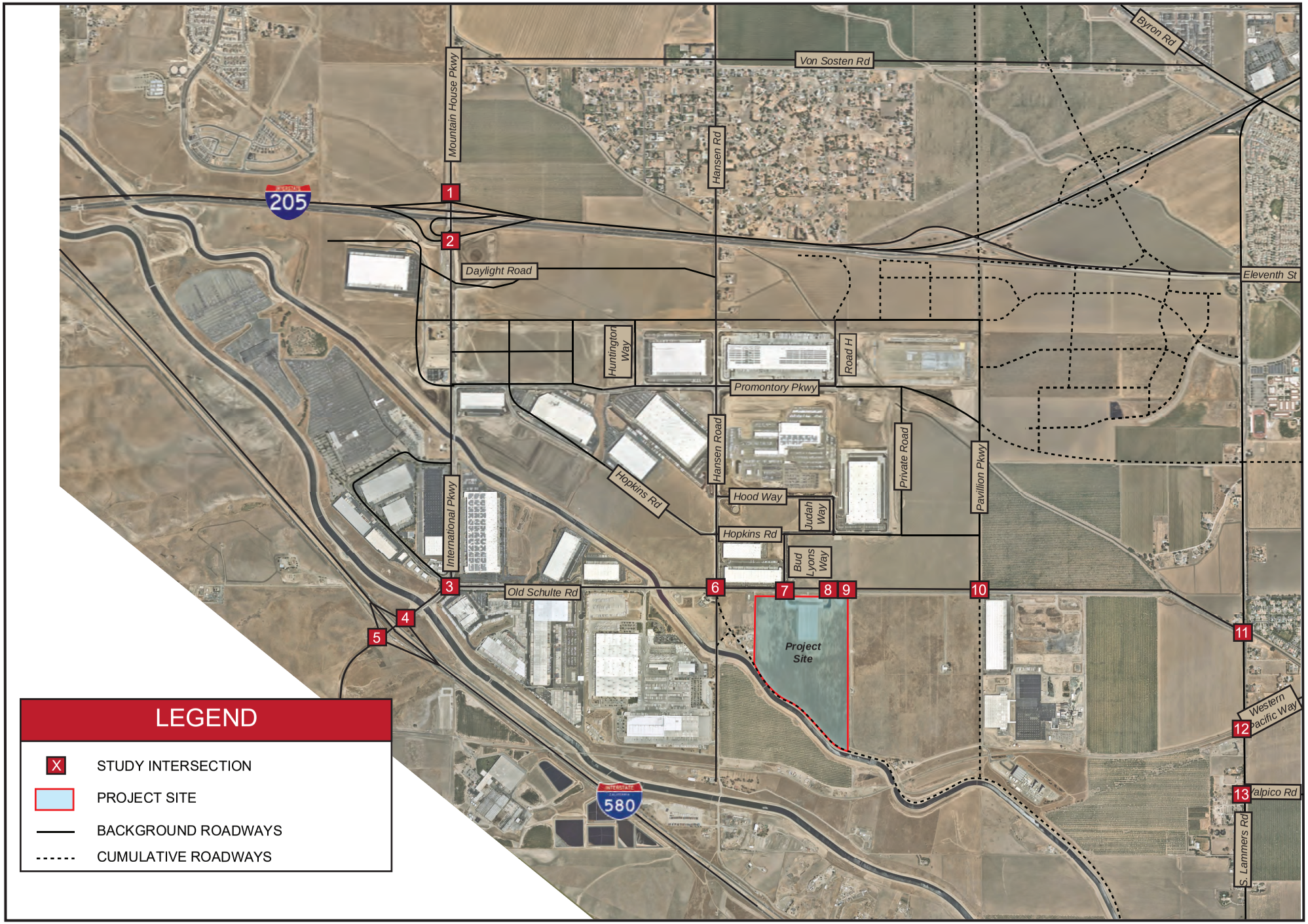
Cumulative Conditions represent 2035 conditions, aligning with the City of Tracy Transportation Master Plan's Horizon Year. The Cumulative Conditions roadway network is shown in **Figure 16**. Cumulative traffic volumes were developed based on recently updated model plots from City of Tracy travel demand forecast model, reflecting the latest development assumptions for the Cordes Ranch and Westside Specific Plan areas, but with the Project volumes removed from the network. Cumulative 2035 link volumes were converted to turning movement volumes using a traffic modeling standard process commonly referred to as the Furness method. The Furness method uses an iterative process to derive future turning movement volumes based on future year roadway link volumes an initial estimate of turning percentage, obtained from existing intersection turning movement counts if available. Intersection lane geometry was based on the Transportation Master Plan and the latest I-205/International Pkwy and I-580/International Pkwy interchange conceptual plans. The Cumulative Conditions lane geometry is shown in **Figure 17** and the volumes are shown in **Figure 18**.

Results of the Cumulative Conditions level of service analysis are presented in **Table 10.** The following intersections operated at unacceptable levels of service:

- Intersection #6 – Hansen Rd & Old Schulte Rd (PM Peak Hour)
- Intersection #10 – Pavilion Pkwy & Old Schulte Rd (PM Peak Hour)
- Intersection #13 - Lammers Rd & Valpico Rd (PM Peak Hour)

Analysis output sheets for Cumulative Conditions are provided in the **Appendix**.

It should be noted that Intersections #3, #4 and #5 were not analyzed for Cumulative Conditions due to extensive analysis conducted and summarized in the FTOAR.




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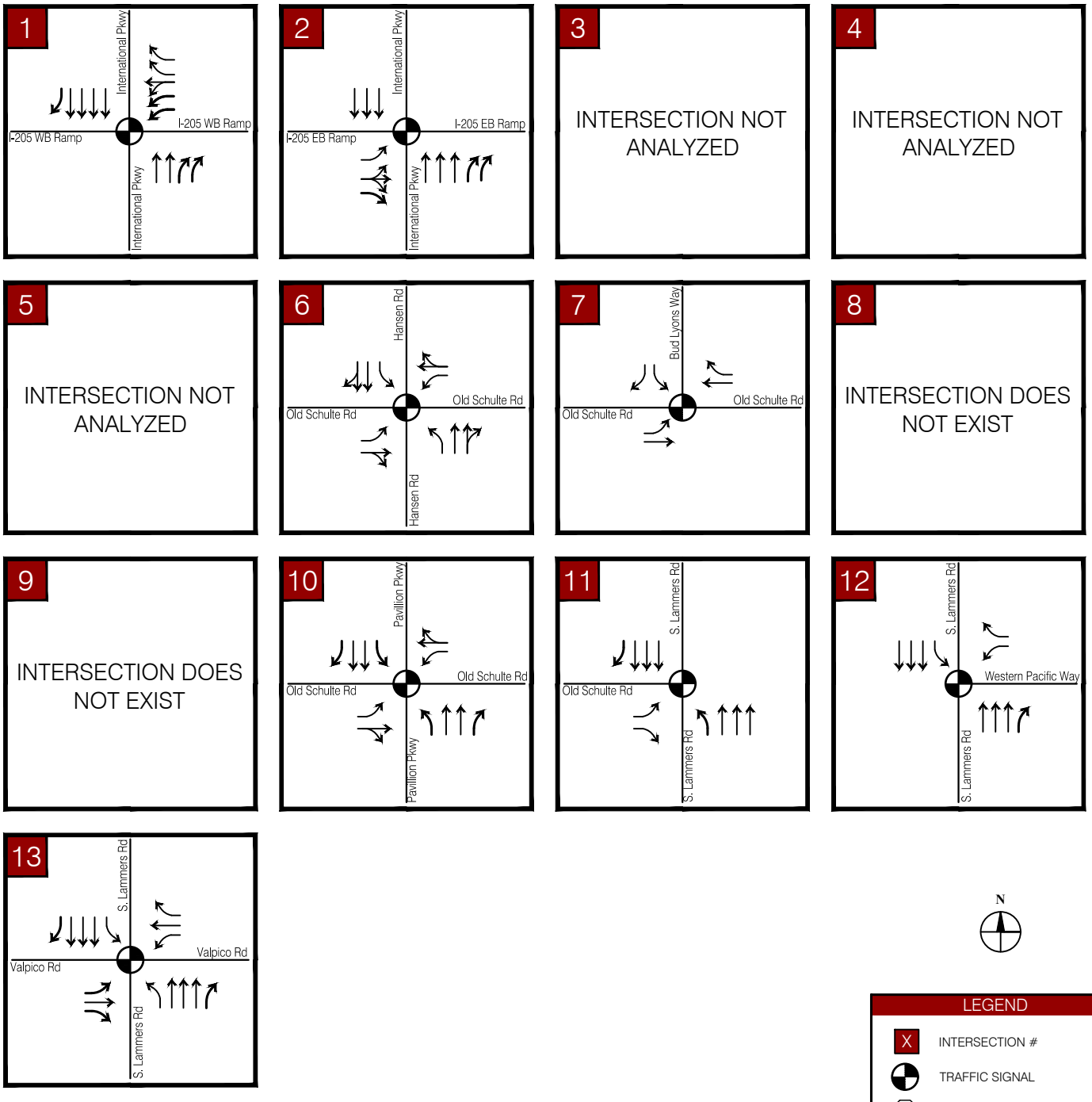
NOT TO SCALE

Figure 16

Cumulative Conditions Overview Map

December 2021

Costco Depot Traffic Analysis




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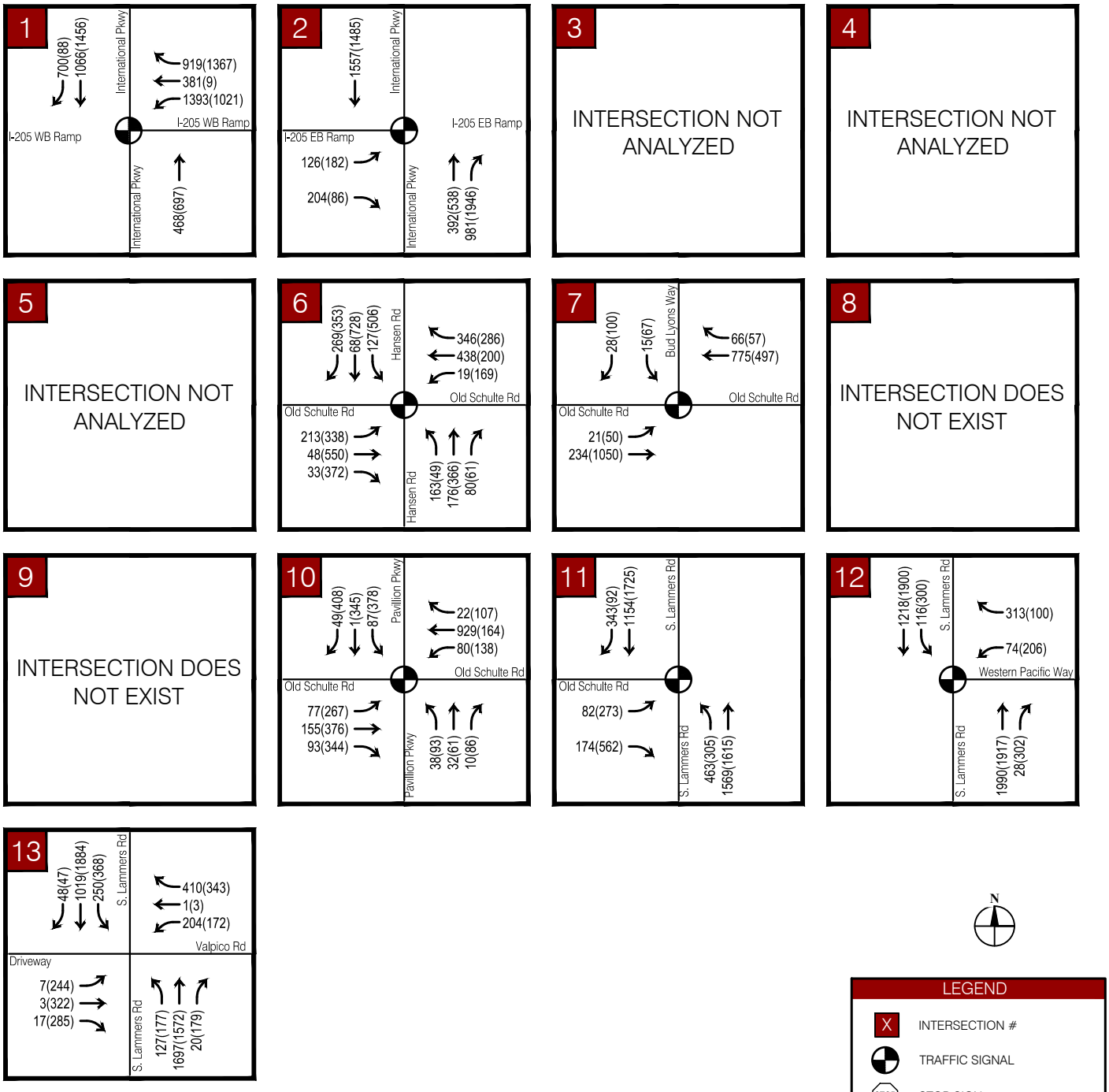
December 2021

Figure 17

Cumulative Conditions

Lane Geometry and Traffic Control

Tracy Costco Direct Delivery Center




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Figure 18

Cumulative Conditions

Peak Hour Volumes

December 2021

Tracy Costco Direct Delivery Center

## Table 10 – Cumulative Conditions LOS Summary

| # | Intersection | Agency | Control | Cumulative Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | - | 13.1 | B | - | 9.6 | A |
| 2 | International Pkwy & I-205 EB Ramps | Caltrans | Signal | - | 7.1 | A | - | 21.6 | C |
| 3 | International Pkwy & Old Schulte Rd | **Refer to FTOAR analysis** | | | | | | | |
| 4 | International Pkwy & I-580 WB Ramps | | | | | | | | |
| 5 | International Pkwy & I-580 EB Ramps | | | | | | | | |
| 6 | Hansen Road & Old Schulte Rd | Tracy | Signal | - | 46.1 | D | **-** | **67.0** | **E** |
| 7 | Bud Lyons Way/Project Dwy #1 & Old Schulte Rd | Tracy | Signal | - | 22.2 | C | - | 52.0 | D |
| 8 | Project Dwy #2 & Old Schulte Rd<br>Worst Approach | Tracy | - | Intersection Does Not Exist | | | | | |
| 9 | Project Dwy #3 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | |
| 10 | Pavillion Pkwy & Old Schulte Rd | Tracy | Signal | - | 36.3 | D | **-** | **65.7** | **E** |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | 15.1 | B | - | 37.9 | D |
| 12 | Lammers Rd & Western Pacific Way | Tracy | Signal | - | 16.4 | B | - | 14.4 | B |
| 13 | Lammers Rd & Valpico Rd | Tracy | Signal | - | 41.1 | D | **-** | **64.1** | **E** |

Note:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

## 9. Cumulative Plus Project Conditions

Cumulative Plus Project Conditions are based on Cumulative Conditions traffic volumes plus traffic generated by the proposed Project.

Cumulative Plus Project geometries are shown in **Figure 14** and volumes are shown in **Figure 15**.

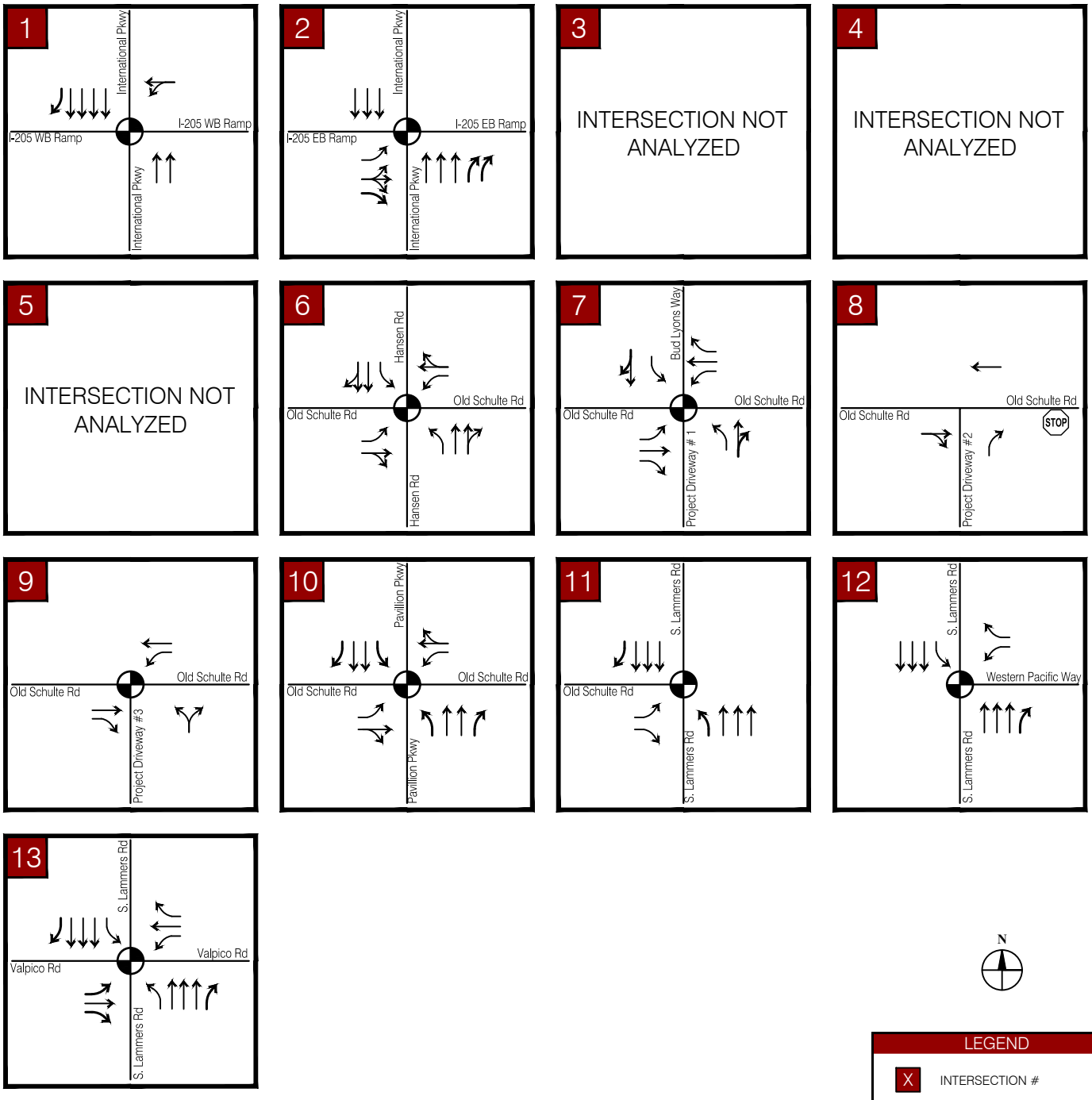
Results of the Cumulative Plus Project Conditions levels of service analysis are presented in **Table 11**. All intersections operated at acceptable levels of service except for the following intersections:

- Intersection #6 – Hansen Rd & Old Schulte Rd (PM Peak Hour)
- Intersection #10 – Pavilion Pkwy & Old Schulte Rd (PM Peak Hour)
- Intersection #13 - Lammers Rd & Valpico Rd (PM Peak Hour)

The Cumulative Conditions analysis does not indicate that the Project deteriorates the LOS or causes delay to increase by more than 5 seconds per the City threshold at any study intersection, and thus, no project improvements are required over and above those identified in Background conditions. The project shall, however, pay the City Traffic Impact Fees to offset cumulative incremental deterioration of operating conditions on the City road network.

Analysis output sheets are provided in the **Appendix**.

It should be noted that Intersections #3, #4 and #5 were not analyzed for Cumulative Conditions due to extensive analysis conducted and summarized in the FTOAR.




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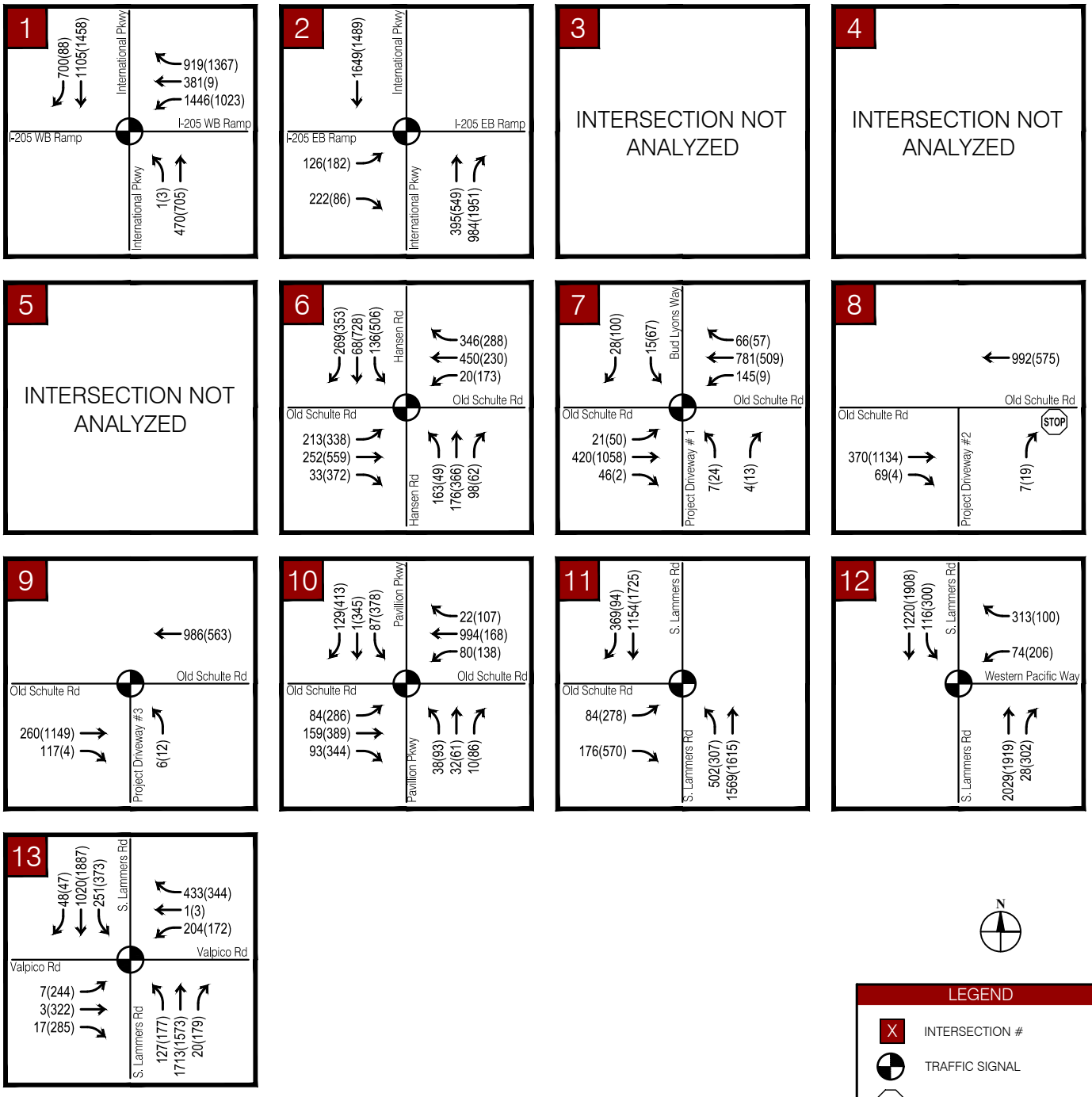
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Figure 19

Cumulative Plus Project Conditions

Lane Geometry and Traffic Control

Tracy Costco Direct Delivery Center




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Figure 20

Cumulative Plus Project Conditions

Peak Hour Volumes

December 2021

Tracy Costco Direct Delivery Center

## Table 11 – Cumulative Plus Project Conditions LOS Summary

| # | Intersection | Agency | Control | Cumulative Conditions | | | | | | Cumulative Plus Project Conditions | | | | | | Project Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | | AM Peak | | | PM Peak | | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS | MVMT | Delay | LOS | MVMT | Delay | LOS | |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | - | 13.1 | B | - | 9.6 | A | - | 13.9 | B | - | 9.6 | A | - |
| 2 | International Pkwy & I-205 EB Ramps | Caltrans | Signal | - | 7.1 | A | - | 21.6 | C | - | 7.4 | A | - | 21.9 | C | - |
| 3 | International Pkwy & Old Schulte Rd | **Refer to FTOAR analysis** | | | | | | | | | | | | | | |
| 4 | International Pkwy & I-580 WB Ramps | | | | | | | | | | | | | | | |
| 5 | International Pkwy & I-580 EB Ramps | | | | | | | | | | | | | | | |
| 6 | Hansen Rd & Old Schulte Rd | Tracy | Signal | - | 46.1 | D | **-** | **67.0** | **E** | - | 46.3 | D | **-** | **67.9** | **E** | N |
| 7 | Bud Lyons Wy/Project Dwy #1 & Old Schulte Rd | Tracy | Signal | - | 22.2 | C | - | 52.0 | D | - | 32.2 | C | - | 17.1 | B | - |
| 8 | Project Dwy #2 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | | - | - | - | - | - | - | - |
| | Worst Approach | | | | | | | | | NB | 9.8 | A | NB | 13.8 | B | |
| 9 | Project Dwy #3 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | | - | 4.7 | A | - | 3.2 | A | - |
| 10 | Pavillion Pkwy & Old Schulte Rd | Tracy | Signal | - | 36.3 | D | **-** | **65.7** | **E** | - | 44.6 | D | **-** | **67.7** | **E** | N |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | 15.1 | B | - | 37.9 | D | - | 16.9 | B | - | 38.6 | D | - |
| 12 | Lammers Rd & Western Pacific Wy | Tracy | Signal | - | 16.4 | B | - | 14.4 | B | - | 16.7 | B | - | 14.4 | B | - |
| 13 | Lammers Rd & Valpico Rd | Tracy | Signal | - | 41.1 | D | **-** | **64.1** | **E** | - | 46.0 | D | **-** | **64.6** | **E** | N |

Note:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

6 An impact is determined if the intersection delay increases by more than 5 seconds

## 10. Driveway Access Review

The Project proposes three driveways along Old Schulte Road. **Table 12** provides a summary of the recommendations for each driveway.

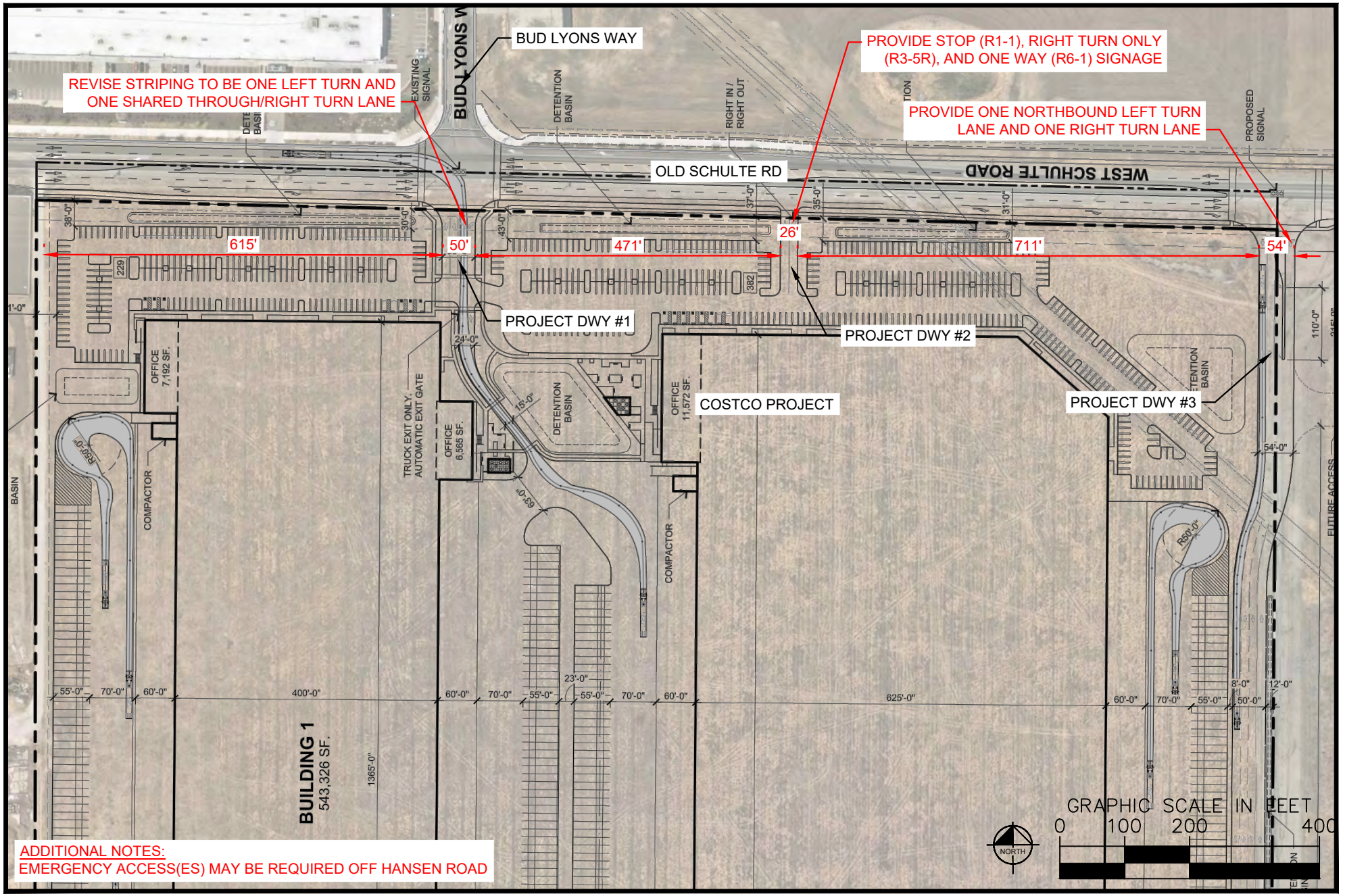
**Table 12 – Driveway Access Review**

| # | Width | Proposed Control | Proposed Access | Proposed Vehicle Type | Recommendations/Comments |
|---|---|---|---|---|---|
| 1 | 50’ | Signal | Full | Cars & Trucks Out | • Revise striping to the following: 1 left turn and 1 through/right turn lane. |
| 2 | 26’ | SSSC | RIRO | Cars | • Provide Stop (R1-1), Right Turn Only (R3-5R), and One Way (R6-1) signage. |
| 3 | 54’ | Signal | Full | Trucks In & Out | • A left turn lane and a right turn pocket are needed for the signal. |
| Additional Notes | | | | | • Emergency vehicle access(es) may be required off Hansen Road. |

Notes:
1. SSSC = Side Street Stop Control
2. RIRO = Right In / Right Out Access; Full = Full Access

**Figure 21** illustrates the driveway spacing, widths, and recommendations. **Figure 22** shows the signal spacings along Old Schulte Road between existing and proposed signals. The proposed Project signals provide sufficient spacings.

See the Vehicle Turning Templates section for a review of passenger cars and trucks at the Project driveways and the External Network Review section for a review of the Project frontage and turn lanes required at Project driveways and intersections.

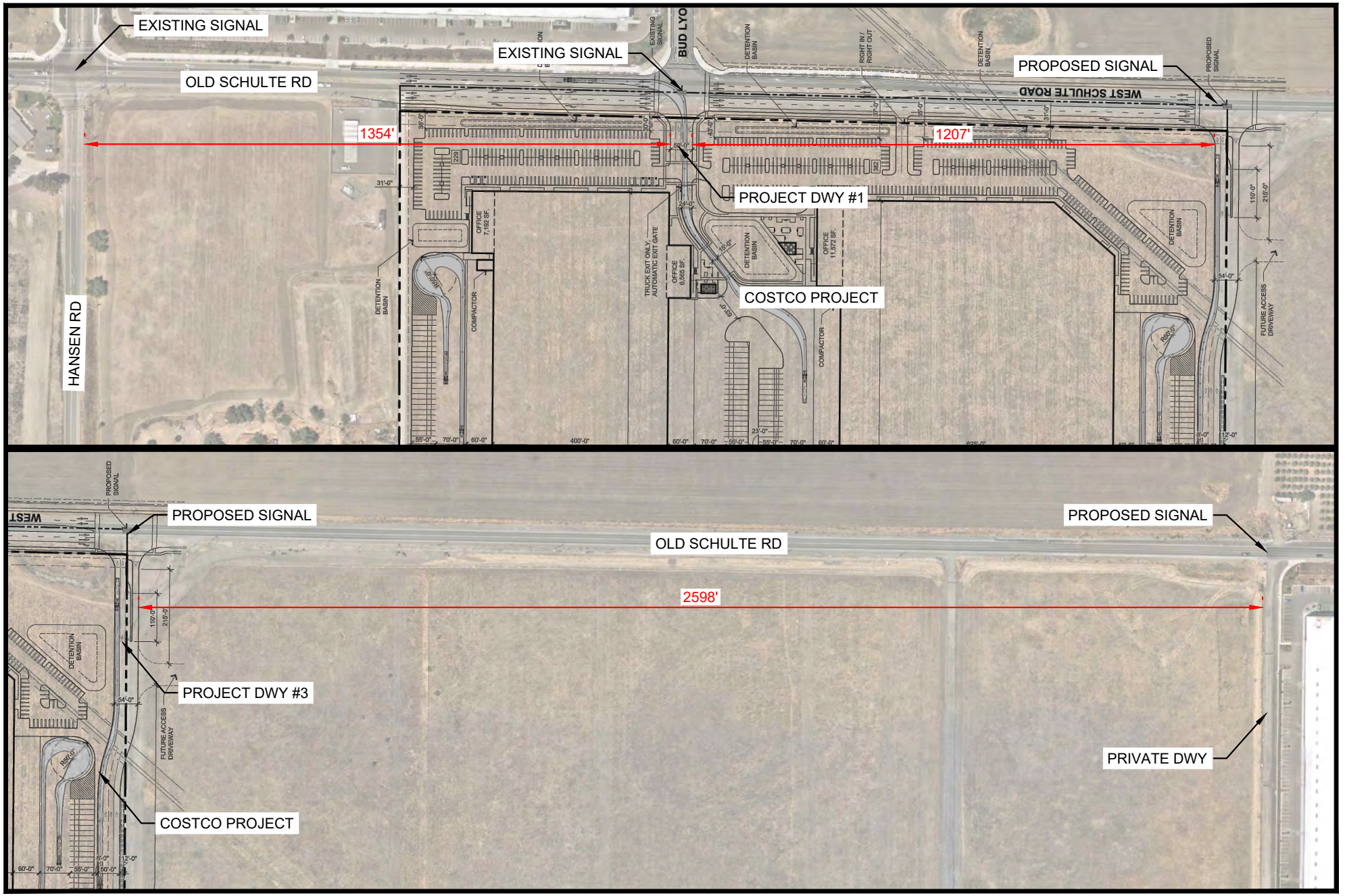



ADDITIONAL NOTES:
EMERGENCY ACCESS(ES) MAY BE REQUIRED OFF HANSEN ROAD

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Figure 21
Driveway Access Review
Costco Site Plan Review
Tracy Costco Direct Delivery Center




GRAPHIC SCALE IN FEET
0 150 300 600

Figure 22
Signal Spacing Review
Costco Site Plan Review
Tracy Costco Direct Delivery Center

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## 11. Internal Circulation Review

*Truck Gate Queuing Review*

An internal truck gate queuing analysis was performed to determine if the proposed truck entrance at Project Driveway #3 can adequately accommodate queuing on-site without spilling onto Old Schulte Road. The Project site proposes three entrance lanes and one exit lane. All trucks entering the site will enter at Project Driveway #3.

Two queueing analysis scenarios were analyzed:

1. All three lanes stopping at the security buildings
2. Two lanes stopping at the security buildings and one lane bypassing the security buildings.
    a. The expectation is that Costco Direct Delivery Center will have means of identifying certain trucks that will allow those trucks to avoid stopping at the security buildings when entering.

Operations at the existing Costco distribution warehouse located on Old Schulte Road west of the Project site were observed in November 2020 from 10:35 AM to 11:30 AM. The existing site has one bypass lane and two service lanes. From this observation, it was recorded that each truck was processed at a rate of 170 seconds per truck (approximately 3 minutes per truck). It was also recorded that approximately 50% of entering trucks use the bypass lane.

The following assumptions were used to calculate the truck entrance queuing:

- Uniform arrival rate
- 3-minute service time per truck that stops at a security building
- 2,300 feet per lane of available storage
- To determine an initial queue and off-peak hour queuing, ITE's Time of Day Distribution was utilized to estimate what percentage of the peak hour trips would occur during the off peaks. Trucks entering the site would be distributed as follows during the three peak hours of queue analysis:
    - 30% of the peak hour trips would arrive in the hour just before the peak hour
    - 70% of the peak hour trips would arrive in the hour just after the peak hour
    - 50% of the peak hour trips would arrive in the following hour
- 50% of truck trips will utilize the bypass lane (Scenario 2 only)

See the **Appendix** for queuing calculations. The expected queue per scenario is the following:

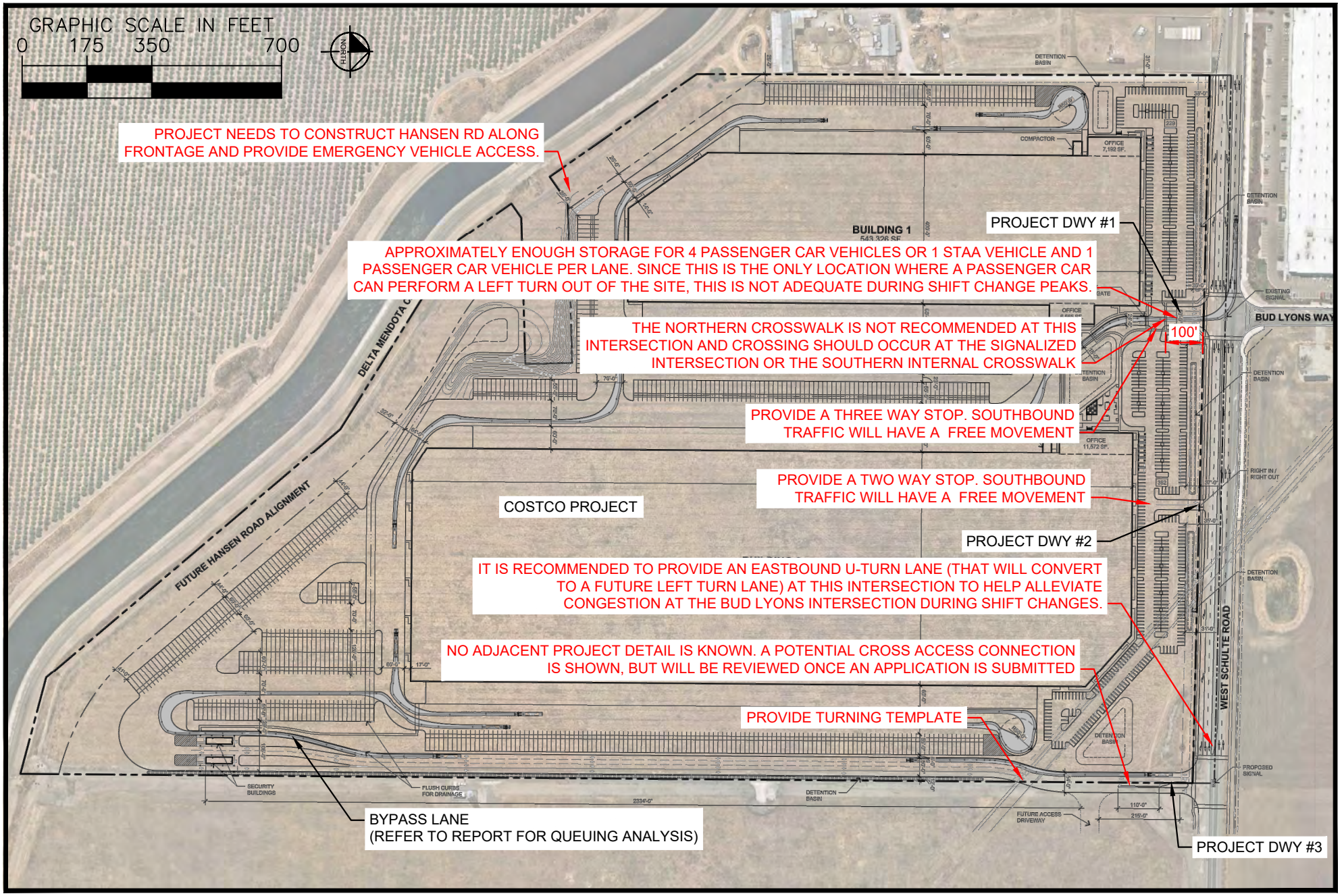
- Scenario 1 (no bypass lane) – 2,100 ft
- Scenario 2 (with bypass lane) – 750 ft

The analysis indicates that the vehicle storage for full gate control, Scenario 1, is marginally sufficient. If one bypass lane is provided, the storage is adequate.

*Site Plan Comments*

A review of the internal circulation has been provided in **Figure 23**. The following summarizes the comments:

- Approximately 100 feet is provided between Old Schulte Road and the internal drive aisle. This is only enough space for 4 passenger car vehicles or 1 STAA and 1 passenger car vehicle per lane. Since this is the only location where a passenger car can perform a left turn out of the site, this is not adequate during the shift change peaks. To alleviate congestion at this point, it is recommended to provide an eastbound U-turn lane (that could potentially convert to a future left turn lane) at the Old Schulte Road and Project Driveway #3 signalized intersection.
- At Project Driveway #1, the northern internal crosswalk should be removed as this will conflict with vehicles entering and exiting the Project. This crossing should occur at the signal instead or at the southern internal crosswalk.
- Provide a three way stop at the Project Driveway #1 internal intersection with the inbound movement as the free movement.
- No project detail is known for the eastern adjacent parcel that will share Project Driveway #3. The cross access shown will be reviewed in the future, once a development application is submitted for the adjacent parcel.
- Provide clear signage and/or pavement markings for trucks entering Project Driveway #3 that designates security versus bypass lanes.
- Provide truck turning templates at reverse curve within Project Driveway #3.




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Figure 23
Internal Circulation Review
Costco Site Plan Review
Tracy Costco Direct Delivery Center

## 12. Vehicle Turning Templates

The following design vehicles were analyzed at each Project driveway:

1. Passenger Car
2. STAA Truck

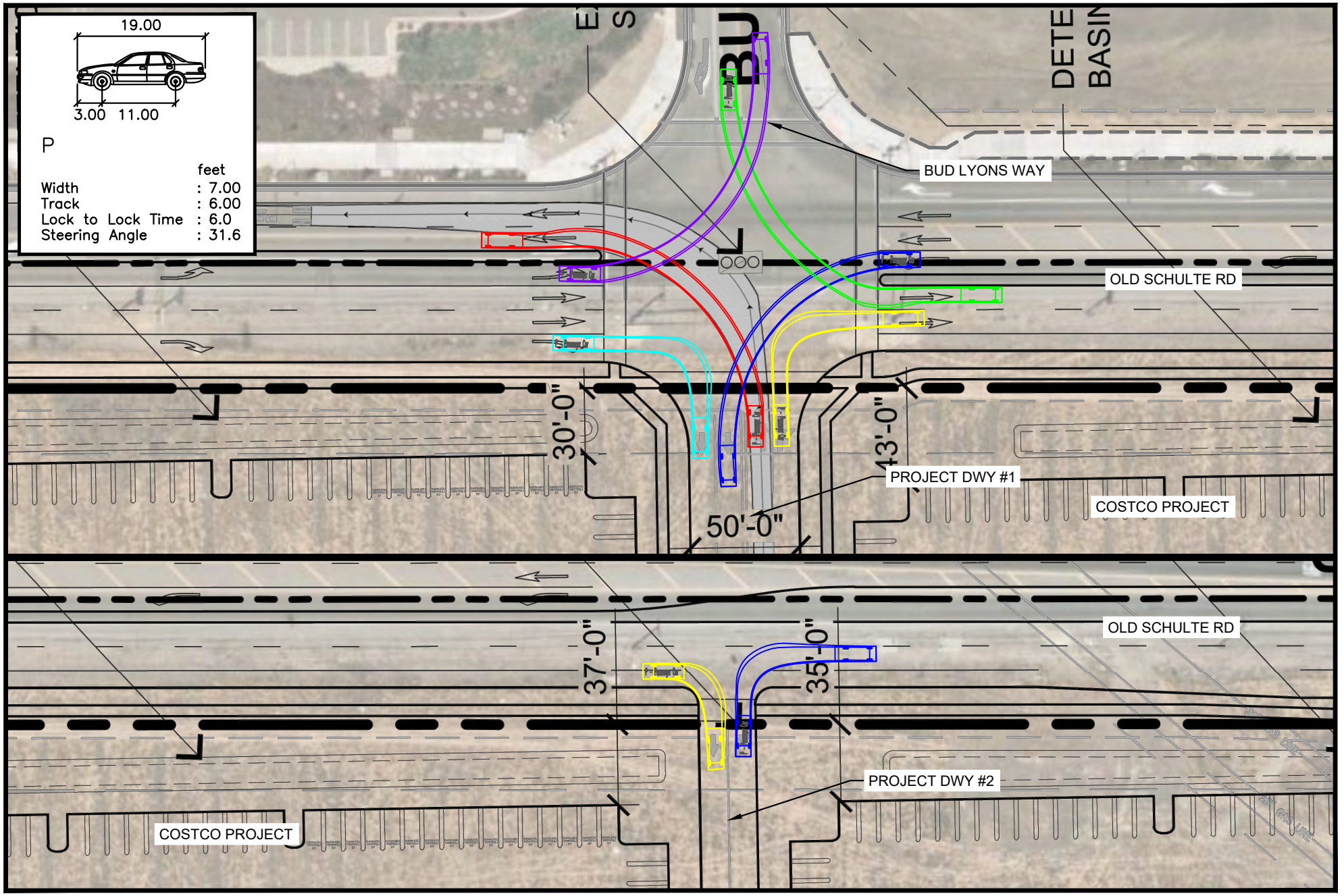
It is anticipated that passenger cars will only access the site from Driveways #1 and #2. It is anticipated that STAA trucks will only exit the site at Driveway #1 but can fully access the site at Driveway #3.

**Figure 24** illustrates the passenger car turning templates and **Figure 25** illustrates the STAA truck turning templates.

It was determined that a passenger car can access the site with no turning conflicts.

The following comments have been provided for the STAA turning templates:

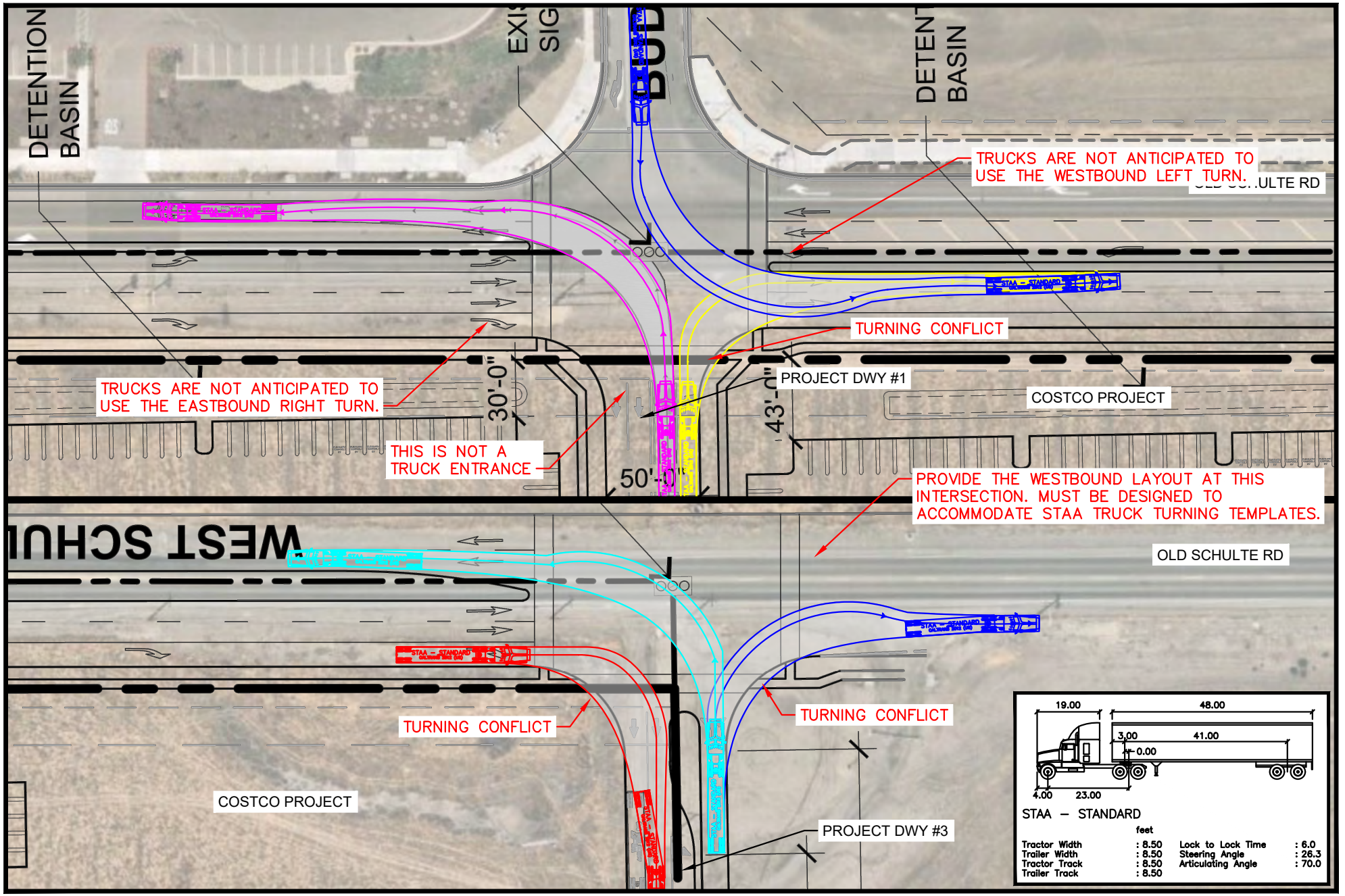
- STAA trucks are unable to perform northbound right turn at Driveway #1. Design modifications to the proposed curb are required to allow STAA trucks to perform necessary movements to access the site.
- STAA trucks are unable to perform eastbound and northbound right turns at Driveway #3. Design modifications to the proposed curb are required to allow STAA trucks to perform necessary movements to access the site.
- A westbound left turn must be provided at Driveway #3 and it must accommodate a STAA truck turning template.




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Figure 24
Passenger Car Turning Templates
Costco Site Plan Review
Tracy Costco Direct Delivery Center

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NORTH

GRAPHIC SCALE IN FEET
0 35 70 140

Figure 25
STAA Truck Turning Template
Costco Site Plan Review
Tracy Costco Direct Delivery Center

December 2021

## 13. External Network Review

The Project frontage was reviewed per the City of Tracy TMP 4-Lane Parkway cross section provided in **Figure 26**.

**Figure 26 – 4-Lane Parkway TMP Cross Section**

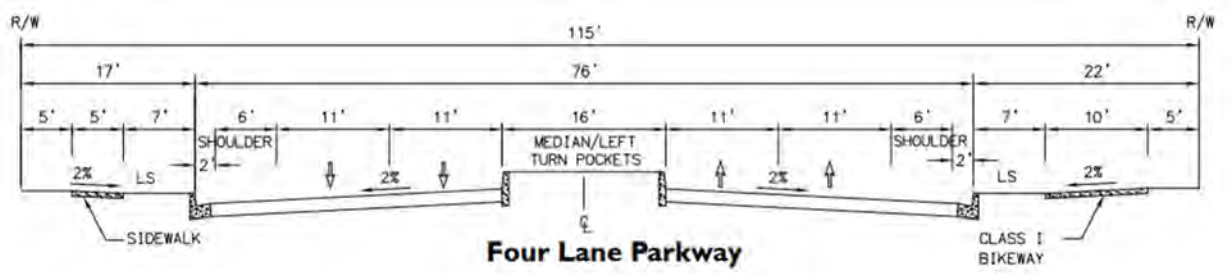
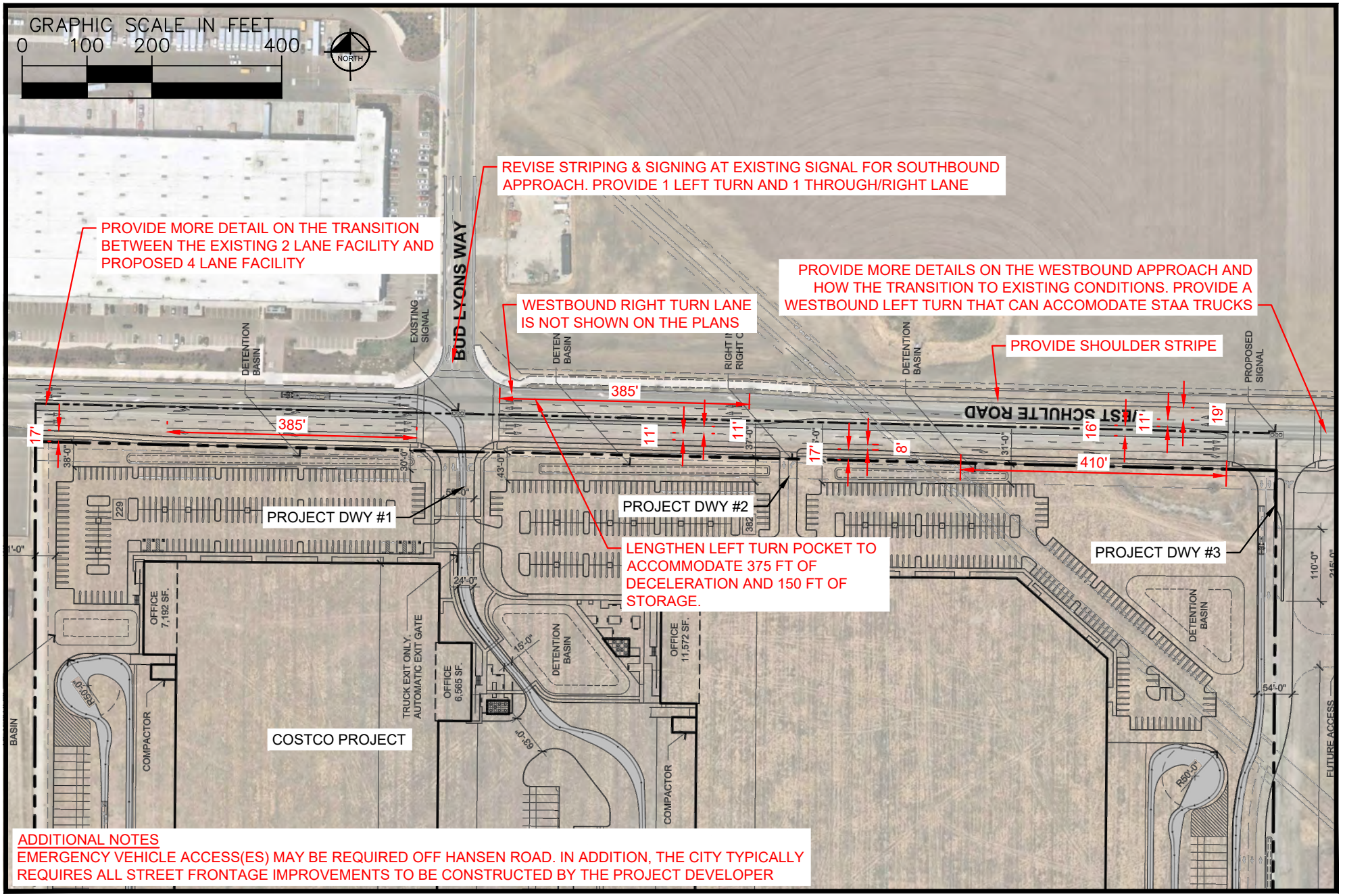



**Figure 27** illustrates the external network comments. The following summarizes the comments:

- Provide more detail on the transitions between existing conditions on both the east and west end of the Project limits.
- Provide the striping at the intersection of Old Schulte Road and Project Driveway #3. This approach must include a westbound left turn pocket that can accommodate a CA-STAA truck.
- Revise the signing and striping for the southbound movement at Old Schulte Road and Bud Lyons Way. Provide one left turn and one through/right lane.
- The Westbound right turn lane at the intersection of Old Schulte Road and Bud Lyons is existing and should be shown on the plan set.
- Provide eastbound shoulder stripe.
- Lengthen the westbound left turn lane at Project Driveway #1 to accommodate 375 feet of deceleration and 150 feet of storage.
- Emergency vehicle access(es) may be required off Hansen Road. In addition, the City typically requires all street frontage improvements to be constructed but the Project developer.




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Figure 27
External Network Review
Costco Site Plan Review
Tracy Costco Direct Delivery Center

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# Appendix 3 – AERMOD Output File:

** Lakes Environmental AERMOD MPI
**
**********
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.2.1
** Lakes Environmental Software Inc.
** Date: 6/6/2022
** File: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\AERMOD\Tracy CostcoV2.ADI
**
**********
**
**
**********
** AERMOD Control Pathway
**********
**
**
CO STARTING
  TITLEONE C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C
  MODELOPT CONC FLAT
  AVERTIME 1 PERIOD
  POLLUTID OTHER
  RUNORNOT RUN
  ERRORFIL "Tracy CostcoV2.err"
CO FINISHED
**
**********
** AERMOD Source Pathway
**********
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC On-site Mobile
** PREFIX
** Length of Side = 3.66
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 3.66
** SZINIT = 1.70
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LOCATION L0000869 VOLUME 631462.457 4175985.452 0.0
** End of LINE VOLUME Source ID = SLINE1
** ----------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Off-site Mobile (Exit headed west)
** PREFIX
** Length of Side = 3.66
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 3.66
** SZINIT = 1.70
** Nodes = 2
** 631461.238, 4175990.714, 0.00, 1.83, 1.70
** 630318.270, 4175998.025, 0.00, 1.83, 1.70
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LOCATION L0000870 VOLUME 631459.410 4175990.726 0.0
LOCATION L0000871 VOLUME 631455.752 4175990.749 0.0
LOCATION L0000872 VOLUME 631452.094 4175990.773 0.0
LOCATION L0000873 VOLUME 631448.437 4175990.796 0.0
LOCATION L0000874 VOLUME 631444.779 4175990.820 0.0
LOCATION L0000875 VOLUME 631441.122 4175990.843 0.0
LOCATION L0000876 VOLUME 631437.464 4175990.866 0.0
LOCATION L0000877 VOLUME 631433.807 4175990.890 0.0
LOCATION L0000878 VOLUME 631430.149 4175990.913 0.0
LOCATION L0000879 VOLUME 631426.492 4175990.937 0.0
LOCATION L0000880 VOLUME 631422.834 4175990.960 0.0
LOCATION L0000881 VOLUME 631419.177 4175990.983 0.0
LOCATION L0000882 VOLUME 631415.519 4175991.007 0.0
LOCATION L0000883 VOLUME 631411.862 4175991.030 0.0
LOCATION L0000884 VOLUME 631408.204 4175991.054 0.0
LOCATION L0000885 VOLUME 631404.547 4175991.077 0.0
LOCATION L0000886 VOLUME 631400.889 4175991.100 0.0
LOCATION L0000887 VOLUME 631397.232 4175991.124 0.0
LOCATION L0000888 VOLUME 631393.574 4175991.147 0.0
LOCATION L0000889 VOLUME 631389.917 4175991.171 0.0
LOCATION L0000890 VOLUME 631386.259 4175991.194 0.0
LOCATION L0000891 VOLUME 631382.602 4175991.217 0.0
LOCATION L0000892 VOLUME 631378.944 4175991.241 0.0
LOCATION L0000893 VOLUME 631375.286 4175991.264 0.0
LOCATION L0000894 VOLUME 631371.629 4175991.287 0.0
LOCATION L0000895 VOLUME 631367.971 4175991.311 0.0
LOCATION L0000896 VOLUME 631364.314 4175991.334 0.0
LOCATION L0000897 VOLUME 631360.656 4175991.358 0.0
LOCATION L0000898 VOLUME 631356.999 4175991.381 0.0
LOCATION L0000899 VOLUME 631353.341 4175991.404 0.0
LOCATION L0000900 VOLUME 631349.684 4175991.428 0.0
LOCATION L0000901 VOLUME 631346.026 4175991.451 0.0
LOCATION L0000902 VOLUME 631342.369 4175991.475 0.0
LOCATION L0000903 VOLUME 631338.711 4175991.498 0.0
LOCATION L0000904 VOLUME 631335.054 4175991.521 0.0
LOCATION L0000905 VOLUME 631331.396 4175991.545 0.0
LOCATION L0000906 VOLUME 631327.739 4175991.568 0.0
LOCATION L0000907 VOLUME 631324.081 4175991.592 0.0
LOCATION L0000908 VOLUME 631320.424 4175991.615 0.0
LOCATION L0000909 VOLUME 631316.766 4175991.638 0.0
LOCATION L0000910 VOLUME 631313.109 4175991.662 0.0
LOCATION L0000911 VOLUME 631309.451 4175991.685 0.0
LOCATION L0000912 VOLUME 631305.793 4175991.709 0.0
LOCATION L0000913 VOLUME 631302.136 4175991.732 0.0
LOCATION L0000914 VOLUME 631298.478 4175991.755 0.0
LOCATION L0000915 VOLUME 631294.821 4175991.779 0.0
LOCATION L0000916 VOLUME 631291.163 4175991.802 0.0
LOCATION L0000917 VOLUME 631287.506 4175991.826 0.0
LOCATION L0000918 VOLUME 631283.848 4175991.849 0.0
LOCATION L0000919 VOLUME 631280.191 4175991.872 0.0
LOCATION L0000920 VOLUME 631276.533 4175991.896 0.0
LOCATION L0000921 VOLUME 631272.876 4175991.919 0.0
LOCATION L0000922 VOLUME 631269.218 4175991.943 0.0
LOCATION L0000923 VOLUME 631265.561 4175991.966 0.0
LOCATION L0000924 VOLUME 631261.903 4175991.989 0.0
LOCATION L0000925 VOLUME 631258.246 4175992.013 0.0

LOCATION L0000926 VOLUME 631254.588 4175992.036 0.0
LOCATION L0000927 VOLUME 631250.931 4175992.060 0.0
LOCATION L0000928 VOLUME 631247.273 4175992.083 0.0
LOCATION L0000929 VOLUME 631243.616 4175992.106 0.0
LOCATION L0000930 VOLUME 631239.958 4175992.130 0.0
LOCATION L0000931 VOLUME 631236.301 4175992.153 0.0
LOCATION L0000932 VOLUME 631232.643 4175992.177 0.0
LOCATION L0000933 VOLUME 631228.985 4175992.200 0.0
LOCATION L0000934 VOLUME 631225.328 4175992.223 0.0
LOCATION L0000935 VOLUME 631221.670 4175992.247 0.0
LOCATION L0000936 VOLUME 631218.013 4175992.270 0.0
LOCATION L0000937 VOLUME 631214.355 4175992.293 0.0
LOCATION L0000938 VOLUME 631210.698 4175992.317 0.0
LOCATION L0000939 VOLUME 631207.040 4175992.340 0.0
LOCATION L0000940 VOLUME 631203.383 4175992.364 0.0
LOCATION L0000941 VOLUME 631199.725 4175992.387 0.0
LOCATION L0000942 VOLUME 631196.068 4175992.410 0.0
LOCATION L0000943 VOLUME 631192.410 4175992.434 0.0
LOCATION L0000944 VOLUME 631188.753 4175992.457 0.0
LOCATION L0000945 VOLUME 631185.095 4175992.481 0.0
LOCATION L0000946 VOLUME 631181.438 4175992.504 0.0
LOCATION L0000947 VOLUME 631177.780 4175992.527 0.0
LOCATION L0000948 VOLUME 631174.123 4175992.551 0.0
LOCATION L0000949 VOLUME 631170.465 4175992.574 0.0
LOCATION L0000950 VOLUME 631166.808 4175992.598 0.0
LOCATION L0000951 VOLUME 631163.150 4175992.621 0.0
LOCATION L0000952 VOLUME 631159.492 4175992.644 0.0
LOCATION L0000953 VOLUME 631155.835 4175992.668 0.0
LOCATION L0000954 VOLUME 631152.177 4175992.691 0.0
LOCATION L0000955 VOLUME 631148.520 4175992.715 0.0
LOCATION L0000956 VOLUME 631144.862 4175992.738 0.0
LOCATION L0000957 VOLUME 631141.205 4175992.761 0.0
LOCATION L0000958 VOLUME 631137.547 4175992.785 0.0
LOCATION L0000959 VOLUME 631133.890 4175992.808 0.0
LOCATION L0000960 VOLUME 631130.232 4175992.832 0.0
LOCATION L0000961 VOLUME 631126.575 4175992.855 0.0
LOCATION L0000962 VOLUME 631122.917 4175992.878 0.0
LOCATION L0000963 VOLUME 631119.260 4175992.902 0.0
LOCATION L0000964 VOLUME 631115.602 4175992.925 0.0
LOCATION L0000965 VOLUME 631111.945 4175992.949 0.0
LOCATION L0000966 VOLUME 631108.287 4175992.972 0.0
LOCATION L0000967 VOLUME 631104.630 4175992.995 0.0
LOCATION L0000968 VOLUME 631100.972 4175993.019 0.0
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LOCATION L0000970 VOLUME 631093.657 4175993.066 0.0
LOCATION L0000971 VOLUME 631089.999 4175993.089 0.0
LOCATION L0000972 VOLUME 631086.342 4175993.112 0.0
LOCATION L0000973 VOLUME 631082.684 4175993.136 0.0
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LOCATION L0000975 VOLUME 631075.369 4175993.183 0.0
LOCATION L0000976 VOLUME 631071.712 4175993.206 0.0
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LOCATION L0000978 VOLUME 631064.397 4175993.253 0.0
LOCATION L0000979 VOLUME 631060.739 4175993.276 0.0
LOCATION L0000980 VOLUME 631057.082 4175993.300 0.0
LOCATION L0000981 VOLUME 631053.424 4175993.323 0.0

LOCATION L0000982 VOLUME 631049.767 4175993.346 0.0
LOCATION L0000983 VOLUME 631046.109 4175993.370 0.0
LOCATION L0000984 VOLUME 631042.452 4175993.393 0.0
LOCATION L0000985 VOLUME 631038.794 4175993.416 0.0
LOCATION L0000986 VOLUME 631035.137 4175993.440 0.0
LOCATION L0000987 VOLUME 631031.479 4175993.463 0.0
LOCATION L0000988 VOLUME 631027.822 4175993.487 0.0
LOCATION L0000989 VOLUME 631024.164 4175993.510 0.0
LOCATION L0000990 VOLUME 631020.507 4175993.533 0.0
LOCATION L0000991 VOLUME 631016.849 4175993.557 0.0
LOCATION L0000992 VOLUME 631013.191 4175993.580 0.0
LOCATION L0000993 VOLUME 631009.534 4175993.604 0.0
LOCATION L0000994 VOLUME 631005.876 4175993.627 0.0
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LOCATION L0000996 VOLUME 630998.561 4175993.674 0.0
LOCATION L0000997 VOLUME 630994.904 4175993.697 0.0
LOCATION L0000998 VOLUME 630991.246 4175993.721 0.0
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LOCATION L0001000 VOLUME 630983.931 4175993.767 0.0
LOCATION L0001001 VOLUME 630980.274 4175993.791 0.0
LOCATION L0001002 VOLUME 630976.616 4175993.814 0.0
LOCATION L0001003 VOLUME 630972.959 4175993.838 0.0
LOCATION L0001004 VOLUME 630969.301 4175993.861 0.0
LOCATION L0001005 VOLUME 630965.644 4175993.884 0.0
LOCATION L0001006 VOLUME 630961.986 4175993.908 0.0
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LOCATION L0001011 VOLUME 630943.698 4175994.025 0.0
LOCATION L0001012 VOLUME 630940.041 4175994.048 0.0
LOCATION L0001013 VOLUME 630936.383 4175994.072 0.0
LOCATION L0001014 VOLUME 630932.726 4175994.095 0.0
LOCATION L0001015 VOLUME 630929.068 4175994.118 0.0
LOCATION L0001016 VOLUME 630925.411 4175994.142 0.0
LOCATION L0001017 VOLUME 630921.753 4175994.165 0.0
LOCATION L0001018 VOLUME 630918.096 4175994.189 0.0
LOCATION L0001019 VOLUME 630914.438 4175994.212 0.0
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LOCATION L0001032 VOLUME 630866.890 4175994.516 0.0
LOCATION L0001033 VOLUME 630863.233 4175994.539 0.0
LOCATION L0001034 VOLUME 630859.575 4175994.563 0.0
LOCATION L0001035 VOLUME 630855.918 4175994.586 0.0
LOCATION L0001036 VOLUME 630852.260 4175994.610 0.0
LOCATION L0001037 VOLUME 630848.603 4175994.633 0.0

LOCATION L0001038 VOLUME 630844.945 4175994.656 0.0
LOCATION L0001039 VOLUME 630841.288 4175994.680 0.0
LOCATION L0001040 VOLUME 630837.630 4175994.703 0.0
LOCATION L0001041 VOLUME 630833.973 4175994.727 0.0
LOCATION L0001042 VOLUME 630830.315 4175994.750 0.0
LOCATION L0001043 VOLUME 630826.658 4175994.773 0.0
LOCATION L0001044 VOLUME 630823.000 4175994.797 0.0
LOCATION L0001045 VOLUME 630819.343 4175994.820 0.0
LOCATION L0001046 VOLUME 630815.685 4175994.844 0.0
LOCATION L0001047 VOLUME 630812.028 4175994.867 0.0
LOCATION L0001048 VOLUME 630808.370 4175994.890 0.0
LOCATION L0001049 VOLUME 630804.713 4175994.914 0.0
LOCATION L0001050 VOLUME 630801.055 4175994.937 0.0
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LOCATION L0001055 VOLUME 630782.767 4175995.054 0.0
LOCATION L0001056 VOLUME 630779.110 4175995.078 0.0
LOCATION L0001057 VOLUME 630775.452 4175995.101 0.0
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LOCATION L0001059 VOLUME 630768.137 4175995.148 0.0
LOCATION L0001060 VOLUME 630764.480 4175995.171 0.0
LOCATION L0001061 VOLUME 630760.822 4175995.195 0.0
LOCATION L0001062 VOLUME 630757.165 4175995.218 0.0
LOCATION L0001063 VOLUME 630753.507 4175995.241 0.0
LOCATION L0001064 VOLUME 630749.850 4175995.265 0.0
LOCATION L0001065 VOLUME 630746.192 4175995.288 0.0
LOCATION L0001066 VOLUME 630742.535 4175995.312 0.0
LOCATION L0001067 VOLUME 630738.877 4175995.335 0.0
LOCATION L0001068 VOLUME 630735.220 4175995.358 0.0
LOCATION L0001069 VOLUME 630731.562 4175995.382 0.0
LOCATION L0001070 VOLUME 630727.905 4175995.405 0.0
LOCATION L0001071 VOLUME 630724.247 4175995.429 0.0
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LOCATION L0001080 VOLUME 630691.329 4175995.639 0.0
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LOCATION L0001086 VOLUME 630669.384 4175995.779 0.0
LOCATION L0001087 VOLUME 630665.727 4175995.803 0.0
LOCATION L0001088 VOLUME 630662.069 4175995.826 0.0
LOCATION L0001089 VOLUME 630658.412 4175995.850 0.0
LOCATION L0001090 VOLUME 630654.754 4175995.873 0.0
LOCATION L0001091 VOLUME 630651.096 4175995.896 0.0
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LOCATION L0001093 VOLUME 630643.781 4175995.943 0.0

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LOCATION L0001095 VOLUME 630636.466 4175995.990 0.0
LOCATION L0001096 VOLUME 630632.809 4175996.013 0.0
LOCATION L0001097 VOLUME 630629.151 4175996.037 0.0
LOCATION L0001098 VOLUME 630625.494 4175996.060 0.0
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LOCATION L0001101 VOLUME 630614.521 4175996.130 0.0
LOCATION L0001102 VOLUME 630610.864 4175996.154 0.0
LOCATION L0001103 VOLUME 630607.206 4175996.177 0.0
LOCATION L0001104 VOLUME 630603.549 4175996.201 0.0
LOCATION L0001105 VOLUME 630599.891 4175996.224 0.0
LOCATION L0001106 VOLUME 630596.234 4175996.247 0.0
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LOCATION L0001110 VOLUME 630581.603 4175996.341 0.0
LOCATION L0001111 VOLUME 630577.946 4175996.364 0.0
LOCATION L0001112 VOLUME 630574.288 4175996.388 0.0
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LOCATION L0001125 VOLUME 630526.741 4175996.692 0.0
LOCATION L0001126 VOLUME 630523.083 4175996.715 0.0
LOCATION L0001127 VOLUME 630519.426 4175996.739 0.0
LOCATION L0001128 VOLUME 630515.768 4175996.762 0.0
LOCATION L0001129 VOLUME 630512.111 4175996.785 0.0
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LOCATION L0001131 VOLUME 630504.795 4175996.832 0.0
LOCATION L0001132 VOLUME 630501.138 4175996.856 0.0
LOCATION L0001133 VOLUME 630497.480 4175996.879 0.0
LOCATION L0001134 VOLUME 630493.823 4175996.902 0.0
LOCATION L0001135 VOLUME 630490.165 4175996.926 0.0
LOCATION L0001136 VOLUME 630486.508 4175996.949 0.0
LOCATION L0001137 VOLUME 630482.850 4175996.973 0.0
LOCATION L0001138 VOLUME 630479.193 4175996.996 0.0
LOCATION L0001139 VOLUME 630475.535 4175997.019 0.0
LOCATION L0001140 VOLUME 630471.878 4175997.043 0.0
LOCATION L0001141 VOLUME 630468.220 4175997.066 0.0
LOCATION L0001142 VOLUME 630464.563 4175997.090 0.0
LOCATION L0001143 VOLUME 630460.905 4175997.113 0.0
LOCATION L0001144 VOLUME 630457.248 4175997.136 0.0
LOCATION L0001145 VOLUME 630453.590 4175997.160 0.0
LOCATION L0001146 VOLUME 630449.933 4175997.183 0.0
LOCATION L0001147 VOLUME 630446.275 4175997.207 0.0
LOCATION L0001148 VOLUME 630442.618 4175997.230 0.0
LOCATION L0001149 VOLUME 630438.960 4175997.253 0.0

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   LOCATION L0001150     VOLUME   630435.302 4175997.277 0.0
   LOCATION L0001151     VOLUME   630431.645 4175997.300 0.0
   LOCATION L0001152     VOLUME   630427.987 4175997.324 0.0
   LOCATION L0001153     VOLUME   630424.330 4175997.347 0.0
   LOCATION L0001154     VOLUME   630420.672 4175997.370 0.0
   LOCATION L0001155     VOLUME   630417.015 4175997.394 0.0
   LOCATION L0001156     VOLUME   630413.357 4175997.417 0.0
   LOCATION L0001157     VOLUME   630409.700 4175997.441 0.0
   LOCATION L0001158     VOLUME   630406.042 4175997.464 0.0
   LOCATION L0001159     VOLUME   630402.385 4175997.487 0.0
   LOCATION L0001160     VOLUME   630398.727 4175997.511 0.0
   LOCATION L0001161     VOLUME   630395.070 4175997.534 0.0
   LOCATION L0001162     VOLUME   630391.412 4175997.558 0.0
   LOCATION L0001163     VOLUME   630387.755 4175997.581 0.0
   LOCATION L0001164     VOLUME   630384.097 4175997.604 0.0
   LOCATION L0001165     VOLUME   630380.440 4175997.628 0.0
   LOCATION L0001166     VOLUME   630376.782 4175997.651 0.0
   LOCATION L0001167     VOLUME   630373.125 4175997.675 0.0
   LOCATION L0001168     VOLUME   630369.467 4175997.698 0.0
   LOCATION L0001169     VOLUME   630365.810 4175997.721 0.0
   LOCATION L0001170     VOLUME   630362.152 4175997.745 0.0
   LOCATION L0001171     VOLUME   630358.494 4175997.768 0.0
   LOCATION L0001172     VOLUME   630354.837 4175997.791 0.0
   LOCATION L0001173     VOLUME   630351.179 4175997.815 0.0
   LOCATION L0001174     VOLUME   630347.522 4175997.838 0.0
   LOCATION L0001175     VOLUME   630343.864 4175997.862 0.0
   LOCATION L0001176     VOLUME   630340.207 4175997.885 0.0
   LOCATION L0001177     VOLUME   630336.549 4175997.908 0.0
   LOCATION L0001178     VOLUME   630332.892 4175997.932 0.0
   LOCATION L0001179     VOLUME   630329.234 4175997.955 0.0
   LOCATION L0001180     VOLUME   630325.577 4175997.979 0.0
   LOCATION L0001181     VOLUME   630321.919 4175998.002 0.0
** End of LINE VOLUME Source ID = SLINE2
** ----------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Off-site Mobile (Exit headed east)
** PREFIX
** Length of Side = 3.66
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 3.66
** SZINIT = 1.70
** Nodes = 2
** 631461.812, 4175994.442, 0.00, 1.83, 1.70
** 632813.652, 4176000.177, 0.00, 1.83, 1.70
** ----------------------------------------------------------------
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   LOCATION L0001297     VOLUME   631467.298 4175994.466 0.0
   LOCATION L0001298     VOLUME   631470.956 4175994.481 0.0
   LOCATION L0001299     VOLUME   631474.613 4175994.497 0.0
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LOCATION L0001637 VOLUME 632710.871 4175999.741 0.0
LOCATION L0001638 VOLUME 632714.529 4175999.756 0.0
LOCATION L0001639 VOLUME 632718.186 4175999.772 0.0
LOCATION L0001640 VOLUME 632721.844 4175999.787 0.0

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   LOCATION L0001642    VOLUME   632729.159 4175999.818 0.0
   LOCATION L0001643    VOLUME   632732.816 4175999.834 0.0
   LOCATION L0001644    VOLUME   632736.474 4175999.849 0.0
   LOCATION L0001645    VOLUME   632740.132 4175999.865 0.0
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   LOCATION L0001658    VOLUME   632787.680 4176000.066 0.0
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   LOCATION L0001662    VOLUME   632802.310 4176000.129 0.0
   LOCATION L0001663    VOLUME   632805.968 4176000.144 0.0
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   LOCATION L0001665    VOLUME   632813.283 4176000.175 0.0
** End of LINE VOLUME Source ID = SLINE3
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Off-site Mobile (Entrance from east)
** PREFIX
** Length of Side = 3.66
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 3.66
** SZINIT = 1.70
** Nodes = 2
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** 631841.703, 4175993.009, 0.00, 1.83, 1.70
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   LOCATION L0001669    VOLUME   632802.284 4176000.082 0.0
   LOCATION L0001670    VOLUME   632798.627 4176000.055 0.0
   LOCATION L0001671    VOLUME   632794.969 4176000.029 0.0
   LOCATION L0001672    VOLUME   632791.312 4176000.002 0.0
   LOCATION L0001673    VOLUME   632787.654 4175999.975 0.0
   LOCATION L0001674    VOLUME   632783.997 4175999.948 0.0
   LOCATION L0001675    VOLUME   632780.339 4175999.921 0.0
   LOCATION L0001676    VOLUME   632776.682 4175999.894 0.0
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   LOCATION L0001925     VOLUME   631865.964 4175993.188 0.0
   LOCATION L0001926     VOLUME   631862.306 4175993.161 0.0
   LOCATION L0001927     VOLUME   631858.649 4175993.134 0.0
   LOCATION L0001928     VOLUME   631854.991 4175993.107 0.0
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** End of LINE VOLUME Source ID = SLINE4
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE5
** DESCRSRC Off-site Mobile (Entrance from west)
** PREFIX
** Length of Side = 3.66
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 3.66
** SZINIT = 1.70
** Nodes = 2
** 630317.837, 4175984.408, 0.00, 1.83, 1.70
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   LOCATION L0001938     VOLUME   630341.611 4175984.520 0.0
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LOCATION L0002283 VOLUME 631603.469 4175990.460 0.0
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LOCATION L0002292 VOLUME 631636.387 4175990.615 0.0
LOCATION L0002293 VOLUME 631640.045 4175990.633 0.0
LOCATION L0002294 VOLUME 631643.702 4175990.650 0.0
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LOCATION L0002296 VOLUME 631651.017 4175990.684 0.0
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LOCATION L0002303 VOLUME 631676.620 4175990.805 0.0
LOCATION L0002304 VOLUME 631680.278 4175990.822 0.0
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LOCATION L0002306 VOLUME 631687.593 4175990.857 0.0
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LOCATION L0002311 VOLUME 631705.881 4175990.943 0.0
LOCATION L0002312 VOLUME 631709.538 4175990.960 0.0
LOCATION L0002313 VOLUME 631713.196 4175990.977 0.0
LOCATION L0002314 VOLUME 631716.853 4175990.994 0.0
LOCATION L0002315 VOLUME 631720.511 4175991.012 0.0
LOCATION L0002316 VOLUME 631724.168 4175991.029 0.0
LOCATION L0002317 VOLUME 631727.826 4175991.046 0.0
LOCATION L0002318 VOLUME 631731.484 4175991.063 0.0
LOCATION L0002319 VOLUME 631735.141 4175991.080 0.0
LOCATION L0002320 VOLUME 631738.799 4175991.098 0.0
LOCATION L0002321 VOLUME 631742.456 4175991.115 0.0
LOCATION L0002322 VOLUME 631746.114 4175991.132 0.0
LOCATION L0002323 VOLUME 631749.771 4175991.149 0.0
LOCATION L0002324 VOLUME 631753.429 4175991.166 0.0
LOCATION L0002325 VOLUME 631757.087 4175991.184 0.0
LOCATION L0002326 VOLUME 631760.744 4175991.201 0.0
LOCATION L0002327 VOLUME 631764.402 4175991.218 0.0
LOCATION L0002328 VOLUME 631768.059 4175991.235 0.0
LOCATION L0002329 VOLUME 631771.717 4175991.253 0.0
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LOCATION L0002336 VOLUME 631797.320 4175991.373 0.0
LOCATION L0002337 VOLUME 631800.977 4175991.390 0.0
LOCATION L0002338 VOLUME 631804.635 4175991.408 0.0

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  LOCATION L0002339     VOLUME   631808.292 4175991.425 0.0
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  LOCATION L0002341     VOLUME   631815.607 4175991.459 0.0
  LOCATION L0002342     VOLUME   631819.265 4175991.476 0.0
  LOCATION L0002343     VOLUME   631822.923 4175991.494 0.0
  LOCATION L0002344     VOLUME   631826.580 4175991.511 0.0
  LOCATION L0002345     VOLUME   631830.238 4175991.528 0.0
  LOCATION L0002346     VOLUME   631833.895 4175991.545 0.0
  LOCATION L0002347     VOLUME   631837.553 4175991.563 0.0
** End of LINE VOLUME Source ID = SLINE5
  LOCATION STCK1       POINT     631780.630  4175800.440         0.0
** DESCRSRC Idling Point 1
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** DESCRSRC Idling Point 2
  LOCATION STCK3       POINT     631780.630  4175600.440         0.0
** DESCRSRC Idling Point 3
  LOCATION STCK4       POINT     631780.630  4175500.440         0.0
** DESCRSRC Idling Point 4
  LOCATION STCK5       POINT     631780.630  4175400.440         0.0
** DESCRSRC Idling Point 5
  LOCATION STCK6       POINT     631550.630  4175800.440         0.0
** DESCRSRC Idling Point 6
  LOCATION STCK7       POINT     631550.630  4175700.440         0.0
** DESCRSRC Idling Point 7
  LOCATION STCK8       POINT     631550.630  4175600.440         0.0
** DESCRSRC Idling Point 8
  LOCATION STCK9       POINT     631550.630  4175500.440         0.0
** DESCRSRC Idling Point 9
  LOCATION STCK10      POINT     631550.630  4175400.440         0.0
** DESCRSRC Idling Point 10
  LOCATION STCK11      POINT     631480.630  4175700.440         0.0
** DESCRSRC Idling Point 11
  LOCATION STCK12      POINT     631480.630  4175600.440         0.0
** DESCRSRC Idling Point 12
  LOCATION STCK13      POINT     631360.630  4175700.440         0.0
** DESCRSRC Idling Point 13
  LOCATION STCK14      POINT     631360.630  4175600.440         0.0
** DESCRSRC Idling Point 14
  LOCATION STCK15      POINT     631780.630  4175800.440         0.0
** DESCRSRC TRU Idling Point 1
  LOCATION STCK16      POINT     631780.630  4175700.440         0.0
** DESCRSRC TRU Idling Point 2
  LOCATION STCK17      POINT     631780.630  4175600.440         0.0
** DESCRSRC TRU Idling Point 3
  LOCATION STCK18      POINT     631780.630  4175500.440         0.0
** DESCRSRC TRU Idling Point 4
  LOCATION STCK19      POINT     631780.630  4175400.440         0.0
** DESCRSRC TRU Idling Point 5
  LOCATION STCK20      POINT     631550.630  4175800.440         0.0
** DESCRSRC TRU Idling Point 6
  LOCATION STCK21      POINT     631550.630  4175700.440         0.0
** DESCRSRC TRUIdling Point 7
  LOCATION STCK22      POINT     631550.630  4175600.440         0.0
** DESCRSRC TRU Idling Point 8
  LOCATION STCK23      POINT     631550.630  4175500.440         0.0
** DESCRSRC TRU Idling Point 9
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  LOCATION STCK24      POINT     631550.630  4175400.440        0.0
** DESCRSRC TRU Idling Point 10
  LOCATION STCK25      POINT     631480.630  4175700.440        0.0
** DESCRSRC TRU Idling Point 11
  LOCATION STCK26      POINT     631480.630  4175600.440        0.0
** DESCRSRC TRY Idling Point 12
  LOCATION STCK27      POINT     631360.630  4175700.440        0.0
** DESCRSRC TRU Idling Point 13
  LOCATION STCK28      POINT     631360.630  4175600.440        0.0
** DESCRSRC TRU Idling Point 14
** Source Parameters **
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  SRCPARAM L0000044    0.001150748    1.83     1.70     1.70
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| SRCPARAM | L0000050 | 0.001150748 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0000072 | 0.001150748 | 1.83 | 1.70 | 1.70 |
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   SRCPARAM L0001912    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001913    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001914    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001915    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001916    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001917    0.0037593985    1.83    1.70    1.70
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   SRCPARAM L0001922    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001923    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001924    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001925    0.0037593985    1.83    1.70    1.70
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   SRCPARAM L0001927    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001928    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001929    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001930    0.0037593985    1.83    1.70    1.70
   SRCPARAM L0001931    0.0037593985    1.83    1.70    1.70
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** LINE VOLUME Source ID = SLINE5
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   SRCPARAM L0001933    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001934    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001935    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001936    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001937    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001938    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001939    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001940    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001941    0.0024038462    1.83    1.70    1.70
   SRCPARAM L0001942    0.0024038462    1.83    1.70    1.70
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| SRCPARAM | L0001946 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001947 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001948 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001949 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001950 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001951 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001952 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001953 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0001957 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001958 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001959 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001960 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001961 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001962 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001963 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001964 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001965 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0001968 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001969 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0001974 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0001985 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001986 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001987 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0001991 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001992 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0001993 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002059 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002060 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002061 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002062 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002072 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002073 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002074 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002077 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002078 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002079 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002080 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002081 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002082 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002094 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002095 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002106 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002107 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002108 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002109 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002110 | 0.0024038462 | 1.83 | 1.70 | 1.70 |

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| SRCPARAM | L0002115 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002119 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002124 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002125 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002126 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002127 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002128 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002130 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002138 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002143 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002154 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002155 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002156 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002157 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002159 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002160 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002161 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002162 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002163 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
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| SRCPARAM | L0002165 | 0.0024038462 | 1.83 | 1.70 | 1.70 |
| SRCPARAM | L0002166 | 0.0024038462 | 1.83 | 1.70 | 1.70 |

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   SRCPARAM STCK5          1.0    3.658   366.000  57.10000    0.100
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   SRCPARAM STCK28         1.0    3.962   501.000  49.00000    0.044

** Building Downwash **
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   BUILDHGT STCK1       6.10   6.10   6.10   6.10   6.10   0.00
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| BUILDHGT STCK3 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
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| BUILDHGT STCK3 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK3 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| | | | | | | |
| BUILDHGT STCK4 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK4 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
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| BUILDHGT STCK4 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
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| BUILDHGT STCK5 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| BUILDHGT STCK5 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK5 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
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| BUILDHGT STCK15 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK15 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK15 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| BUILDHGT STCK16 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK16 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK16 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| BUILDHGT STCK16 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK16 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK16 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| BUILDHGT STCK17 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK17 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK17 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| BUILDHGT STCK17 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK17 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK17 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| BUILDHGT STCK18 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK18 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK18 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| BUILDHGT STCK18 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK18 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |

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|---|---|---|---|---|---|---|
| BUILDHGT STCK18 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| | | | | | | |
| BUILDHGT STCK19 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK19 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK19 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| BUILDHGT STCK19 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK19 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK19 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 0.00 |
| | | | | | | |
| BUILDHGT STCK20 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK20 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK20 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK20 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK20 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK20 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
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| BUILDHGT STCK21 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK21 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK21 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK21 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK21 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK21 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| | | | | | | |
| BUILDHGT STCK22 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK22 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK22 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK22 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK22 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK22 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
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| BUILDHGT STCK23 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK23 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK23 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK23 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK23 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK23 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
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| BUILDHGT STCK24 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK24 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK24 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK24 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK24 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK24 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
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| BUILDHGT STCK25 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK25 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK25 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK25 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK25 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK25 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
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| BUILDHGT STCK26 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK26 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK26 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK26 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK26 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |

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|---|---|---|---|---|---|---|
| BUILDHGT STCK26 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK27 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK27 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK27 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK27 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK27 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK27 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK28 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK28 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK28 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK28 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK28 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDHGT STCK28 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| BUILDWID STCK1 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK1 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK1 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK1 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK1 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK1 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK2 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK2 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK2 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK2 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK2 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK2 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK3 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK3 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK3 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK3 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK3 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK3 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK4 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK4 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK4 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK4 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK4 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK4 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK5 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK5 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK5 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK5 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK5 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK5 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK6 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK6 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK6 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK6 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK6 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |

BUILDWID STCK6 591.25 537.52 475.38 400.31 313.08 223.53

BUILDWID STCK7 330.88 428.18 512.46 581.18 632.23 664.08
BUILDWID STCK7 675.75 666.89 642.57 658.55 654.51 630.59
BUILDWID STCK7 591.25 537.52 475.38 400.31 313.08 223.53
BUILDWID STCK7 330.88 428.18 512.46 581.18 632.23 664.08
BUILDWID STCK7 675.75 666.89 642.57 658.55 654.51 630.59
BUILDWID STCK7 591.25 537.52 475.38 400.31 313.08 223.53

BUILDWID STCK8 330.88 428.18 512.46 581.18 632.23 664.08
BUILDWID STCK8 675.75 666.89 642.57 658.55 654.51 630.59
BUILDWID STCK8 591.25 537.52 475.38 400.31 313.08 223.53
BUILDWID STCK8 330.88 428.18 512.46 581.18 632.23 664.08
BUILDWID STCK8 675.75 666.89 642.57 658.55 654.51 630.59
BUILDWID STCK8 591.25 537.52 475.38 400.31 313.08 223.53

BUILDWID STCK9 330.88 428.18 512.46 581.18 632.23 664.08
BUILDWID STCK9 675.75 666.89 642.57 658.55 654.51 630.59
BUILDWID STCK9 591.25 537.52 475.38 400.31 313.08 223.53
BUILDWID STCK9 330.88 428.18 512.46 581.18 632.23 664.08
BUILDWID STCK9 675.75 666.89 642.57 658.55 654.51 630.59
BUILDWID STCK9 591.25 537.52 475.38 400.31 313.08 223.53

BUILDWID STCK10 330.88 428.18 512.46 581.18 632.23 664.08
BUILDWID STCK10 675.75 666.89 642.57 658.55 654.51 630.59
BUILDWID STCK10 591.25 537.52 475.38 400.31 313.08 223.53
BUILDWID STCK10 330.88 428.18 512.46 581.18 632.23 664.08
BUILDWID STCK10 675.75 666.89 642.57 658.55 654.51 630.59
BUILDWID STCK10 591.25 537.52 475.38 400.31 313.08 223.53

BUILDWID STCK11 198.99 271.53 335.81 389.90 432.14 461.25
BUILDWID STCK11 476.34 476.96 468.31 472.86 463.03 439.14
BUILDWID STCK11 401.91 355.51 306.25 247.68 181.59 120.40
BUILDWID STCK11 198.99 271.53 335.81 389.90 432.14 461.25
BUILDWID STCK11 476.34 476.96 468.31 472.86 463.03 439.14
BUILDWID STCK11 401.91 355.51 306.25 247.68 181.59 120.40

BUILDWID STCK12 198.99 271.53 335.81 389.90 432.14 461.25
BUILDWID STCK12 476.34 476.96 468.31 472.86 463.03 439.14
BUILDWID STCK12 401.91 355.51 306.25 247.68 181.59 120.40
BUILDWID STCK12 198.99 271.53 335.81 389.90 432.14 461.25
BUILDWID STCK12 476.34 476.96 468.31 472.86 463.03 439.14
BUILDWID STCK12 401.91 355.51 306.25 247.68 181.59 120.40

BUILDWID STCK13 198.99 271.53 335.81 389.90 432.14 461.25
BUILDWID STCK13 476.34 476.96 468.31 472.86 463.03 439.14
BUILDWID STCK13 401.91 355.51 306.25 247.68 181.59 120.40
BUILDWID STCK13 198.99 271.53 335.81 389.90 432.14 461.25
BUILDWID STCK13 476.34 476.96 468.31 472.86 463.03 439.14
BUILDWID STCK13 401.91 355.51 306.25 247.68 181.59 120.40

BUILDWID STCK14 198.99 271.53 335.81 389.90 432.14 461.25
BUILDWID STCK14 476.34 476.96 468.31 472.86 463.03 439.14
BUILDWID STCK14 401.91 355.51 306.25 247.68 181.59 120.40
BUILDWID STCK14 198.99 271.53 335.81 389.90 432.14 461.25
BUILDWID STCK14 476.34 476.96 468.31 472.86 463.03 439.14

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|---|---|---|---|---|---|---|
| BUILDWID STCK14 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |
| | | | | | | |
| BUILDWID STCK15 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK15 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK15 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK15 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK15 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK15 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| | | | | | | |
| BUILDWID STCK16 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK16 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK16 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK16 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK16 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK16 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| | | | | | | |
| BUILDWID STCK17 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK17 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK17 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK17 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK17 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK17 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| | | | | | | |
| BUILDWID STCK18 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK18 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK18 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK18 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK18 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK18 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| | | | | | | |
| BUILDWID STCK19 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK19 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK19 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| BUILDWID STCK19 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK19 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK19 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 0.00 |
| | | | | | | |
| BUILDWID STCK20 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK20 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK20 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK20 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK20 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK20 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| | | | | | | |
| BUILDWID STCK21 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK21 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK21 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK21 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK21 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK21 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| | | | | | | |
| BUILDWID STCK22 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK22 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK22 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK22 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK22 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |

| | | | | | | |
|---|---|---|---|---|---|---|
| BUILDWID STCK22 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK23 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK23 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK23 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK23 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK23 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK23 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK24 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK24 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK24 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK24 | 330.88 | 428.18 | 512.46 | 581.18 | 632.23 | 664.08 |
| BUILDWID STCK24 | 675.75 | 666.89 | 642.57 | 658.55 | 654.51 | 630.59 |
| BUILDWID STCK24 | 591.25 | 537.52 | 475.38 | 400.31 | 313.08 | 223.53 |
| BUILDWID STCK25 | 198.99 | 271.53 | 335.81 | 389.90 | 432.14 | 461.25 |
| BUILDWID STCK25 | 476.34 | 476.96 | 468.31 | 472.86 | 463.03 | 439.14 |
| BUILDWID STCK25 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |
| BUILDWID STCK25 | 198.99 | 271.53 | 335.81 | 389.90 | 432.14 | 461.25 |
| BUILDWID STCK25 | 476.34 | 476.96 | 468.31 | 472.86 | 463.03 | 439.14 |
| BUILDWID STCK25 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |
| BUILDWID STCK26 | 198.99 | 271.53 | 335.81 | 389.90 | 432.14 | 461.25 |
| BUILDWID STCK26 | 476.34 | 476.96 | 468.31 | 472.86 | 463.03 | 439.14 |
| BUILDWID STCK26 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |
| BUILDWID STCK26 | 198.99 | 271.53 | 335.81 | 389.90 | 432.14 | 461.25 |
| BUILDWID STCK26 | 476.34 | 476.96 | 468.31 | 472.86 | 463.03 | 439.14 |
| BUILDWID STCK26 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |
| BUILDWID STCK27 | 198.99 | 271.53 | 335.81 | 389.90 | 432.14 | 461.25 |
| BUILDWID STCK27 | 476.34 | 476.96 | 468.31 | 472.86 | 463.03 | 439.14 |
| BUILDWID STCK27 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |
| BUILDWID STCK27 | 198.99 | 271.53 | 335.81 | 389.90 | 432.14 | 461.25 |
| BUILDWID STCK27 | 476.34 | 476.96 | 468.31 | 472.86 | 463.03 | 439.14 |
| BUILDWID STCK27 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |
| BUILDWID STCK28 | 198.99 | 271.53 | 335.81 | 389.90 | 432.14 | 461.25 |
| BUILDWID STCK28 | 476.34 | 476.96 | 468.31 | 472.86 | 463.03 | 439.14 |
| BUILDWID STCK28 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |
| BUILDWID STCK28 | 198.99 | 271.53 | 335.81 | 389.90 | 432.14 | 461.25 |
| BUILDWID STCK28 | 476.34 | 476.96 | 468.31 | 472.86 | 463.03 | 439.14 |
| BUILDWID STCK28 | 401.91 | 355.51 | 306.25 | 247.68 | 181.59 | 120.40 |

| | | | | | | |
|---|---|---|---|---|---|---|
| BUILDLEN STCK1 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK1 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK1 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK1 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK1 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK1 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK2 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK2 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK2 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK2 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK2 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |

| | | | | | | |
|---|---|---|---|---|---|---|
| BUILDLEN STCK2 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK3 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK3 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK3 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK3 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK3 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK3 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK4 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK4 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK4 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK4 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK4 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK4 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK5 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK5 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK5 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK5 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK5 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK5 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK6 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK6 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK6 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK6 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK6 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK6 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK7 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK7 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK7 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK7 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK7 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK7 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK8 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK8 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK8 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK8 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK8 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK8 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK9 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK9 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK9 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK9 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK9 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK9 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK10 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK10 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK10 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK10 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK10 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |

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|---|---|---|---|---|---|---|
| BUILDLEN STCK10 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK11 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK11 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK11 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN STCK11 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK11 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK11 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| | | | | | | |
| BUILDLEN STCK12 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK12 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK12 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN STCK12 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK12 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK12 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| | | | | | | |
| BUILDLEN STCK13 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK13 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK13 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN STCK13 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK13 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK13 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| | | | | | | |
| BUILDLEN STCK14 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK14 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK14 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN STCK14 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK14 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK14 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| | | | | | | |
| BUILDLEN STCK15 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK15 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK15 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK15 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK15 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK15 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK16 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK16 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK16 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK16 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK16 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK16 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK17 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK17 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK17 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK17 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK17 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK17 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK18 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK18 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK18 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK18 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK18 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |

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|---|---|---|---|---|---|---|
| BUILDLEN STCK18 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK19 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK19 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK19 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 0.00 |
| BUILDLEN STCK19 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK19 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK19 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 0.00 |
| | | | | | | |
| BUILDLEN STCK20 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK20 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK20 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK20 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK20 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK20 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK21 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK21 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK21 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK21 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK21 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK21 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK22 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK22 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK22 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK22 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK22 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK22 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK23 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK23 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK23 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK23 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK23 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK23 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK24 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK24 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK24 | 581.18 | 632.23 | 664.08 | 675.75 | 666.89 | 642.57 |
| BUILDLEN STCK24 | 658.55 | 654.51 | 630.59 | 591.25 | 537.52 | 475.38 |
| BUILDLEN STCK24 | 400.31 | 313.08 | 223.53 | 330.88 | 428.18 | 512.46 |
| BUILDLEN STCK24 | 581.18 | 632.24 | 664.08 | 675.75 | 666.89 | 642.57 |
| | | | | | | |
| BUILDLEN STCK25 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK25 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK25 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN STCK25 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK25 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK25 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| | | | | | | |
| BUILDLEN STCK26 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK26 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN STCK26 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN STCK26 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN STCK26 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BUILDLEN | STCK26 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN | STCK27 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN | STCK27 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN | STCK27 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN | STCK27 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN | STCK27 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN | STCK27 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN | STCK28 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN | STCK28 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN | STCK28 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| BUILDLEN | STCK28 | 472.86 | 463.03 | 439.14 | 401.91 | 355.51 | 306.25 |
| BUILDLEN | STCK28 | 247.68 | 181.59 | 120.40 | 198.99 | 271.53 | 335.81 |
| BUILDLEN | STCK28 | 389.90 | 432.14 | 461.25 | 476.34 | 476.96 | 468.31 |
| XBADJ | STCK1 | -533.14 | -542.44 | -535.26 | -515.55 | -483.76 | -437.28 |
| XBADJ | STCK1 | -377.50 | -306.26 | -228.11 | -247.24 | -258.86 | -262.61 |
| XBADJ | STCK1 | -258.38 | -246.30 | -226.74 | -200.29 | -167.75 | 0.00 |
| XBADJ | STCK1 | -125.41 | -112.07 | -95.33 | -75.70 | -53.76 | -38.11 |
| XBADJ | STCK1 | -22.81 | -6.82 | 4.58 | -83.64 | -169.32 | -249.85 |
| XBADJ | STCK1 | -322.80 | -385.93 | -437.34 | -475.46 | -499.13 | 0.00 |
| XBADJ | STCK2 | -434.66 | -448.47 | -448.66 | -438.95 | -419.48 | -387.28 |
| XBADJ | STCK2 | -343.30 | -288.89 | -228.11 | -264.60 | -293.06 | -312.61 |
| XBADJ | STCK2 | -322.66 | -322.91 | -313.34 | -294.26 | -266.23 | 0.00 |
| XBADJ | STCK2 | -223.89 | -206.04 | -181.94 | -152.30 | -118.04 | -88.11 |
| XBADJ | STCK2 | -57.01 | -24.18 | 4.58 | -66.28 | -135.12 | -199.85 |
| XBADJ | STCK2 | -258.52 | -309.33 | -350.74 | -381.49 | -400.65 | 0.00 |
| XBADJ | STCK3 | -336.18 | -354.50 | -362.05 | -362.34 | -355.20 | -337.28 |
| XBADJ | STCK3 | -309.10 | -271.53 | -228.11 | -281.97 | -327.26 | -362.61 |
| XBADJ | STCK3 | -386.94 | -399.51 | -399.95 | -388.23 | -364.72 | 0.00 |
| XBADJ | STCK3 | -322.37 | -300.01 | -268.54 | -228.91 | -182.32 | -138.11 |
| XBADJ | STCK3 | -91.21 | -41.55 | 4.58 | -48.91 | -100.92 | -149.85 |
| XBADJ | STCK3 | -194.24 | -232.72 | -264.13 | -287.52 | -302.17 | 0.00 |
| XBADJ | STCK4 | -237.70 | -260.53 | -275.45 | -285.74 | -290.93 | -287.28 |
| XBADJ | STCK4 | -274.90 | -254.16 | -228.11 | -299.33 | -361.46 | -412.61 |
| XBADJ | STCK4 | -451.22 | -476.12 | -486.55 | -482.20 | -463.20 | 0.00 |
| XBADJ | STCK4 | -420.85 | -393.98 | -355.14 | -305.51 | -246.60 | -188.11 |
| XBADJ | STCK4 | -125.41 | -58.91 | 4.58 | -31.55 | -66.71 | -99.85 |
| XBADJ | STCK4 | -129.96 | -156.12 | -177.53 | -193.55 | -203.69 | 0.00 |
| XBADJ | STCK5 | -139.22 | -166.56 | -188.85 | -209.13 | -226.65 | -237.28 |
| XBADJ | STCK5 | -240.69 | -236.80 | -228.11 | -316.70 | -395.67 | -462.61 |
| XBADJ | STCK5 | -515.50 | -552.72 | -573.15 | -576.17 | -561.68 | 0.00 |
| XBADJ | STCK5 | -519.33 | -487.95 | -441.74 | -382.11 | -310.88 | -238.11 |
| XBADJ | STCK5 | -159.62 | -76.28 | 4.58 | -14.18 | -32.51 | -49.85 |
| XBADJ | STCK5 | -65.68 | -79.51 | -90.93 | -99.58 | -105.21 | 0.00 |
| XBADJ | STCK6 | -493.20 | -463.78 | -420.26 | -367.71 | -307.57 | -238.09 |
| XBADJ | STCK6 | -161.37 | -79.75 | 1.89 | -20.73 | -42.73 | -63.42 |
| XBADJ | STCK6 | -82.19 | -98.46 | -111.74 | -121.63 | -127.81 | -134.93 |
| XBADJ | STCK6 | -165.35 | -190.74 | -210.33 | -223.54 | -229.95 | -237.29 |
| XBADJ | STCK6 | -238.94 | -233.32 | -225.42 | -310.15 | -385.45 | -449.04 |

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| XBADJ | STCK6 | -498.99 | -533.77 | -552.34 | -554.12 | -539.07 | -507.64 |
| XBADJ | STCK7 | -394.72 | -369.81 | -333.66 | -291.10 | -243.29 | -188.09 |
| XBADJ | STCK7 | -127.17 | -62.39 | 1.89 | -38.10 | -76.93 | -113.42 |
| XBADJ | STCK7 | -146.47 | -175.07 | -198.34 | -215.60 | -226.30 | -234.93 |
| XBADJ | STCK7 | -263.83 | -284.71 | -296.94 | -300.14 | -294.23 | -287.29 |
| XBADJ | STCK7 | -273.14 | -250.69 | -225.42 | -292.78 | -351.25 | -399.04 |
| XBADJ | STCK7 | -434.71 | -457.17 | -465.74 | -460.15 | -440.59 | -407.64 |
| XBADJ | STCK8 | -296.24 | -275.84 | -247.05 | -214.50 | -179.01 | -138.09 |
| XBADJ | STCK8 | -92.97 | -45.02 | 1.89 | -55.46 | -111.13 | -163.42 |
| XBADJ | STCK8 | -210.75 | -251.67 | -284.95 | -309.56 | -324.78 | -334.93 |
| XBADJ | STCK8 | -362.31 | -378.68 | -383.54 | -376.75 | -358.51 | -337.29 |
| XBADJ | STCK8 | -307.34 | -268.05 | -225.42 | -275.42 | -317.04 | -349.04 |
| XBADJ | STCK8 | -370.43 | -380.56 | -379.13 | -366.19 | -342.11 | -307.64 |
| XBADJ | STCK9 | -197.76 | -181.87 | -160.45 | -137.90 | -114.74 | -88.09 |
| XBADJ | STCK9 | -58.77 | -27.66 | 1.89 | -72.83 | -145.33 | -213.42 |
| XBADJ | STCK9 | -275.03 | -328.28 | -371.55 | -403.53 | -423.26 | -434.93 |
| XBADJ | STCK9 | -460.79 | -472.64 | -470.14 | -453.35 | -422.79 | -387.29 |
| XBADJ | STCK9 | -341.54 | -285.42 | -225.42 | -258.05 | -282.84 | -299.04 |
| XBADJ | STCK9 | -306.15 | -303.96 | -292.53 | -272.22 | -243.63 | -207.64 |
| XBADJ | STCK10 | -99.28 | -87.90 | -73.85 | -61.29 | -50.46 | -38.09 |
| XBADJ | STCK10 | -24.57 | -10.29 | 1.89 | -90.19 | -179.54 | -263.42 |
| XBADJ | STCK10 | -339.31 | -404.88 | -458.15 | -497.50 | -521.74 | -534.93 |
| XBADJ | STCK10 | -559.27 | -566.61 | -556.74 | -529.96 | -487.07 | -437.29 |
| XBADJ | STCK10 | -375.75 | -302.78 | -225.42 | -240.69 | -248.64 | -249.04 |
| XBADJ | STCK10 | -241.87 | -227.35 | -205.93 | -178.25 | -145.15 | -107.64 |
| XBADJ | STCK11 | -247.45 | -249.09 | -243.16 | -229.84 | -212.59 | -196.81 |
| XBADJ | STCK11 | -175.06 | -147.99 | -118.74 | -156.48 | -189.46 | -216.68 |
| XBADJ | STCK11 | -237.32 | -250.75 | -256.56 | -254.58 | -244.86 | -230.02 |
| XBADJ | STCK11 | -225.41 | -213.95 | -195.98 | -172.07 | -142.92 | -109.43 |
| XBADJ | STCK11 | -72.62 | -33.60 | -1.66 | -42.51 | -82.07 | -119.13 |
| XBADJ | STCK11 | -152.58 | -181.39 | -204.68 | -221.76 | -232.10 | -238.29 |
| XBADJ | STCK12 | -148.97 | -155.12 | -156.56 | -153.24 | -148.31 | -146.81 |
| XBADJ | STCK12 | -140.86 | -130.62 | -118.74 | -173.84 | -223.66 | -266.68 |
| XBADJ | STCK12 | -301.60 | -327.36 | -343.17 | -348.55 | -343.34 | -330.02 |
| XBADJ | STCK12 | -323.89 | -307.91 | -282.59 | -248.67 | -207.20 | -159.43 |
| XBADJ | STCK12 | -106.82 | -50.97 | -1.66 | -25.15 | -47.87 | -69.13 |
| XBADJ | STCK12 | -88.30 | -104.78 | -118.08 | -127.79 | -133.62 | -138.29 |
| XBADJ | STCK13 | -226.61 | -208.05 | -183.16 | -152.71 | -120.66 | -92.89 |
| XBADJ | STCK13 | -62.30 | -29.81 | 1.26 | -38.30 | -76.69 | -112.76 |
| XBADJ | STCK13 | -145.40 | -173.62 | -196.56 | -213.54 | -224.02 | -230.02 |
| XBADJ | STCK13 | -246.24 | -254.99 | -255.98 | -249.20 | -234.85 | -213.36 |
| XBADJ | STCK13 | -185.38 | -151.78 | -121.66 | -160.69 | -194.83 | -223.06 |
| XBADJ | STCK13 | -244.50 | -258.52 | -264.68 | -262.80 | -252.94 | -238.29 |
| XBADJ | STCK14 | -128.13 | -114.08 | -96.56 | -76.10 | -56.38 | -42.89 |
| XBADJ | STCK14 | -28.09 | -12.45 | 1.26 | -55.66 | -110.90 | -162.76 |
| XBADJ | STCK14 | -209.68 | -250.22 | -283.17 | -307.51 | -322.50 | -330.02 |
| XBADJ | STCK14 | -344.73 | -348.96 | -342.59 | -325.80 | -299.12 | -263.36 |
| XBADJ | STCK14 | -219.58 | -169.14 | -121.66 | -143.32 | -160.63 | -173.06 |

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| XBADJ | STCK14 | -180.22 | -181.92 | -178.08 | -168.84 | -154.46 | -138.29 |
| XBADJ | STCK15 | -533.14 | -542.44 | -535.26 | -515.55 | -483.76 | -437.28 |
| XBADJ | STCK15 | -377.50 | -306.26 | -228.11 | -247.24 | -258.86 | -262.61 |
| XBADJ | STCK15 | -258.38 | -246.30 | -226.74 | -200.29 | -167.75 | 0.00 |
| XBADJ | STCK15 | -125.41 | -112.07 | -95.33 | -75.70 | -53.76 | -38.11 |
| XBADJ | STCK15 | -22.81 | -6.82 | 4.58 | -83.64 | -169.32 | -249.85 |
| XBADJ | STCK15 | -322.80 | -385.93 | -437.34 | -475.46 | -499.13 | 0.00 |
| XBADJ | STCK16 | -434.66 | -448.47 | -448.66 | -438.95 | -419.48 | -387.28 |
| XBADJ | STCK16 | -343.30 | -288.89 | -228.11 | -264.60 | -293.06 | -312.61 |
| XBADJ | STCK16 | -322.66 | -322.91 | -313.34 | -294.26 | -266.23 | 0.00 |
| XBADJ | STCK16 | -223.89 | -206.04 | -181.94 | -152.30 | -118.04 | -88.11 |
| XBADJ | STCK16 | -57.01 | -24.18 | 4.58 | -66.28 | -135.12 | -199.85 |
| XBADJ | STCK16 | -258.52 | -309.33 | -350.74 | -381.49 | -400.65 | 0.00 |
| XBADJ | STCK17 | -336.18 | -354.50 | -362.05 | -362.34 | -355.20 | -337.28 |
| XBADJ | STCK17 | -309.10 | -271.53 | -228.11 | -281.97 | -327.26 | -362.61 |
| XBADJ | STCK17 | -386.94 | -399.51 | -399.95 | -388.23 | -364.72 | 0.00 |
| XBADJ | STCK17 | -322.37 | -300.01 | -268.54 | -228.91 | -182.32 | -138.11 |
| XBADJ | STCK17 | -91.21 | -41.55 | 4.58 | -48.91 | -100.92 | -149.85 |
| XBADJ | STCK17 | -194.24 | -232.72 | -264.13 | -287.52 | -302.17 | 0.00 |
| XBADJ | STCK18 | -237.70 | -260.53 | -275.45 | -285.74 | -290.93 | -287.28 |
| XBADJ | STCK18 | -274.90 | -254.16 | -228.11 | -299.33 | -361.46 | -412.61 |
| XBADJ | STCK18 | -451.22 | -476.12 | -486.55 | -482.20 | -463.20 | 0.00 |
| XBADJ | STCK18 | -420.85 | -393.98 | -355.14 | -305.51 | -246.60 | -188.11 |
| XBADJ | STCK18 | -125.41 | -58.91 | 4.58 | -31.55 | -66.71 | -99.85 |
| XBADJ | STCK18 | -129.96 | -156.12 | -177.53 | -193.55 | -203.69 | 0.00 |
| XBADJ | STCK19 | -139.22 | -166.56 | -188.85 | -209.13 | -226.65 | -237.28 |
| XBADJ | STCK19 | -240.69 | -236.80 | -228.11 | -316.70 | -395.67 | -462.61 |
| XBADJ | STCK19 | -515.50 | -552.72 | -573.15 | -576.17 | -561.68 | 0.00 |
| XBADJ | STCK19 | -519.33 | -487.95 | -441.74 | -382.11 | -310.88 | -238.11 |
| XBADJ | STCK19 | -159.62 | -76.28 | 4.58 | -14.18 | -32.51 | -49.85 |
| XBADJ | STCK19 | -65.68 | -79.51 | -90.93 | -99.58 | -105.21 | 0.00 |
| XBADJ | STCK20 | -493.20 | -463.78 | -420.26 | -367.71 | -307.57 | -238.09 |
| XBADJ | STCK20 | -161.37 | -79.75 | 1.89 | -20.73 | -42.73 | -63.42 |
| XBADJ | STCK20 | -82.19 | -98.46 | -111.74 | -121.63 | -127.81 | -134.93 |
| XBADJ | STCK20 | -165.35 | -190.74 | -210.33 | -223.54 | -229.95 | -237.29 |
| XBADJ | STCK20 | -238.94 | -233.32 | -225.42 | -310.15 | -385.45 | -449.04 |
| XBADJ | STCK20 | -498.99 | -533.77 | -552.34 | -554.12 | -539.07 | -507.64 |
| XBADJ | STCK21 | -394.72 | -369.81 | -333.66 | -291.10 | -243.29 | -188.09 |
| XBADJ | STCK21 | -127.17 | -62.39 | 1.89 | -38.10 | -76.93 | -113.42 |
| XBADJ | STCK21 | -146.47 | -175.07 | -198.34 | -215.60 | -226.30 | -234.93 |
| XBADJ | STCK21 | -263.83 | -284.71 | -296.94 | -300.14 | -294.23 | -287.29 |
| XBADJ | STCK21 | -273.14 | -250.69 | -225.42 | -292.78 | -351.25 | -399.04 |
| XBADJ | STCK21 | -434.71 | -457.17 | -465.74 | -460.15 | -440.59 | -407.64 |
| XBADJ | STCK22 | -296.24 | -275.84 | -247.05 | -214.50 | -179.01 | -138.09 |
| XBADJ | STCK22 | -92.97 | -45.02 | 1.89 | -55.46 | -111.13 | -163.42 |
| XBADJ | STCK22 | -210.75 | -251.67 | -284.95 | -309.56 | -324.78 | -334.93 |
| XBADJ | STCK22 | -362.31 | -378.68 | -383.54 | -376.75 | -358.51 | -337.29 |
| XBADJ | STCK22 | -307.34 | -268.05 | -225.42 | -275.42 | -317.04 | -349.04 |

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|---|---|---|---|---|---|---|---|
| XBADJ | STCK22 | -370.43 | -380.56 | -379.13 | -366.19 | -342.11 | -307.64 |
| XBADJ | STCK23 | -197.76 | -181.87 | -160.45 | -137.90 | -114.74 | -88.09 |
| XBADJ | STCK23 | -58.77 | -27.66 | 1.89 | -72.83 | -145.33 | -213.42 |
| XBADJ | STCK23 | -275.03 | -328.28 | -371.55 | -403.53 | -423.26 | -434.93 |
| XBADJ | STCK23 | -460.79 | -472.64 | -470.14 | -453.35 | -422.79 | -387.29 |
| XBADJ | STCK23 | -341.54 | -285.42 | -225.42 | -258.05 | -282.84 | -299.04 |
| XBADJ | STCK23 | -306.15 | -303.96 | -292.53 | -272.22 | -243.63 | -207.64 |
| XBADJ | STCK24 | -99.28 | -87.90 | -73.85 | -61.29 | -50.46 | -38.09 |
| XBADJ | STCK24 | -24.57 | -10.29 | 1.89 | -90.19 | -179.54 | -263.42 |
| XBADJ | STCK24 | -339.31 | -404.88 | -458.15 | -497.50 | -521.74 | -534.93 |
| XBADJ | STCK24 | -559.27 | -566.61 | -556.74 | -529.96 | -487.07 | -437.29 |
| XBADJ | STCK24 | -375.75 | -302.78 | -225.42 | -240.69 | -248.64 | -249.04 |
| XBADJ | STCK24 | -241.87 | -227.35 | -205.93 | -178.25 | -145.15 | -107.64 |
| XBADJ | STCK25 | -247.45 | -249.09 | -243.16 | -229.84 | -212.59 | -196.81 |
| XBADJ | STCK25 | -175.06 | -147.99 | -118.74 | -156.48 | -189.46 | -216.68 |
| XBADJ | STCK25 | -237.32 | -250.75 | -256.56 | -254.58 | -244.86 | -230.02 |
| XBADJ | STCK25 | -225.41 | -213.95 | -195.98 | -172.07 | -142.92 | -109.43 |
| XBADJ | STCK25 | -72.62 | -33.60 | -1.66 | -42.51 | -82.07 | -119.13 |
| XBADJ | STCK25 | -152.58 | -181.39 | -204.68 | -221.76 | -232.10 | -238.29 |
| XBADJ | STCK26 | -148.97 | -155.12 | -156.56 | -153.24 | -148.31 | -146.81 |
| XBADJ | STCK26 | -140.86 | -130.62 | -118.74 | -173.84 | -223.66 | -266.68 |
| XBADJ | STCK26 | -301.60 | -327.36 | -343.17 | -348.55 | -343.34 | -330.02 |
| XBADJ | STCK26 | -323.89 | -307.91 | -282.59 | -248.67 | -207.20 | -159.43 |
| XBADJ | STCK26 | -106.82 | -50.97 | -1.66 | -25.15 | -47.87 | -69.13 |
| XBADJ | STCK26 | -88.30 | -104.78 | -118.08 | -127.79 | -133.62 | -138.29 |
| XBADJ | STCK27 | -226.61 | -208.05 | -183.16 | -152.71 | -120.66 | -92.89 |
| XBADJ | STCK27 | -62.30 | -29.81 | 1.26 | -38.30 | -76.69 | -112.76 |
| XBADJ | STCK27 | -145.40 | -173.62 | -196.56 | -213.54 | -224.02 | -230.02 |
| XBADJ | STCK27 | -246.24 | -254.99 | -255.98 | -249.20 | -234.85 | -213.36 |
| XBADJ | STCK27 | -185.38 | -151.78 | -121.66 | -160.69 | -194.83 | -223.06 |
| XBADJ | STCK27 | -244.50 | -258.52 | -264.68 | -262.80 | -252.94 | -238.29 |
| XBADJ | STCK28 | -128.13 | -114.08 | -96.56 | -76.10 | -56.38 | -42.89 |
| XBADJ | STCK28 | -28.09 | -12.45 | 1.26 | -55.66 | -110.90 | -162.76 |
| XBADJ | STCK28 | -209.68 | -250.22 | -283.17 | -307.51 | -322.50 | -330.02 |
| XBADJ | STCK28 | -344.73 | -348.96 | -342.59 | -325.80 | -299.12 | -263.36 |
| XBADJ | STCK28 | -219.58 | -169.14 | -121.66 | -143.32 | -160.63 | -173.06 |
| XBADJ | STCK28 | -180.22 | -181.92 | -178.08 | -168.84 | -154.46 | -138.29 |
| YBADJ | STCK1 | 81.80 | 44.77 | 6.38 | -32.21 | -69.81 | -105.30 |
| YBADJ | STCK1 | -137.58 | -165.69 | -186.36 | -203.87 | -215.18 | -219.96 |
| YBADJ | STCK1 | -219.93 | -215.00 | -199.58 | -177.35 | -149.72 | 0.00 |
| YBADJ | STCK1 | -81.80 | -44.77 | -6.38 | 32.21 | 69.81 | 105.30 |
| YBADJ | STCK1 | 137.58 | 165.69 | 186.36 | 203.87 | 215.18 | 219.96 |
| YBADJ | STCK1 | 219.93 | 215.00 | 199.58 | 177.35 | 149.72 | 0.00 |
| YBADJ | STCK2 | 99.16 | 78.97 | 56.38 | 32.07 | 6.79 | -18.70 |
| YBADJ | STCK2 | -43.61 | -67.21 | -86.36 | -105.39 | -121.21 | -133.36 |
| YBADJ | STCK2 | -143.32 | -150.72 | -149.58 | -143.14 | -132.36 | 0.00 |
| YBADJ | STCK2 | -99.16 | -78.97 | -56.38 | -32.07 | -6.79 | 18.70 |
| YBADJ | STCK2 | 43.61 | 67.21 | 86.36 | 105.39 | 121.21 | 133.36 |

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|---|---|---|---|---|---|---|---|
| YBADJ | STCK2 | 143.32 | 150.72 | 149.58 | 143.14 | 132.36 | 0.00 |
| YBADJ | STCK3 | 116.53 | 113.17 | 106.38 | 96.35 | 83.40 | 67.91 |
| YBADJ | STCK3 | 50.35 | 31.27 | 13.65 | -6.91 | -27.25 | -46.76 |
| YBADJ | STCK3 | -66.72 | -86.44 | -99.58 | -108.94 | -114.99 | 0.00 |
| YBADJ | STCK3 | -116.53 | -113.17 | -106.38 | -96.35 | -83.40 | -67.91 |
| YBADJ | STCK3 | -50.35 | -31.27 | -13.64 | 6.91 | 27.25 | 46.76 |
| YBADJ | STCK3 | 66.72 | 86.44 | 99.58 | 108.94 | 114.99 | 0.00 |
| YBADJ | STCK4 | 133.89 | 147.37 | 156.38 | 160.63 | 160.00 | 154.51 |
| YBADJ | STCK4 | 144.32 | 129.75 | 113.65 | 91.58 | 66.72 | 39.84 |
| YBADJ | STCK4 | 9.89 | -22.16 | -49.58 | -74.74 | -97.63 | 0.00 |
| YBADJ | STCK4 | -133.89 | -147.37 | -156.38 | -160.63 | -160.00 | -154.51 |
| YBADJ | STCK4 | -144.32 | -129.75 | -113.64 | -91.58 | -66.72 | -39.84 |
| YBADJ | STCK4 | -9.89 | 22.16 | 49.58 | 74.74 | 97.63 | 0.00 |
| YBADJ | STCK5 | 151.26 | 181.58 | 206.38 | 224.91 | 236.60 | 241.11 |
| YBADJ | STCK5 | 238.29 | 228.23 | 213.65 | 190.06 | 160.69 | 126.45 |
| YBADJ | STCK5 | 86.49 | 42.11 | 0.42 | -40.54 | -80.26 | 0.00 |
| YBADJ | STCK5 | -151.26 | -181.58 | -206.38 | -224.91 | -236.60 | -241.11 |
| YBADJ | STCK5 | -238.29 | -228.23 | -213.64 | -190.06 | -160.69 | -126.45 |
| YBADJ | STCK5 | -86.49 | -42.11 | -0.42 | 40.54 | 80.26 | 0.00 |
| YBADJ | STCK6 | -144.71 | -171.36 | -192.81 | -208.40 | -217.65 | -220.30 |
| YBADJ | STCK6 | -216.25 | -205.63 | -186.35 | -163.93 | -136.52 | -104.96 |
| YBADJ | STCK6 | -72.09 | -38.81 | -0.40 | 38.78 | 76.79 | 113.66 |
| YBADJ | STCK6 | 144.71 | 171.36 | 192.81 | 208.40 | 217.65 | 220.30 |
| YBADJ | STCK6 | 216.25 | 205.63 | 186.35 | 163.93 | 136.52 | 104.96 |
| YBADJ | STCK6 | 72.09 | 38.81 | 0.40 | -38.78 | -76.79 | -113.66 |
| YBADJ | STCK7 | -127.34 | -137.16 | -142.81 | -144.12 | -141.05 | -133.70 |
| YBADJ | STCK7 | -122.28 | -107.15 | -86.35 | -65.45 | -42.55 | -18.36 |
| YBADJ | STCK7 | 4.52 | 25.47 | 49.60 | 72.98 | 94.15 | 113.66 |
| YBADJ | STCK7 | 127.34 | 137.16 | 142.81 | 144.12 | 141.05 | 133.70 |
| YBADJ | STCK7 | 122.28 | 107.15 | 86.35 | 65.45 | 42.55 | 18.36 |
| YBADJ | STCK7 | -4.52 | -25.47 | -49.60 | -72.98 | -94.15 | -113.66 |
| YBADJ | STCK8 | -109.98 | -102.96 | -92.81 | -79.84 | -64.45 | -47.09 |
| YBADJ | STCK8 | -28.31 | -8.67 | 13.65 | 33.03 | 51.42 | 68.24 |
| YBADJ | STCK8 | 81.12 | 89.75 | 99.60 | 107.19 | 111.51 | 113.65 |
| YBADJ | STCK8 | 109.98 | 102.96 | 92.81 | 79.84 | 64.45 | 47.09 |
| YBADJ | STCK8 | 28.31 | 8.67 | -13.65 | -33.03 | -51.42 | -68.24 |
| YBADJ | STCK8 | -81.12 | -89.75 | -99.60 | -107.19 | -111.51 | -113.65 |
| YBADJ | STCK9 | -92.61 | -68.75 | -42.81 | -15.56 | 12.16 | 39.51 |
| YBADJ | STCK9 | 65.66 | 89.81 | 113.65 | 131.51 | 145.39 | 154.84 |
| YBADJ | STCK9 | 157.73 | 154.03 | 149.60 | 141.39 | 128.88 | 113.65 |
| YBADJ | STCK9 | 92.61 | 68.75 | 42.81 | 15.56 | -12.16 | -39.51 |
| YBADJ | STCK9 | -65.66 | -89.81 | -113.65 | -131.51 | -145.39 | -154.84 |
| YBADJ | STCK9 | -157.73 | -154.03 | -149.60 | -141.39 | -128.88 | -113.65 |
| YBADJ | STCK10 | -75.25 | -34.55 | 7.19 | 48.72 | 88.76 | 126.11 |
| YBADJ | STCK10 | 159.63 | 188.29 | 213.65 | 230.00 | 239.36 | 241.45 |
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| | | | | | | | |
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SRCGROUP STCK10 STCK10

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   SRCGROUP STCK7    STCK7
   SRCGROUP STCK8    STCK8
   SRCGROUP STCK9    STCK9
SO FINISHED
**
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** AERMOD Receptor Pathway
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**
**
RE STARTING
** DESCRREC "" ""
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   DISCCART    632304.44   4174354.52
   DISCCART    632192.15   4174956.32
   DISCCART    632420.62   4175510.15
   DISCCART    632418.97   4175552.92
   DISCCART    631187.00   4175727.00
   DISCCART    631166.00   4175729.00
   DISCCART    631121.00   4175719.00
   DISCCART    631035.00   4174830.00
   DISCCART    631106.00   4174825.00
   DISCCART    631937.00   4174528.00
   DISCCART    631322.00   4174522.00
** DESCRREC "UCART1" "Receptors generated from Uniform Cartesian Grid"
   DISCCART    629800.63   4173850.44
   DISCCART    630150.63   4173850.44
   DISCCART    630500.63   4173850.44
   DISCCART    630850.63   4173850.44
   DISCCART    631200.63   4173850.44
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   DISCCART    632250.63   4173850.44
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DISCCART 631200.63 4177350.44
DISCCART 631550.63 4177350.44
DISCCART 631900.63 4177350.44
DISCCART 632250.63 4177350.44
DISCCART 632600.63 4177350.44
DISCCART 632950.63 4177350.44

DISCCART 633300.63 4177350.44
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DISCCART 631669.80 4175641.41
DISCCART 631665.32 4175796.39
DISCCART 631417.17 4175826.85
DISCCART 631417.17 4175673.66
DISCCART 631422.55 4175484.63
** DESCRREC "FENCEPRI" "Cartesian plant boundary Primary Receptors"
DISCCART 631268.42 4175983.74
DISCCART 631275.69 4175523.99
DISCCART 631345.65 4175419.50
DISCCART 631384.72 4175441.30
DISCCART 631491.93 4175442.21
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DISCCART 631385.63 4175413.14
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DISCCART 631567.35 4175235.96
DISCCART 631756.33 4175028.80
DISCCART 631807.22 4175003.36
DISCCART 631867.18 4174987.91
DISCCART 631849.92 4175988.28
** DESCRREC "FENCEINT" "Cartesian plant boundary Intermediate Receptors"
DISCCART 631268.74 4175963.75
DISCCART 631269.05 4175943.76
DISCCART 631269.37 4175923.77
DISCCART 631269.68 4175903.78
DISCCART 631270.00 4175883.79
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DISCCART 631271.90 4175763.86
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DISCCART 631272.53 4175723.88
DISCCART 631272.85 4175703.89
DISCCART 631273.16 4175683.90
DISCCART 631273.48 4175663.91
DISCCART 631273.79 4175643.92
DISCCART 631274.11 4175623.94
DISCCART 631274.43 4175603.95
DISCCART 631274.74 4175583.96
DISCCART 631275.06 4175563.97
DISCCART 631275.37 4175543.98
DISCCART 631285.68 4175509.06
DISCCART 631295.68 4175494.14
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DISCCART 631315.67 4175464.28
DISCCART 631325.66 4175449.35
DISCCART 631335.66 4175434.43
DISCCART 631358.67 4175426.77
DISCCART 631371.70 4175434.03
DISCCART 631402.59 4175441.45
DISCCART 631420.46 4175441.60

| | | |
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| DISCCART | 631456.19 | 4175441.91 |
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| DISCCART | 631421.06 | 4175413.74 |
| DISCCART | 631403.35 | 4175413.44 |
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| DISCCART | 631440.87 | 4175316.64 |
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| DISCCART | 631535.73 | 4175256.13 |
| DISCCART | 631551.54 | 4175246.05 |
| DISCCART | 631579.95 | 4175222.15 |
| DISCCART | 631592.55 | 4175208.34 |
| DISCCART | 631605.15 | 4175194.53 |
| DISCCART | 631617.74 | 4175180.72 |
| DISCCART | 631630.34 | 4175166.91 |
| DISCCART | 631642.94 | 4175153.10 |
| DISCCART | 631655.54 | 4175139.29 |
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| DISCCART | 631680.74 | 4175111.66 |
| DISCCART | 631693.34 | 4175097.85 |
| DISCCART | 631705.94 | 4175084.04 |
| DISCCART | 631718.53 | 4175070.23 |
| DISCCART | 631731.13 | 4175056.42 |
| DISCCART | 631743.73 | 4175042.61 |
| DISCCART | 631773.29 | 4175020.32 |
| DISCCART | 631790.26 | 4175011.84 |
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| DISCCART | 631837.20 | 4174995.64 |
| DISCCART | 631852.19 | 4174991.77 |
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| DISCCART | 631866.50 | 4175027.14 |
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| DISCCART | 631865.83 | 4175066.37 |
| DISCCART | 631865.49 | 4175085.99 |
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| DISCCART | 631864.47 | 4175144.83 |
| DISCCART | 631864.13 | 4175164.45 |
| DISCCART | 631863.80 | 4175184.06 |
| DISCCART | 631863.46 | 4175203.68 |
| DISCCART | 631863.12 | 4175223.29 |
| DISCCART | 631862.78 | 4175242.91 |
| DISCCART | 631862.44 | 4175262.52 |
| DISCCART | 631862.10 | 4175282.14 |

| | | |
|---|---|---|
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| DISCCART | 631861.09 | 4175340.98 |
| DISCCART | 631860.75 | 4175360.60 |
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| DISCCART | 631860.07 | 4175399.83 |
| DISCCART | 631859.73 | 4175419.44 |
| DISCCART | 631859.40 | 4175439.06 |
| DISCCART | 631859.06 | 4175458.67 |
| DISCCART | 631858.72 | 4175478.29 |
| DISCCART | 631858.38 | 4175497.90 |
| DISCCART | 631858.04 | 4175517.52 |
| DISCCART | 631857.70 | 4175537.13 |
| DISCCART | 631857.37 | 4175556.75 |
| DISCCART | 631857.03 | 4175576.36 |
| DISCCART | 631856.69 | 4175595.98 |
| DISCCART | 631856.35 | 4175615.59 |
| DISCCART | 631856.01 | 4175635.21 |
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| DISCCART | 631855.33 | 4175674.44 |
| DISCCART | 631855.00 | 4175694.05 |
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| DISCCART | 631854.32 | 4175733.28 |
| DISCCART | 631853.98 | 4175752.90 |
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| DISCCART | 631853.30 | 4175792.13 |
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| DISCCART | 631852.29 | 4175850.97 |
| DISCCART | 631851.95 | 4175870.59 |
| DISCCART | 631851.61 | 4175890.20 |
| DISCCART | 631851.27 | 4175909.82 |
| DISCCART | 631850.94 | 4175929.43 |
| DISCCART | 631850.60 | 4175949.05 |
| DISCCART | 631850.26 | 4175968.66 |
| DISCCART | 631830.54 | 4175988.13 |
| DISCCART | 631811.15 | 4175987.98 |
| DISCCART | 631791.77 | 4175987.83 |
| DISCCART | 631772.39 | 4175987.67 |
| DISCCART | 631753.00 | 4175987.52 |
| DISCCART | 631733.62 | 4175987.37 |
| DISCCART | 631714.24 | 4175987.22 |
| DISCCART | 631694.85 | 4175987.07 |
| DISCCART | 631675.47 | 4175986.92 |
| DISCCART | 631656.09 | 4175986.77 |
| DISCCART | 631636.70 | 4175986.62 |
| DISCCART | 631617.32 | 4175986.46 |
| DISCCART | 631597.94 | 4175986.31 |
| DISCCART | 631578.55 | 4175986.16 |
| DISCCART | 631559.17 | 4175986.01 |
| DISCCART | 631539.79 | 4175985.86 |
| DISCCART | 631520.40 | 4175985.71 |
| DISCCART | 631501.02 | 4175985.56 |
| DISCCART | 631481.64 | 4175985.40 |
| DISCCART | 631462.25 | 4175985.25 |
| DISCCART | 631442.87 | 4175985.10 |

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  DISCCART    631345.95   4175984.35
  DISCCART    631326.57   4175984.19
  DISCCART    631307.19   4175984.04
  DISCCART    631287.80   4175983.89
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
  SURFFILE AERMET\Tracy_2004-2008.SFC
  PROFFILE AERMET\Tracy_2004-2008.PFL
  SURFDATA 99008 2004 Tracy,CA
  UAIRDATA 66666 2004
  PROFBASE 158.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
  RECTABLE ALLAVE 1ST
  RECTABLE 1 1ST
** Auto-Generated Plotfiles
  PLOTFILE 1 SLINE1 1ST "TRACY COSTCOV2.AD\01H1G001.PLT" 31
  PLOTFILE 1 SLINE2 1ST "TRACY COSTCOV2.AD\01H1G002.PLT" 32
  PLOTFILE 1 SLINE3 1ST "TRACY COSTCOV2.AD\01H1G003.PLT" 33
  PLOTFILE 1 SLINE4 1ST "TRACY COSTCOV2.AD\01H1G004.PLT" 34
  PLOTFILE 1 SLINE5 1ST "TRACY COSTCOV2.AD\01H1G005.PLT" 35
  PLOTFILE 1 STCK1 1ST "TRACY COSTCOV2.AD\01H1G006.PLT" 36
  PLOTFILE 1 STCK10 1ST "TRACY COSTCOV2.AD\01H1G007.PLT" 37
  PLOTFILE 1 STCK11 1ST "TRACY COSTCOV2.AD\01H1G008.PLT" 38
  PLOTFILE 1 STCK12 1ST "TRACY COSTCOV2.AD\01H1G009.PLT" 39
  PLOTFILE 1 STCK13 1ST "TRACY COSTCOV2.AD\01H1G010.PLT" 40
  PLOTFILE 1 STCK14 1ST "TRACY COSTCOV2.AD\01H1G011.PLT" 41
  PLOTFILE 1 STCK15 1ST "TRACY COSTCOV2.AD\01H1G012.PLT" 42
  PLOTFILE 1 STCK16 1ST "TRACY COSTCOV2.AD\01H1G013.PLT" 43
  PLOTFILE 1 STCK17 1ST "TRACY COSTCOV2.AD\01H1G014.PLT" 44
  PLOTFILE 1 STCK18 1ST "TRACY COSTCOV2.AD\01H1G015.PLT" 45
  PLOTFILE 1 STCK19 1ST "TRACY COSTCOV2.AD\01H1G016.PLT" 46
  PLOTFILE 1 STCK2 1ST "TRACY COSTCOV2.AD\01H1G017.PLT" 47
  PLOTFILE 1 STCK20 1ST "TRACY COSTCOV2.AD\01H1G018.PLT" 48
  PLOTFILE 1 STCK21 1ST "TRACY COSTCOV2.AD\01H1G019.PLT" 49
  PLOTFILE 1 STCK22 1ST "TRACY COSTCOV2.AD\01H1G020.PLT" 50
  PLOTFILE 1 STCK23 1ST "TRACY COSTCOV2.AD\01H1G021.PLT" 51
  PLOTFILE 1 STCK24 1ST "TRACY COSTCOV2.AD\01H1G022.PLT" 52
  PLOTFILE 1 STCK25 1ST "TRACY COSTCOV2.AD\01H1G023.PLT" 53
  PLOTFILE 1 STCK26 1ST "TRACY COSTCOV2.AD\01H1G024.PLT" 54
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  PLOTFILE 1 STCK27 1ST "TRACY COSTCOV2.AD\01H1G025.PLT" 55
  PLOTFILE 1 STCK28 1ST "TRACY COSTCOV2.AD\01H1G026.PLT" 56
  PLOTFILE 1 STCK3 1ST "TRACY COSTCOV2.AD\01H1G027.PLT" 57
  PLOTFILE 1 STCK4 1ST "TRACY COSTCOV2.AD\01H1G028.PLT" 58
  PLOTFILE 1 STCK5 1ST "TRACY COSTCOV2.AD\01H1G029.PLT" 59
  PLOTFILE 1 STCK6 1ST "TRACY COSTCOV2.AD\01H1G030.PLT" 60
  PLOTFILE 1 STCK7 1ST "TRACY COSTCOV2.AD\01H1G031.PLT" 61
  PLOTFILE 1 STCK8 1ST "TRACY COSTCOV2.AD\01H1G032.PLT" 62
  PLOTFILE 1 STCK9 1ST "TRACY COSTCOV2.AD\01H1G033.PLT" 63
  PLOTFILE PERIOD SLINE1 "TRACY COSTCOV2.AD\PE00G001.PLT" 64
  PLOTFILE PERIOD SLINE2 "TRACY COSTCOV2.AD\PE00G002.PLT" 65
  PLOTFILE PERIOD SLINE3 "TRACY COSTCOV2.AD\PE00G003.PLT" 66
  PLOTFILE PERIOD SLINE4 "TRACY COSTCOV2.AD\PE00G004.PLT" 67
  PLOTFILE PERIOD SLINE5 "TRACY COSTCOV2.AD\PE00G005.PLT" 68
  PLOTFILE PERIOD STCK1 "TRACY COSTCOV2.AD\PE00G006.PLT" 69
  PLOTFILE PERIOD STCK10 "TRACY COSTCOV2.AD\PE00G007.PLT" 70
  PLOTFILE PERIOD STCK11 "TRACY COSTCOV2.AD\PE00G008.PLT" 71
  PLOTFILE PERIOD STCK12 "TRACY COSTCOV2.AD\PE00G009.PLT" 72
  PLOTFILE PERIOD STCK13 "TRACY COSTCOV2.AD\PE00G010.PLT" 73
  PLOTFILE PERIOD STCK14 "TRACY COSTCOV2.AD\PE00G011.PLT" 74
  PLOTFILE PERIOD STCK15 "TRACY COSTCOV2.AD\PE00G012.PLT" 75
  PLOTFILE PERIOD STCK16 "TRACY COSTCOV2.AD\PE00G013.PLT" 76
  PLOTFILE PERIOD STCK17 "TRACY COSTCOV2.AD\PE00G014.PLT" 77
  PLOTFILE PERIOD STCK18 "TRACY COSTCOV2.AD\PE00G015.PLT" 78
  PLOTFILE PERIOD STCK19 "TRACY COSTCOV2.AD\PE00G016.PLT" 79
  PLOTFILE PERIOD STCK2 "TRACY COSTCOV2.AD\PE00G017.PLT" 80
  PLOTFILE PERIOD STCK20 "TRACY COSTCOV2.AD\PE00G018.PLT" 81
  PLOTFILE PERIOD STCK21 "TRACY COSTCOV2.AD\PE00G019.PLT" 82
  PLOTFILE PERIOD STCK22 "TRACY COSTCOV2.AD\PE00G020.PLT" 83
  PLOTFILE PERIOD STCK23 "TRACY COSTCOV2.AD\PE00G021.PLT" 84
  PLOTFILE PERIOD STCK24 "TRACY COSTCOV2.AD\PE00G022.PLT" 85
  PLOTFILE PERIOD STCK25 "TRACY COSTCOV2.AD\PE00G023.PLT" 86
  PLOTFILE PERIOD STCK26 "TRACY COSTCOV2.AD\PE00G024.PLT" 87
  PLOTFILE PERIOD STCK27 "TRACY COSTCOV2.AD\PE00G025.PLT" 88
  PLOTFILE PERIOD STCK28 "TRACY COSTCOV2.AD\PE00G026.PLT" 89
  PLOTFILE PERIOD STCK3 "TRACY COSTCOV2.AD\PE00G027.PLT" 90
  PLOTFILE PERIOD STCK4 "TRACY COSTCOV2.AD\PE00G028.PLT" 91
  PLOTFILE PERIOD STCK5 "TRACY COSTCOV2.AD\PE00G029.PLT" 92
  PLOTFILE PERIOD STCK6 "TRACY COSTCOV2.AD\PE00G030.PLT" 93
  PLOTFILE PERIOD STCK7 "TRACY COSTCOV2.AD\PE00G031.PLT" 94
  PLOTFILE PERIOD STCK8 "TRACY COSTCOV2.AD\PE00G032.PLT" 95
  PLOTFILE PERIOD STCK9 "TRACY COSTCOV2.AD\PE00G033.PLT" 96
  SUMMFILE "Tracy CostcoV2.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of         0 Fatal Error Message(s)
 A Total of        15 Warning Message(s)
 A Total of         0 Informational Message(s)


   ******** FATAL ERROR MESSAGES ********
```

*** NONE ***

******** WARNING MESSAGES ********

| | | | |
|---|---|---|---|
| SO W320 | 4660 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4661 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4662 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4663 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4664 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4665 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4666 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4667 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4668 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4669 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4670 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4671 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4672 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4673 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| ME W187 | 6403 | MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET | |

**********
*** SETUP Finishes Successfully ***
**********

*** AERMOD - VERSION 19191 *** *** C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C *** 06/06/22
*** AERMET - VERSION 18081 *** *** *** 12:14:02



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***

---

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Allows User-Specified Options:
1. Stack-tip Downwash.
2. Model Assumes Receptors on FLAT Terrain.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.

**Other Options Specified:
ADJ_U* - Use ADJ_U* option for SBL in AERMET
CCVR_Sub - Meteorological data includes CCVR substitutions
TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: OTHER

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

**This Run Includes: 2261 Source(s); 33 Source Group(s); and 305 Receptor(s)

with: 28 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 2233 VOLUME source(s)
and: 0 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with 0 line(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 18081

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 158.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 8.3 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**Detailed Error/Message File: Tracy CostcoV2.err
**File for Summary of Results: Tracy CostcoV2.sum
*** AERMOD - VERSION 19191 *** *** C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C *** 06/06/22
*** AERMET - VERSION 18081 *** *** *** 12:14:02
PAGE 2
*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** POINT SOURCE DATA ***

| SOURCE | NUMBER PART. | EMISSION RATE (GRAMS/SEC) | X | Y | BASE ELEV. | STACK HEIGHT | STACK TEMP. | STACK EXIT VEL. | STACK DIAMETER | BLDG EXISTS | URBAN SOURCE | CAP/ HOR | EMIS RATE SCALAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| ID | CATS. | (METERS) | (METERS) | (METERS) | (METERS) | (DEG.K) | (M/SEC) | (METERS) | | | VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STCK1 | 0 | 0.10000E+01 | 631780.6 | 4175800.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK2 | 0 | 0.10000E+01 | 631780.6 | 4175700.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK3 | 0 | 0.10000E+01 | 631780.6 | 4175600.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK4 | 0 | 0.10000E+01 | 631780.6 | 4175500.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK5 | 0 | 0.10000E+01 | 631780.6 | 4175400.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK6 | 0 | 0.10000E+01 | 631550.6 | 4175800.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK7 | 0 | 0.10000E+01 | 631550.6 | 4175700.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK8 | 0 | 0.10000E+01 | 631550.6 | 4175600.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK9 | 0 | 0.10000E+01 | 631550.6 | 4175500.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK10 | 0 | 0.10000E+01 | 631550.6 | 4175400.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK11 | 0 | 0.10000E+01 | 631480.6 | 4175700.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK12 | 0 | 0.10000E+01 | 631480.6 | 4175600.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK13 | 0 | 0.10000E+01 | 631360.6 | 4175700.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK14 | 0 | 0.10000E+01 | 631360.6 | 4175600.4 | 158.0 | 3.66 | 366.00 | 57.10 | 0.10 | YES | NO | NO |
| STCK15 | 0 | 0.10000E+01 | 631780.6 | 4175800.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK16 | 0 | 0.10000E+01 | 631780.6 | 4175700.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK17 | 0 | 0.10000E+01 | 631780.6 | 4175600.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK18 | 0 | 0.10000E+01 | 631780.6 | 4175500.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK19 | 0 | 0.10000E+01 | 631780.6 | 4175400.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK20 | 0 | 0.10000E+01 | 631550.6 | 4175800.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK21 | 0 | 0.10000E+01 | 631550.6 | 4175700.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK22 | 0 | 0.10000E+01 | 631550.6 | 4175600.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK23 | 0 | 0.10000E+01 | 631550.6 | 4175500.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK24 | 0 | 0.10000E+01 | 631550.6 | 4175400.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK25 | 0 | 0.10000E+01 | 631480.6 | 4175700.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK26 | 0 | 0.10000E+01 | 631480.6 | 4175600.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK27 | 0 | 0.10000E+01 | 631360.6 | 4175700.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |
| STCK28 | 0 | 0.10000E+01 | 631360.6 | 4175600.4 | 158.0 | 3.96 | 501.00 | 49.00 | 0.04 | YES | NO | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000001 | 0 | 0.11507E-02 | 631842.6 | 4175984.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000002 | 0 | 0.11507E-02 | 631842.6 | 4175980.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000003 | 0 | 0.11507E-02 | 631842.6 | 4175976.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000004 | 0 | 0.11507E-02 | 631842.6 | 4175973.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000005 | 0 | 0.11507E-02 | 631842.6 | 4175969.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000006 | 0 | 0.11507E-02 | 631842.6 | 4175965.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000007 | 0 | 0.11507E-02 | 631842.6 | 4175962.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000008 | 0 | 0.11507E-02 | 631842.6 | 4175958.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000009 | 0 | 0.11507E-02 | 631842.6 | 4175954.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000010 | 0 | 0.11507E-02 | 631842.6 | 4175951.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000011 | 0 | 0.11507E-02 | 631842.6 | 4175947.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000012 | 0 | 0.11507E-02 | 631842.6 | 4175943.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000013 | 0 | 0.11507E-02 | 631842.6 | 4175940.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000014 | 0 | 0.11507E-02 | 631842.6 | 4175936.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000015 | 0 | 0.11507E-02 | 631842.6 | 4175932.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000016 | 0 | 0.11507E-02 | 631842.6 | 4175929.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000017 | 0 | 0.11507E-02 | 631842.6 | 4175925.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000018 | 0 | 0.11507E-02 | 631842.6 | 4175921.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000019 | 0 | 0.11507E-02 | 631842.6 | 4175918.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000020 | 0 | 0.11507E-02 | 631842.7 | 4175914.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000021 | 0 | 0.11507E-02 | 631842.8 | 4175910.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000022 | 0 | 0.11507E-02 | 631842.8 | 4175907.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000023 | 0 | 0.11507E-02 | 631842.9 | 4175903.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000024 | 0 | 0.11507E-02 | 631842.9 | 4175899.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000025 | 0 | 0.11507E-02 | 631843.0 | 4175896.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000026 | 0 | 0.11507E-02 | 631843.1 | 4175892.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000027 | 0 | 0.11507E-02 | 631843.1 | 4175888.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000028 | 0 | 0.11507E-02 | 631843.2 | 4175885.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000029 | 0 | 0.11507E-02 | 631843.3 | 4175881.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000030 | 0 | 0.11507E-02 | 631843.3 | 4175877.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000031 | 0 | 0.11507E-02 | 631843.4 | 4175874.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000032 | 0 | 0.11507E-02 | 631843.4 | 4175870.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000033 | 0 | 0.11507E-02 | 631843.5 | 4175867.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000034 | 0 | 0.11507E-02 | 631843.6 | 4175863.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000035 | 0 | 0.11507E-02 | 631843.6 | 4175859.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000036 | 0 | 0.11507E-02 | 631843.7 | 4175856.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000037 | 0 | 0.11507E-02 | 631843.7 | 4175852.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000038 | 0 | 0.11507E-02 | 631843.8 | 4175848.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000039 | 0 | 0.11507E-02 | 631843.9 | 4175845.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000040 | 0 | 0.11507E-02 | 631843.9 | 4175841.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000041 | 0 | 0.11507E-02 | 631844.0 | 4175837.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000042 | 0 | 0.11507E-02 | 631844.0 | 4175834.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000043 | 0 | 0.11507E-02 | 631844.1 | 4175830.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000044 | 0 | 0.11507E-02 | 631844.2 | 4175826.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000045 | 0 | 0.11507E-02 | 631844.2 | 4175823.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000046 | 0 | 0.11507E-02 | 631844.3 | 4175819.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000047 | 0 | 0.11507E-02 | 631844.3 | 4175815.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000048 | 0 | 0.11507E-02 | 631844.4 | 4175812.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000049 | 0 | 0.11507E-02 | 631844.5 | 4175808.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000050 | 0 | 0.11507E-02 | 631844.5 | 4175804.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000051 | 0 | 0.11507E-02 | 631844.6 | 4175801.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000052 | 0 | 0.11507E-02 | 631844.6 | 4175797.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000053 | 0 | 0.11507E-02 | 631844.7 | 4175793.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000054 | 0 | 0.11507E-02 | 631844.8 | 4175790.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000055 | 0 | 0.11507E-02 | 631844.8 | 4175786.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000056 | 0 | 0.11507E-02 | 631844.9 | 4175782.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000057 | 0 | 0.11507E-02 | 631844.9 | 4175779.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000058 | 0 | 0.11507E-02 | 631845.0 | 4175775.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000059 | 0 | 0.11507E-02 | 631845.1 | 4175771.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000060 | 0 | 0.11507E-02 | 631845.1 | 4175768.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000061 | 0 | 0.11507E-02 | 631845.2 | 4175764.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000062 | 0 | 0.11507E-02 | 631845.3 | 4175760.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000063 | 0 | 0.11507E-02 | 631845.3 | 4175757.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000064 | 0 | 0.11507E-02 | 631845.4 | 4175753.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000065 | 0 | 0.11507E-02 | 631845.4 | 4175749.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000066 | 0 | 0.11507E-02 | 631845.5 | 4175746.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000067 | 0 | 0.11507E-02 | 631845.6 | 4175742.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000068 | 0 | 0.11507E-02 | 631845.6 | 4175739.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000069 | 0 | 0.11507E-02 | 631845.7 | 4175735.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000070 | 0 | 0.11507E-02 | 631845.7 | 4175731.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000071 | 0 | 0.11507E-02 | 631845.8 | 4175728.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000072 | 0 | 0.11507E-02 | 631845.9 | 4175724.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000073 | 0 | 0.11507E-02 | 631845.9 | 4175720.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000074 | 0 | 0.11507E-02 | 631846.0 | 4175717.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000075 | 0 | 0.11507E-02 | 631846.0 | 4175713.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000076 | 0 | 0.11507E-02 | 631846.1 | 4175709.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000077 | 0 | 0.11507E-02 | 631846.2 | 4175706.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000078 | 0 | 0.11507E-02 | 631846.2 | 4175702.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000079 | 0 | 0.11507E-02 | 631846.3 | 4175698.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000080 | 0 | 0.11507E-02 | 631846.3 | 4175695.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000081 | 0 | 0.11507E-02 | 631846.4 | 4175691.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000082 | 0 | 0.11507E-02 | 631846.5 | 4175687.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000083 | 0 | 0.11507E-02 | 631846.5 | 4175684.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000084 | 0 | 0.11507E-02 | 631846.6 | 4175680.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000085 | 0 | 0.11507E-02 | 631846.6 | 4175676.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000086 | 0 | 0.11507E-02 | 631846.7 | 4175673.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000087 | 0 | 0.11507E-02 | 631846.8 | 4175669.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000088 | 0 | 0.11507E-02 | 631846.8 | 4175665.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000089 | 0 | 0.11507E-02 | 631846.9 | 4175662.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000090 | 0 | 0.11507E-02 | 631846.9 | 4175658.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000091 | 0 | 0.11507E-02 | 631847.0 | 4175654.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000092 | 0 | 0.11507E-02 | 631847.1 | 4175651.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000093 | 0 | 0.11507E-02 | 631847.1 | 4175647.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000094 | 0 | 0.11507E-02 | 631847.2 | 4175643.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000095 | 0 | 0.11507E-02 | 631847.3 | 4175640.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000096 | 0 | 0.11507E-02 | 631847.3 | 4175636.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000097 | 0 | 0.11507E-02 | 631847.4 | 4175632.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000098 | 0 | 0.11507E-02 | 631847.4 | 4175629.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000099 | 0 | 0.11507E-02 | 631847.5 | 4175625.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000100 | 0 | 0.11507E-02 | 631847.6 | 4175621.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000101 | 0 | 0.11507E-02 | 631847.6 | 4175618.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000102 | 0 | 0.11507E-02 | 631847.7 | 4175614.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000103 | 0 | 0.11507E-02 | 631847.7 | 4175611.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000104 | 0 | 0.11507E-02 | 631847.8 | 4175607.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000105 | 0 | 0.11507E-02 | 631847.9 | 4175603.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000106 | 0 | 0.11507E-02 | 631847.9 | 4175600.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000107 | 0 | 0.11507E-02 | 631848.0 | 4175596.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000108 | 0 | 0.11507E-02 | 631848.0 | 4175592.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000109 | 0 | 0.11507E-02 | 631848.1 | 4175589.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000110 | 0 | 0.11507E-02 | 631848.2 | 4175585.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000111 | 0 | 0.11507E-02 | 631848.2 | 4175581.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000112 | 0 | 0.11507E-02 | 631848.3 | 4175578.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000113 | 0 | 0.11507E-02 | 631848.3 | 4175574.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000114 | 0 | 0.11507E-02 | 631848.4 | 4175570.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000115 | 0 | 0.11507E-02 | 631848.5 | 4175567.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000116 | 0 | 0.11507E-02 | 631848.5 | 4175563.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000117 | 0 | 0.11507E-02 | 631848.6 | 4175559.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000118 | 0 | 0.11507E-02 | 631848.6 | 4175556.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000119 | 0 | 0.11507E-02 | 631848.7 | 4175552.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000120 | 0 | 0.11507E-02 | 631848.8 | 4175548.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000121 | 0 | 0.11507E-02 | 631848.8 | 4175545.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000122 | 0 | 0.11507E-02 | 631848.9 | 4175541.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000123 | 0 | 0.11507E-02 | 631848.9 | 4175537.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000124 | 0 | 0.11507E-02 | 631849.0 | 4175534.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000125 | 0 | 0.11507E-02 | 631849.1 | 4175530.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000126 | 0 | 0.11507E-02 | 631849.1 | 4175526.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000127 | 0 | 0.11507E-02 | 631849.2 | 4175523.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000128 | 0 | 0.11507E-02 | 631849.3 | 4175519.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000129 | 0 | 0.11507E-02 | 631849.3 | 4175515.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000130 | 0 | 0.11507E-02 | 631849.4 | 4175512.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000131 | 0 | 0.11507E-02 | 631849.4 | 4175508.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000132 | 0 | 0.11507E-02 | 631849.5 | 4175504.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000133 | 0 | 0.11507E-02 | 631849.6 | 4175501.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000134 | 0 | 0.11507E-02 | 631849.6 | 4175497.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000135 | 0 | 0.11507E-02 | 631849.7 | 4175494.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000136 | 0 | 0.11507E-02 | 631849.7 | 4175490.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000137 | 0 | 0.11507E-02 | 631849.8 | 4175486.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000138 | 0 | 0.11507E-02 | 631849.9 | 4175483.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000139 | 0 | 0.11507E-02 | 631849.9 | 4175479.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000140 | 0 | 0.11507E-02 | 631850.0 | 4175475.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000141 | 0 | 0.11507E-02 | 631850.0 | 4175472.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000142 | 0 | 0.11507E-02 | 631850.1 | 4175468.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000143 | 0 | 0.11507E-02 | 631850.2 | 4175464.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000144 | 0 | 0.11507E-02 | 631850.2 | 4175461.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000145 | 0 | 0.11507E-02 | 631850.3 | 4175457.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000146 | 0 | 0.11507E-02 | 631850.3 | 4175453.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000147 | 0 | 0.11507E-02 | 631850.4 | 4175450.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000148 | 0 | 0.11507E-02 | 631850.5 | 4175446.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000149 | 0 | 0.11507E-02 | 631850.5 | 4175442.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000150 | 0 | 0.11507E-02 | 631850.6 | 4175439.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000151 | 0 | 0.11507E-02 | 631850.6 | 4175435.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000152 | 0 | 0.11507E-02 | 631850.7 | 4175431.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000153 | 0 | 0.11507E-02 | 631850.8 | 4175428.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000154 | 0 | 0.11507E-02 | 631850.8 | 4175424.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000155 | 0 | 0.11507E-02 | 631850.9 | 4175420.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000156 | 0 | 0.11507E-02 | 631850.9 | 4175417.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000157 | 0 | 0.11507E-02 | 631851.0 | 4175413.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000158 | 0 | 0.11507E-02 | 631851.1 | 4175409.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000159 | 0 | 0.11507E-02 | 631851.1 | 4175406.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000160 | 0 | 0.11507E-02 | 631851.2 | 4175402.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000161 | 0 | 0.11507E-02 | 631851.3 | 4175398.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000162 | 0 | 0.11507E-02 | 631851.3 | 4175395.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000163 | 0 | 0.11507E-02 | 631851.4 | 4175391.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000164 | 0 | 0.11507E-02 | 631851.4 | 4175387.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000165 | 0 | 0.11507E-02 | 631851.5 | 4175384.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000166 | 0 | 0.11507E-02 | 631851.6 | 4175380.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000167 | 0 | 0.11507E-02 | 631851.6 | 4175376.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000168 | 0 | 0.11507E-02 | 631851.7 | 4175373.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000169 | 0 | 0.11507E-02 | 631851.7 | 4175369.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000170 | 0 | 0.11507E-02 | 631851.8 | 4175366.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000171 | 0 | 0.11507E-02 | 631851.9 | 4175362.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000172 | 0 | 0.11507E-02 | 631851.9 | 4175358.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000173 | 0 | 0.11507E-02 | 631852.0 | 4175355.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000174 | 0 | 0.11507E-02 | 631852.0 | 4175351.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000175 | 0 | 0.11507E-02 | 631852.1 | 4175347.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000176 | 0 | 0.11507E-02 | 631852.2 | 4175344.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000177 | 0 | 0.11507E-02 | 631852.2 | 4175340.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000178 | 0 | 0.11507E-02 | 631852.3 | 4175336.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000179 | 0 | 0.11507E-02 | 631852.3 | 4175333.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000180 | 0 | 0.11507E-02 | 631852.4 | 4175329.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000181 | 0 | 0.11507E-02 | 631852.5 | 4175325.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000182 | 0 | 0.11507E-02 | 631852.5 | 4175322.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000183 | 0 | 0.11507E-02 | 631852.6 | 4175318.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000184 | 0 | 0.11507E-02 | 631852.6 | 4175314.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000185 | 0 | 0.11507E-02 | 631852.7 | 4175311.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000186 | 0 | 0.11507E-02 | 631852.8 | 4175307.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000187 | 0 | 0.11507E-02 | 631852.8 | 4175303.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000188 | 0 | 0.11507E-02 | 631852.9 | 4175300.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000189 | 0 | 0.11507E-02 | 631852.9 | 4175296.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000190 | 0 | 0.11507E-02 | 631853.0 | 4175292.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000191 | 0 | 0.11507E-02 | 631853.1 | 4175289.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000192 | 0 | 0.11507E-02 | 631853.1 | 4175285.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000193 | 0 | 0.11507E-02 | 631853.2 | 4175281.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000194 | 0 | 0.11507E-02 | 631853.3 | 4175278.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000195 | 0 | 0.11507E-02 | 631853.3 | 4175274.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000196 | 0 | 0.11507E-02 | 631853.4 | 4175270.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000197 | 0 | 0.11507E-02 | 631853.4 | 4175267.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000198 | 0 | 0.11507E-02 | 631853.5 | 4175263.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000199 | 0 | 0.11507E-02 | 631853.6 | 4175259.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000200 | 0 | 0.11507E-02 | 631853.2 | 4175256.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000201 | 0 | 0.11507E-02 | 631851.5 | 4175253.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000202 | 0 | 0.11507E-02 | 631849.8 | 4175249.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000203 | 0 | 0.11507E-02 | 631848.1 | 4175246.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000204 | 0 | 0.11507E-02 | 631846.5 | 4175243.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000205 | 0 | 0.11507E-02 | 631844.8 | 4175240.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000206 | 0 | 0.11507E-02 | 631843.1 | 4175236.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000207 | 0 | 0.11507E-02 | 631841.4 | 4175233.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000208 | 0 | 0.11507E-02 | 631839.7 | 4175230.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000209 | 0 | 0.11507E-02 | 631838.1 | 4175227.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000210 | 0 | 0.11507E-02 | 631836.4 | 4175223.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000211 | 0 | 0.11507E-02 | 631835.3 | 4175220.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000212 | 0 | 0.11507E-02 | 631835.4 | 4175216.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000213 | 0 | 0.11507E-02 | 631835.4 | 4175213.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000214 | 0 | 0.11507E-02 | 631835.5 | 4175209.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000215 | 0 | 0.11507E-02 | 631835.5 | 4175205.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000216 | 0 | 0.11507E-02 | 631835.6 | 4175202.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000217 | 0 | 0.11507E-02 | 631835.6 | 4175198.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000218 | 0 | 0.11507E-02 | 631835.7 | 4175194.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000219 | 0 | 0.11507E-02 | 631835.7 | 4175191.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000220 | 0 | 0.11507E-02 | 631835.8 | 4175187.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000221 | 0 | 0.11507E-02 | 631835.8 | 4175183.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000222 | 0 | 0.11507E-02 | 631835.9 | 4175180.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000223 | 0 | 0.11507E-02 | 631835.9 | 4175176.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000224 | 0 | 0.11507E-02 | 631836.0 | 4175172.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000225 | 0 | 0.11507E-02 | 631836.0 | 4175169.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000226 | 0 | 0.11507E-02 | 631836.1 | 4175165.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000227 | 0 | 0.11507E-02 | 631836.1 | 4175161.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000228 | 0 | 0.11507E-02 | 631836.2 | 4175158.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000229 | 0 | 0.11507E-02 | 631836.2 | 4175154.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000230 | 0 | 0.11507E-02 | 631836.3 | 4175151.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000231 | 0 | 0.11507E-02 | 631836.3 | 4175147.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000232 | 0 | 0.11507E-02 | 631836.4 | 4175143.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000233 | 0 | 0.11507E-02 | 631836.4 | 4175140.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000234 | 0 | 0.11507E-02 | 631836.5 | 4175136.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000235 | 0 | 0.11507E-02 | 631836.3 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000236 | 0 | 0.11507E-02 | 631832.7 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000237 | 0 | 0.11507E-02 | 631829.0 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000238 | 0 | 0.11507E-02 | 631825.4 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000239 | 0 | 0.11507E-02 | 631821.7 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000240 | 0 | 0.11507E-02 | 631818.1 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000241 | 0 | 0.11507E-02 | 631814.4 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000242 | 0 | 0.11507E-02 | 631810.7 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000243 | 0 | 0.11507E-02 | 631807.1 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000244 | 0 | 0.11507E-02 | 631803.4 | 4175132.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000245 | 0 | 0.11507E-02 | 631800.0 | 4175133.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000246 | 0 | 0.11507E-02 | 631799.9 | 4175136.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000247 | 0 | 0.11507E-02 | 631799.8 | 4175140.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000248 | 0 | 0.11507E-02 | 631799.7 | 4175144.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000249 | 0 | 0.11507E-02 | 631799.6 | 4175147.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000250 | 0 | 0.11507E-02 | 631799.5 | 4175151.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000251 | 0 | 0.11507E-02 | 631799.4 | 4175155.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000252 | 0 | 0.11507E-02 | 631799.4 | 4175158.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000253 | 0 | 0.11507E-02 | 631799.3 | 4175162.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000254 | 0 | 0.11507E-02 | 631799.2 | 4175166.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000255 | 0 | 0.11507E-02 | 631799.1 | 4175169.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000256 | 0 | 0.11507E-02 | 631799.0 | 4175173.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000257 | 0 | 0.11507E-02 | 631798.9 | 4175177.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000258 | 0 | 0.11507E-02 | 631798.8 | 4175180.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000259 | 0 | 0.11507E-02 | 631798.7 | 4175184.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000260 | 0 | 0.11507E-02 | 631798.6 | 4175187.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000261 | 0 | 0.11507E-02 | 631798.5 | 4175191.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000262 | 0 | 0.11507E-02 | 631798.5 | 4175195.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000263 | 0 | 0.11507E-02 | 631798.4 | 4175198.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000264 | 0 | 0.11507E-02 | 631798.3 | 4175202.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000265 | 0 | 0.11507E-02 | 631798.2 | 4175206.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000266 | 0 | 0.11507E-02 | 631798.1 | 4175209.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000267 | 0 | 0.11507E-02 | 631798.0 | 4175213.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000268 | 0 | 0.11507E-02 | 631797.9 | 4175217.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000269 | 0 | 0.11507E-02 | 631797.8 | 4175220.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000270 | 0 | 0.11507E-02 | 631797.7 | 4175224.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000271 | 0 | 0.11507E-02 | 631797.6 | 4175228.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000272 | 0 | 0.11507E-02 | 631797.6 | 4175231.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000273 | 0 | 0.11507E-02 | 631797.5 | 4175235.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000274 | 0 | 0.11507E-02 | 631797.4 | 4175239.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000275 | 0 | 0.11507E-02 | 631797.3 | 4175242.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000276 | 0 | 0.11507E-02 | 631797.2 | 4175246.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000277 | 0 | 0.11507E-02 | 631797.1 | 4175250.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000278 | 0 | 0.11507E-02 | 631797.0 | 4175253.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000279 | 0 | 0.11507E-02 | 631796.9 | 4175257.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000280 | 0 | 0.11507E-02 | 631796.8 | 4175261.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000281 | 0 | 0.11507E-02 | 631796.8 | 4175264.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000282 | 0 | 0.11507E-02 | 631796.7 | 4175268.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000283 | 0 | 0.11507E-02 | 631796.6 | 4175272.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000284 | 0 | 0.11507E-02 | 631796.5 | 4175275.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000285 | 0 | 0.11507E-02 | 631796.4 | 4175279.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000286 | 0 | 0.11507E-02 | 631796.3 | 4175283.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000287 | 0 | 0.11507E-02 | 631796.2 | 4175286.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000288 | 0 | 0.11507E-02 | 631796.1 | 4175290.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000289 | 0 | 0.11507E-02 | 631796.0 | 4175294.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000290 | 0 | 0.11507E-02 | 631795.9 | 4175297.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000291 | 0 | 0.11507E-02 | 631795.9 | 4175301.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000292 | 0 | 0.11507E-02 | 631795.8 | 4175305.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000293 | 0 | 0.11507E-02 | 631795.7 | 4175308.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000294 | 0 | 0.11507E-02 | 631795.6 | 4175312.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000295 | 0 | 0.11507E-02 | 631795.5 | 4175315.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000296 | 0 | 0.11507E-02 | 631795.4 | 4175319.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000297 | 0 | 0.11507E-02 | 631795.3 | 4175323.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000298 | 0 | 0.11507E-02 | 631795.2 | 4175326.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000299 | 0 | 0.11507E-02 | 631795.1 | 4175330.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000300 | 0 | 0.11507E-02 | 631792.4 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000301 | 0 | 0.11507E-02 | 631788.7 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000302 | 0 | 0.11507E-02 | 631785.1 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000303 | 0 | 0.11507E-02 | 631781.4 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000304 | 0 | 0.11507E-02 | 631777.8 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000305 | 0 | 0.11507E-02 | 631774.1 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000306 | 0 | 0.11507E-02 | 631770.5 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000307 | 0 | 0.11507E-02 | 631766.8 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000308 | 0 | 0.11507E-02 | 631763.1 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000309 | 0 | 0.11507E-02 | 631759.5 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000310 | 0 | 0.11507E-02 | 631755.8 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000311 | 0 | 0.11507E-02 | 631752.2 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000312 | 0 | 0.11507E-02 | 631748.5 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000313 | 0 | 0.11507E-02 | 631744.9 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000314 | 0 | 0.11507E-02 | 631741.2 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000315 | 0 | 0.11507E-02 | 631737.5 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000316 | 0 | 0.11507E-02 | 631733.9 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000317 | 0 | 0.11507E-02 | 631730.2 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000318 | 0 | 0.11507E-02 | 631726.6 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000319 | 0 | 0.11507E-02 | 631722.9 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000320 | 0 | 0.11507E-02 | 631719.2 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|
| | | | X Y | | | | | |
| L0000321 | 0 | 0.11507E-02 | 631715.6 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000322 | 0 | 0.11507E-02 | 631711.9 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000323 | 0 | 0.11507E-02 | 631708.3 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000324 | 0 | 0.11507E-02 | 631704.6 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000325 | 0 | 0.11507E-02 | 631701.0 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000326 | 0 | 0.11507E-02 | 631697.3 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000327 | 0 | 0.11507E-02 | 631693.6 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000328 | 0 | 0.11507E-02 | 631690.0 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000329 | 0 | 0.11507E-02 | 631686.3 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000330 | 0 | 0.11507E-02 | 631682.7 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000331 | 0 | 0.11507E-02 | 631679.0 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000332 | 0 | 0.11507E-02 | 631675.4 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000333 | 0 | 0.11507E-02 | 631671.7 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000334 | 0 | 0.11507E-02 | 631668.0 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000335 | 0 | 0.11507E-02 | 631664.4 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000336 | 0 | 0.11507E-02 | 631660.7 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000337 | 0 | 0.11507E-02 | 631657.1 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000338 | 0 | 0.11507E-02 | 631653.4 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000339 | 0 | 0.11507E-02 | 631649.8 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000340 | 0 | 0.11507E-02 | 631646.1 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000341 | 0 | 0.11507E-02 | 631642.4 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000342 | 0 | 0.11507E-02 | 631638.8 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000343 | 0 | 0.11507E-02 | 631635.1 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000344 | 0 | 0.11507E-02 | 631631.5 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000345 | 0 | 0.11507E-02 | 631627.8 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000346 | 0 | 0.11507E-02 | 631624.2 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000347 | 0 | 0.11507E-02 | 631620.5 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000348 | 0 | 0.11507E-02 | 631616.8 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000349 | 0 | 0.11507E-02 | 631613.2 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000350 | 0 | 0.11507E-02 | 631609.5 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000351 | 0 | 0.11507E-02 | 631605.9 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000352 | 0 | 0.11507E-02 | 631602.2 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000353 | 0 | 0.11507E-02 | 631598.5 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000354 | 0 | 0.11507E-02 | 631594.9 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000355 | 0 | 0.11507E-02 | 631591.2 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000356 | 0 | 0.11507E-02 | 631587.6 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000357 | 0 | 0.11507E-02 | 631583.9 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000358 | 0 | 0.11507E-02 | 631580.3 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000359 | 0 | 0.11507E-02 | 631576.6 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000360 | 0 | 0.11507E-02 | 631572.9 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000361 | 0 | 0.11507E-02 | 631569.3 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000362 | 0 | 0.11507E-02 | 631565.6 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000363 | 0 | 0.11507E-02 | 631562.0 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000364 | 0 | 0.11507E-02 | 631558.3 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000365 | 0 | 0.11507E-02 | 631554.7 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000366 | 0 | 0.11507E-02 | 631551.0 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000367 | 0 | 0.11507E-02 | 631547.3 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000368 | 0 | 0.11507E-02 | 631543.7 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000369 | 0 | 0.11507E-02 | 631540.0 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000370 | 0 | 0.11507E-02 | 631536.4 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000371 | 0 | 0.11507E-02 | 631532.7 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000372 | 0 | 0.11507E-02 | 631529.1 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000373 | 0 | 0.11507E-02 | 631525.4 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000374 | 0 | 0.11507E-02 | 631521.7 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000375 | 0 | 0.11507E-02 | 631518.1 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000376 | 0 | 0.11507E-02 | 631514.4 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000377 | 0 | 0.11507E-02 | 631510.8 | 4175331.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000378 | 0 | 0.11507E-02 | 631508.8 | 4175333.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000379 | 0 | 0.11507E-02 | 631509.0 | 4175336.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000380 | 0 | 0.11507E-02 | 631509.1 | 4175340.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000381 | 0 | 0.11507E-02 | 631509.3 | 4175344.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000382 | 0 | 0.11507E-02 | 631509.4 | 4175347.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000383 | 0 | 0.11507E-02 | 631509.5 | 4175351.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000384 | 0 | 0.11507E-02 | 631509.7 | 4175355.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000385 | 0 | 0.11507E-02 | 631509.8 | 4175358.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000386 | 0 | 0.11507E-02 | 631510.0 | 4175362.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000387 | 0 | 0.11507E-02 | 631510.1 | 4175366.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000388 | 0 | 0.11507E-02 | 631510.3 | 4175369.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000389 | 0 | 0.11507E-02 | 631510.4 | 4175373.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000390 | 0 | 0.11507E-02 | 631510.5 | 4175377.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000391 | 0 | 0.11507E-02 | 631510.7 | 4175380.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000392 | 0 | 0.11507E-02 | 631510.8 | 4175384.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000393 | 0 | 0.11507E-02 | 631511.0 | 4175388.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000394 | 0 | 0.11507E-02 | 631511.1 | 4175391.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000395 | 0 | 0.11507E-02 | 631511.3 | 4175395.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000396 | 0 | 0.11507E-02 | 631511.4 | 4175398.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000397 | 0 | 0.11507E-02 | 631511.5 | 4175402.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000398 | 0 | 0.11507E-02 | 631511.7 | 4175406.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000399 | 0 | 0.11507E-02 | 631511.8 | 4175409.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000400 | 0 | 0.11507E-02 | 631512.0 | 4175413.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000401 | 0 | 0.11507E-02 | 631512.1 | 4175417.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000402 | 0 | 0.11507E-02 | 631512.3 | 4175420.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000403 | 0 | 0.11507E-02 | 631512.4 | 4175424.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000404 | 0 | 0.11507E-02 | 631512.6 | 4175428.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000405 | 0 | 0.11507E-02 | 631512.7 | 4175431.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000406 | 0 | 0.11507E-02 | 631512.8 | 4175435.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000407 | 0 | 0.11507E-02 | 631513.0 | 4175439.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000408 | 0 | 0.11507E-02 | 631513.1 | 4175442.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000409 | 0 | 0.11507E-02 | 631513.3 | 4175446.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000410 | 0 | 0.11507E-02 | 631513.4 | 4175450.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000411 | 0 | 0.11507E-02 | 631513.6 | 4175453.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000412 | 0 | 0.11507E-02 | 631512.0 | 4175455.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000413 | 0 | 0.11507E-02 | 631508.4 | 4175455.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000414 | 0 | 0.11507E-02 | 631504.7 | 4175455.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000415 | 0 | 0.11507E-02 | 631501.0 | 4175455.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000416 | 0 | 0.11507E-02 | 631497.4 | 4175455.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000417 | 0 | 0.11507E-02 | 631493.7 | 4175455.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000418 | 0 | 0.11507E-02 | 631490.1 | 4175455.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000419 | 0 | 0.11507E-02 | 631486.4 | 4175455.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000420 | 0 | 0.11507E-02 | 631482.8 | 4175455.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000421 | 0 | 0.11507E-02 | 631479.1 | 4175455.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000422 | 0 | 0.11507E-02 | 631475.4 | 4175455.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000423 | 0 | 0.11507E-02 | 631471.8 | 4175455.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000424 | 0 | 0.11507E-02 | 631468.1 | 4175455.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000425 | 0 | 0.11507E-02 | 631464.5 | 4175455.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000426 | 0 | 0.11507E-02 | 631460.8 | 4175455.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000427 | 0 | 0.11507E-02 | 631457.2 | 4175454.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000428 | 0 | 0.11507E-02 | 631453.5 | 4175454.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000429 | 0 | 0.11507E-02 | 631449.8 | 4175454.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000430 | 0 | 0.11507E-02 | 631446.2 | 4175454.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000431 | 0 | 0.11507E-02 | 631442.5 | 4175454.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000432 | 0 | 0.11507E-02 | 631438.9 | 4175454.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000433 | 0 | 0.11507E-02 | 631435.2 | 4175454.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000434 | 0 | 0.11507E-02 | 631431.6 | 4175454.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000435 | 0 | 0.11507E-02 | 631427.9 | 4175454.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000436 | 0 | 0.11507E-02 | 631424.2 | 4175454.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000437 | 0 | 0.11507E-02 | 631420.6 | 4175454.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000438 | 0 | 0.11507E-02 | 631416.9 | 4175454.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000439 | 0 | 0.11507E-02 | 631413.3 | 4175454.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000440 | 0 | 0.11507E-02 | 631409.6 | 4175454.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000441 | 0 | 0.11507E-02 | 631406.0 | 4175454.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000442 | 0 | 0.11507E-02 | 631402.3 | 4175454.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000443 | 0 | 0.11507E-02 | 631398.6 | 4175454.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000444 | 0 | 0.11507E-02 | 631395.0 | 4175453.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000445 | 0 | 0.11507E-02 | 631391.3 | 4175453.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000446 | 0 | 0.11507E-02 | 631387.7 | 4175453.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000447 | 0 | 0.11507E-02 | 631384.0 | 4175453.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000448 | 0 | 0.11507E-02 | 631380.4 | 4175453.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000449 | 0 | 0.11507E-02 | 631376.7 | 4175453.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000450 | 0 | 0.11507E-02 | 631373.0 | 4175453.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000451 | 0 | 0.11507E-02 | 631369.4 | 4175453.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000452 | 0 | 0.11507E-02 | 631365.7 | 4175453.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000453 | 0 | 0.11507E-02 | 631362.1 | 4175453.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000454 | 0 | 0.11507E-02 | 631358.4 | 4175453.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000455 | 0 | 0.11507E-02 | 631355.6 | 4175454.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000456 | 0 | 0.11507E-02 | 631353.7 | 4175457.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000457 | 0 | 0.11507E-02 | 631351.8 | 4175461.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000458 | 0 | 0.11507E-02 | 631349.9 | 4175464.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000459 | 0 | 0.11507E-02 | 631348.1 | 4175467.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000460 | 0 | 0.11507E-02 | 631346.2 | 4175470.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000461 | 0 | 0.11507E-02 | 631344.3 | 4175473.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000462 | 0 | 0.11507E-02 | 631342.4 | 4175476.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000463 | 0 | 0.11507E-02 | 631340.6 | 4175479.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000464 | 0 | 0.11507E-02 | 631338.7 | 4175483.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000465 | 0 | 0.11507E-02 | 631336.8 | 4175486.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000466 | 0 | 0.11507E-02 | 631334.9 | 4175489.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000467 | 0 | 0.11507E-02 | 631333.1 | 4175492.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000468 | 0 | 0.11507E-02 | 631331.2 | 4175495.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000469 | 0 | 0.11507E-02 | 631329.3 | 4175498.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000470 | 0 | 0.11507E-02 | 631327.4 | 4175501.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000471 | 0 | 0.11507E-02 | 631325.6 | 4175505.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000472 | 0 | 0.11507E-02 | 631323.7 | 4175508.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000473 | 0 | 0.11507E-02 | 631321.8 | 4175511.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000474 | 0 | 0.11507E-02 | 631319.9 | 4175514.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000475 | 0 | 0.11507E-02 | 631318.1 | 4175517.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000476 | 0 | 0.11507E-02 | 631316.2 | 4175520.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000477 | 0 | 0.11507E-02 | 631314.3 | 4175523.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000478 | 0 | 0.11507E-02 | 631312.4 | 4175527.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000479 | 0 | 0.11507E-02 | 631310.6 | 4175530.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000480 | 0 | 0.11507E-02 | 631308.7 | 4175533.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000481 | 0 | 0.11507E-02 | 631306.8 | 4175536.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000482 | 0 | 0.11507E-02 | 631304.9 | 4175539.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000483 | 0 | 0.11507E-02 | 631303.1 | 4175542.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000484 | 0 | 0.11507E-02 | 631301.2 | 4175545.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000485 | 0 | 0.11507E-02 | 631300.3 | 4175549.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000486 | 0 | 0.11507E-02 | 631300.2 | 4175553.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000487 | 0 | 0.11507E-02 | 631300.1 | 4175556.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000488 | 0 | 0.11507E-02 | 631300.0 | 4175560.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000489 | 0 | 0.11507E-02 | 631299.9 | 4175563.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000490 | 0 | 0.11507E-02 | 631299.8 | 4175567.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000491 | 0 | 0.11507E-02 | 631299.7 | 4175571.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000492 | 0 | 0.11507E-02 | 631299.6 | 4175574.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000493 | 0 | 0.11507E-02 | 631299.5 | 4175578.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000494 | 0 | 0.11507E-02 | 631299.4 | 4175582.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000495 | 0 | 0.11507E-02 | 631299.3 | 4175585.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000496 | 0 | 0.11507E-02 | 631299.2 | 4175589.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000497 | 0 | 0.11507E-02 | 631299.1 | 4175593.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000498 | 0 | 0.11507E-02 | 631299.0 | 4175596.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000499 | 0 | 0.11507E-02 | 631298.9 | 4175600.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000500 | 0 | 0.11507E-02 | 631298.8 | 4175604.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000501 | 0 | 0.11507E-02 | 631298.7 | 4175607.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000502 | 0 | 0.11507E-02 | 631298.6 | 4175611.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000503 | 0 | 0.11507E-02 | 631298.5 | 4175615.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000504 | 0 | 0.11507E-02 | 631298.4 | 4175618.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000505 | 0 | 0.11507E-02 | 631298.3 | 4175622.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000506 | 0 | 0.11507E-02 | 631298.2 | 4175626.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000507 | 0 | 0.11507E-02 | 631298.1 | 4175629.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000508 | 0 | 0.11507E-02 | 631298.0 | 4175633.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000509 | 0 | 0.11507E-02 | 631297.9 | 4175637.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000510 | 0 | 0.11507E-02 | 631297.8 | 4175640.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000511 | 0 | 0.11507E-02 | 631297.7 | 4175644.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000512 | 0 | 0.11507E-02 | 631297.6 | 4175648.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000513 | 0 | 0.11507E-02 | 631297.5 | 4175651.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000514 | 0 | 0.11507E-02 | 631297.4 | 4175655.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000515 | 0 | 0.11507E-02 | 631297.3 | 4175659.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000516 | 0 | 0.11507E-02 | 631297.2 | 4175662.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000517 | 0 | 0.11507E-02 | 631297.1 | 4175666.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000518 | 0 | 0.11507E-02 | 631297.0 | 4175670.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000519 | 0 | 0.11507E-02 | 631296.9 | 4175673.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000520 | 0 | 0.11507E-02 | 631296.8 | 4175677.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000521 | 0 | 0.11507E-02 | 631296.7 | 4175680.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000522 | 0 | 0.11507E-02 | 631296.6 | 4175684.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000523 | 0 | 0.11507E-02 | 631296.5 | 4175688.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000524 | 0 | 0.11507E-02 | 631296.4 | 4175691.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000525 | 0 | 0.11507E-02 | 631296.3 | 4175695.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000526 | 0 | 0.11507E-02 | 631296.2 | 4175699.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000527 | 0 | 0.11507E-02 | 631296.1 | 4175702.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000528 | 0 | 0.11507E-02 | 631296.0 | 4175706.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000529 | 0 | 0.11507E-02 | 631295.8 | 4175710.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000530 | 0 | 0.11507E-02 | 631295.7 | 4175713.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000531 | 0 | 0.11507E-02 | 631295.6 | 4175717.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000532 | 0 | 0.11507E-02 | 631295.5 | 4175721.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000533 | 0 | 0.11507E-02 | 631295.4 | 4175724.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000534 | 0 | 0.11507E-02 | 631295.3 | 4175728.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000535 | 0 | 0.11507E-02 | 631295.2 | 4175732.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000536 | 0 | 0.11507E-02 | 631295.1 | 4175735.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000537 | 0 | 0.11507E-02 | 631295.0 | 4175739.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000538 | 0 | 0.11507E-02 | 631294.9 | 4175743.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000539 | 0 | 0.11507E-02 | 631294.8 | 4175746.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000540 | 0 | 0.11507E-02 | 631294.7 | 4175750.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000541 | 0 | 0.11507E-02 | 631294.6 | 4175754.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000542 | 0 | 0.11507E-02 | 631294.5 | 4175757.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000543 | 0 | 0.11507E-02 | 631294.4 | 4175761.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000544 | 0 | 0.11507E-02 | 631294.3 | 4175765.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000545 | 0 | 0.11507E-02 | 631294.2 | 4175768.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000546 | 0 | 0.11507E-02 | 631294.1 | 4175772.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000547 | 0 | 0.11507E-02 | 631294.0 | 4175776.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000548 | 0 | 0.11507E-02 | 631293.9 | 4175779.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000549 | 0 | 0.11507E-02 | 631293.8 | 4175783.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000550 | 0 | 0.11507E-02 | 631293.7 | 4175787.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000551 | 0 | 0.11507E-02 | 631293.6 | 4175790.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000552 | 0 | 0.11507E-02 | 631293.5 | 4175794.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000553 | 0 | 0.11507E-02 | 631293.4 | 4175797.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000554 | 0 | 0.11507E-02 | 631293.3 | 4175801.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000555 | 0 | 0.11507E-02 | 631293.2 | 4175805.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000556 | 0 | 0.11507E-02 | 631293.1 | 4175808.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000557 | 0 | 0.11507E-02 | 631293.0 | 4175812.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000558 | 0 | 0.11507E-02 | 631292.9 | 4175816.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000559 | 0 | 0.11507E-02 | 631292.8 | 4175819.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000560 | 0 | 0.11507E-02 | 631292.7 | 4175823.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000561 | 0 | 0.11507E-02 | 631292.6 | 4175827.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000562 | 0 | 0.11507E-02 | 631292.5 | 4175830.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000563 | 0 | 0.11507E-02 | 631292.4 | 4175834.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000564 | 0 | 0.11507E-02 | 631292.3 | 4175838.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000565 | 0 | 0.11507E-02 | 631292.2 | 4175841.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000566 | 0 | 0.11507E-02 | 631292.1 | 4175845.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000567 | 0 | 0.11507E-02 | 631292.0 | 4175849.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000568 | 0 | 0.11507E-02 | 631291.9 | 4175852.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000569 | 0 | 0.11507E-02 | 631295.3 | 4175853.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000570 | 0 | 0.11507E-02 | 631298.9 | 4175853.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000571 | 0 | 0.11507E-02 | 631302.6 | 4175853.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000572 | 0 | 0.11507E-02 | 631306.2 | 4175853.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000573 | 0 | 0.11507E-02 | 631309.9 | 4175853.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000574 | 0 | 0.11507E-02 | 631313.5 | 4175853.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000575 | 0 | 0.11507E-02 | 631317.2 | 4175853.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000576 | 0 | 0.11507E-02 | 631320.9 | 4175853.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000577 | 0 | 0.11507E-02 | 631324.5 | 4175853.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000578 | 0 | 0.11507E-02 | 631328.2 | 4175854.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000579 | 0 | 0.11507E-02 | 631331.8 | 4175854.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000580 | 0 | 0.11507E-02 | 631335.5 | 4175854.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000581 | 0 | 0.11507E-02 | 631338.2 | 4175853.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000582 | 0 | 0.11507E-02 | 631338.3 | 4175849.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000583 | 0 | 0.11507E-02 | 631338.3 | 4175846.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000584 | 0 | 0.11507E-02 | 631338.4 | 4175842.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000585 | 0 | 0.11507E-02 | 631338.5 | 4175838.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000586 | 0 | 0.11507E-02 | 631338.6 | 4175835.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000587 | 0 | 0.11507E-02 | 631338.6 | 4175831.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000588 | 0 | 0.11507E-02 | 631338.7 | 4175827.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000589 | 0 | 0.11507E-02 | 631338.8 | 4175824.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000590 | 0 | 0.11507E-02 | 631338.8 | 4175820.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000591 | 0 | 0.11507E-02 | 631338.9 | 4175816.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000592 | 0 | 0.11507E-02 | 631339.0 | 4175813.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000593 | 0 | 0.11507E-02 | 631339.1 | 4175809.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000594 | 0 | 0.11507E-02 | 631339.1 | 4175805.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000595 | 0 | 0.11507E-02 | 631339.2 | 4175802.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000596 | 0 | 0.11507E-02 | 631339.3 | 4175798.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000597 | 0 | 0.11507E-02 | 631339.4 | 4175794.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000598 | 0 | 0.11507E-02 | 631339.4 | 4175791.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0000599 | 0 | 0.11507E-02 | 631339.5 | 4175787.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000600 | 0 | 0.11507E-02 | 631339.6 | 4175783.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000601 | 0 | 0.11507E-02 | 631339.7 | 4175780.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000602 | 0 | 0.11507E-02 | 631339.7 | 4175776.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000603 | 0 | 0.11507E-02 | 631339.8 | 4175772.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000604 | 0 | 0.11507E-02 | 631339.9 | 4175769.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000605 | 0 | 0.11507E-02 | 631339.9 | 4175765.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000606 | 0 | 0.11507E-02 | 631340.0 | 4175761.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000607 | 0 | 0.11507E-02 | 631340.1 | 4175758.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000608 | 0 | 0.11507E-02 | 631340.2 | 4175754.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000609 | 0 | 0.11507E-02 | 631340.2 | 4175750.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000610 | 0 | 0.11507E-02 | 631340.3 | 4175747.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000611 | 0 | 0.11507E-02 | 631340.4 | 4175743.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000612 | 0 | 0.11507E-02 | 631340.5 | 4175739.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000613 | 0 | 0.11507E-02 | 631340.5 | 4175736.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000614 | 0 | 0.11507E-02 | 631340.6 | 4175732.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000615 | 0 | 0.11507E-02 | 631340.7 | 4175728.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000616 | 0 | 0.11507E-02 | 631340.7 | 4175725.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000617 | 0 | 0.11507E-02 | 631340.8 | 4175721.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000618 | 0 | 0.11507E-02 | 631340.9 | 4175718.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000619 | 0 | 0.11507E-02 | 631341.0 | 4175714.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000620 | 0 | 0.11507E-02 | 631341.0 | 4175710.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000621 | 0 | 0.11507E-02 | 631341.1 | 4175707.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000622 | 0 | 0.11507E-02 | 631341.2 | 4175703.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000623 | 0 | 0.11507E-02 | 631341.3 | 4175699.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000624 | 0 | 0.11507E-02 | 631341.3 | 4175696.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000625 | 0 | 0.11507E-02 | 631341.4 | 4175692.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000626 | 0 | 0.11507E-02 | 631341.5 | 4175688.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000627 | 0 | 0.11507E-02 | 631341.6 | 4175685.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000628 | 0 | 0.11507E-02 | 631341.6 | 4175681.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000629 | 0 | 0.11507E-02 | 631341.7 | 4175677.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000630 | 0 | 0.11507E-02 | 631341.8 | 4175674.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000631 | 0 | 0.11507E-02 | 631341.8 | 4175670.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000632 | 0 | 0.11507E-02 | 631341.9 | 4175666.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000633 | 0 | 0.11507E-02 | 631342.0 | 4175663.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000634 | 0 | 0.11507E-02 | 631342.1 | 4175659.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000635 | 0 | 0.11507E-02 | 631342.1 | 4175655.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000636 | 0 | 0.11507E-02 | 631342.2 | 4175652.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000637 | 0 | 0.11507E-02 | 631342.3 | 4175648.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000638 | 0 | 0.11507E-02 | 631342.4 | 4175644.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000639 | 0 | 0.11507E-02 | 631342.4 | 4175641.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000640 | 0 | 0.11507E-02 | 631342.5 | 4175637.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000641 | 0 | 0.11507E-02 | 631342.6 | 4175633.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000642 | 0 | 0.11507E-02 | 631342.6 | 4175630.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000643 | 0 | 0.11507E-02 | 631342.7 | 4175626.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000644 | 0 | 0.11507E-02 | 631342.8 | 4175622.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000645 | 0 | 0.11507E-02 | 631342.9 | 4175619.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000646 | 0 | 0.11507E-02 | 631342.9 | 4175615.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000647 | 0 | 0.11507E-02 | 631343.0 | 4175611.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000648 | 0 | 0.11507E-02 | 631343.1 | 4175608.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000649 | 0 | 0.11507E-02 | 631343.2 | 4175604.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000650 | 0 | 0.11507E-02 | 631343.2 | 4175600.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000651 | 0 | 0.11507E-02 | 631343.3 | 4175597.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000652 | 0 | 0.11507E-02 | 631343.4 | 4175593.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000653 | 0 | 0.11507E-02 | 631343.5 | 4175590.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000654 | 0 | 0.11507E-02 | 631343.5 | 4175586.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000655 | 0 | 0.11507E-02 | 631343.6 | 4175582.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000656 | 0 | 0.11507E-02 | 631343.7 | 4175579.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000657 | 0 | 0.11507E-02 | 631343.7 | 4175575.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000658 | 0 | 0.11507E-02 | 631343.8 | 4175571.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000659 | 0 | 0.11507E-02 | 631343.9 | 4175568.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000660 | 0 | 0.11507E-02 | 631344.0 | 4175564.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000661 | 0 | 0.11507E-02 | 631344.0 | 4175560.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000662 | 0 | 0.11507E-02 | 631344.1 | 4175557.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000663 | 0 | 0.11507E-02 | 631344.2 | 4175553.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000664 | 0 | 0.11507E-02 | 631344.3 | 4175549.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000665 | 0 | 0.11507E-02 | 631345.7 | 4175546.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000666 | 0 | 0.11507E-02 | 631347.1 | 4175543.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000667 | 0 | 0.11507E-02 | 631348.6 | 4175539.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000668 | 0 | 0.11507E-02 | 631350.0 | 4175536.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000669 | 0 | 0.11507E-02 | 631351.5 | 4175533.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000670 | 0 | 0.11507E-02 | 631352.9 | 4175529.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000671 | 0 | 0.11507E-02 | 631354.4 | 4175526.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000672 | 0 | 0.11507E-02 | 631355.8 | 4175522.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000673 | 0 | 0.11507E-02 | 631357.3 | 4175519.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000674 | 0 | 0.11507E-02 | 631358.7 | 4175516.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000675 | 0 | 0.11507E-02 | 631360.2 | 4175512.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000676 | 0 | 0.11507E-02 | 631361.6 | 4175509.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000677 | 0 | 0.11507E-02 | 631363.1 | 4175506.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000678 | 0 | 0.11507E-02 | 631364.5 | 4175502.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000679 | 0 | 0.11507E-02 | 631366.0 | 4175499.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000680 | 0 | 0.11507E-02 | 631367.5 | 4175496.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000681 | 0 | 0.11507E-02 | 631368.9 | 4175492.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000682 | 0 | 0.11507E-02 | 631370.4 | 4175489.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000683 | 0 | 0.11507E-02 | 631371.8 | 4175486.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000684 | 0 | 0.11507E-02 | 631373.3 | 4175482.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000685 | 0 | 0.11507E-02 | 631374.7 | 4175479.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000686 | 0 | 0.11507E-02 | 631376.2 | 4175475.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000687 | 0 | 0.11507E-02 | 631377.6 | 4175472.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000688 | 0 | 0.11507E-02 | 631379.1 | 4175469.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000689 | 0 | 0.11507E-02 | 631381.9 | 4175468.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000690 | 0 | 0.11507E-02 | 631385.6 | 4175468.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000691 | 0 | 0.11507E-02 | 631389.3 | 4175468.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000692 | 0 | 0.11507E-02 | 631392.9 | 4175468.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000693 | 0 | 0.11507E-02 | 631396.6 | 4175468.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000694 | 0 | 0.11507E-02 | 631400.2 | 4175468.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000695 | 0 | 0.11507E-02 | 631403.9 | 4175468.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000696 | 0 | 0.11507E-02 | 631407.5 | 4175468.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000697 | 0 | 0.11507E-02 | 631411.2 | 4175468.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000698 | 0 | 0.11507E-02 | 631414.8 | 4175468.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000699 | 0 | 0.11507E-02 | 631418.5 | 4175469.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000700 | 0 | 0.11507E-02 | 631422.2 | 4175469.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000701 | 0 | 0.11507E-02 | 631425.8 | 4175469.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000702 | 0 | 0.11507E-02 | 631429.5 | 4175469.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000703 | 0 | 0.11507E-02 | 631433.1 | 4175469.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000704 | 0 | 0.11507E-02 | 631436.8 | 4175469.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000705 | 0 | 0.11507E-02 | 631440.4 | 4175469.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000706 | 0 | 0.11507E-02 | 631444.1 | 4175469.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000707 | 0 | 0.11507E-02 | 631447.8 | 4175469.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000708 | 0 | 0.11507E-02 | 631451.4 | 4175469.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000709 | 0 | 0.11507E-02 | 631455.1 | 4175470.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000710 | 0 | 0.11507E-02 | 631458.7 | 4175470.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000711 | 0 | 0.11507E-02 | 631462.4 | 4175470.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000712 | 0 | 0.11507E-02 | 631466.0 | 4175470.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000713 | 0 | 0.11507E-02 | 631469.7 | 4175470.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000714 | 0 | 0.11507E-02 | 631473.3 | 4175470.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000715 | 0 | 0.11507E-02 | 631477.0 | 4175470.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000716 | 0 | 0.11507E-02 | 631480.7 | 4175470.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000717 | 0 | 0.11507E-02 | 631484.3 | 4175470.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000718 | 0 | 0.11507E-02 | 631488.0 | 4175470.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000719 | 0 | 0.11507E-02 | 631491.6 | 4175471.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000720 | 0 | 0.11507E-02 | 631495.3 | 4175471.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |



file:///C/...977GSBU)/Documents/HRA/Tracy%20Costco%20DepotV2/AERMOD/Tracy%20CostcoV2.ADO%20(AERMOD%20Output%20file).txt[6/8/2022 6:45:42 PM]

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000721 | 0 | 0.11507E-02 | 631498.9 | 4175471.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000722 | 0 | 0.11507E-02 | 631502.6 | 4175471.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000723 | 0 | 0.11507E-02 | 631506.3 | 4175471.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000724 | 0 | 0.11507E-02 | 631509.9 | 4175471.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000725 | 0 | 0.11507E-02 | 631513.6 | 4175471.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000726 | 0 | 0.11507E-02 | 631514.8 | 4175474.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000727 | 0 | 0.11507E-02 | 631514.7 | 4175477.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000728 | 0 | 0.11507E-02 | 631514.6 | 4175481.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000729 | 0 | 0.11507E-02 | 631514.6 | 4175485.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000730 | 0 | 0.11507E-02 | 631514.5 | 4175488.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000731 | 0 | 0.11507E-02 | 631514.4 | 4175492.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000732 | 0 | 0.11507E-02 | 631514.3 | 4175495.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000733 | 0 | 0.11507E-02 | 631514.3 | 4175499.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000734 | 0 | 0.11507E-02 | 631514.2 | 4175503.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000735 | 0 | 0.11507E-02 | 631514.1 | 4175506.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000736 | 0 | 0.11507E-02 | 631514.0 | 4175510.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000737 | 0 | 0.11507E-02 | 631513.9 | 4175514.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000738 | 0 | 0.11507E-02 | 631513.9 | 4175517.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000739 | 0 | 0.11507E-02 | 631513.8 | 4175521.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000740 | 0 | 0.11507E-02 | 631513.7 | 4175525.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000741 | 0 | 0.11507E-02 | 631513.6 | 4175528.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000742 | 0 | 0.11507E-02 | 631513.6 | 4175532.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000743 | 0 | 0.11507E-02 | 631513.5 | 4175536.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000744 | 0 | 0.11507E-02 | 631513.4 | 4175539.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000745 | 0 | 0.11507E-02 | 631513.3 | 4175543.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000746 | 0 | 0.11507E-02 | 631513.2 | 4175547.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000747 | 0 | 0.11507E-02 | 631513.2 | 4175550.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000748 | 0 | 0.11507E-02 | 631513.1 | 4175554.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000749 | 0 | 0.11507E-02 | 631513.0 | 4175558.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000750 | 0 | 0.11507E-02 | 631512.9 | 4175561.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000751 | 0 | 0.11507E-02 | 631512.8 | 4175565.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000752 | 0 | 0.11507E-02 | 631512.8 | 4175569.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000753 | 0 | 0.11507E-02 | 631512.7 | 4175572.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000754 | 0 | 0.11507E-02 | 631512.6 | 4175576.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000755 | 0 | 0.11507E-02 | 631512.5 | 4175580.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000756 | 0 | 0.11507E-02 | 631512.5 | 4175583.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000757 | 0 | 0.11507E-02 | 631512.4 | 4175587.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000758 | 0 | 0.11507E-02 | 631512.3 | 4175591.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000759 | 0 | 0.11507E-02 | 631512.2 | 4175594.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000760 | 0 | 0.11507E-02 | 631512.1 | 4175598.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000761 | 0 | 0.11507E-02 | 631512.1 | 4175602.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000762 | 0 | 0.11507E-02 | 631512.0 | 4175605.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000763 | 0 | 0.11507E-02 | 631511.9 | 4175609.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000764 | 0 | 0.11507E-02 | 631511.8 | 4175613.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000765 | 0 | 0.11507E-02 | 631511.7 | 4175616.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000766 | 0 | 0.11507E-02 | 631511.7 | 4175620.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000767 | 0 | 0.11507E-02 | 631511.6 | 4175623.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000768 | 0 | 0.11507E-02 | 631511.5 | 4175627.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000769 | 0 | 0.11507E-02 | 631511.4 | 4175631.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000770 | 0 | 0.11507E-02 | 631511.4 | 4175634.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000771 | 0 | 0.11507E-02 | 631511.3 | 4175638.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000772 | 0 | 0.11507E-02 | 631511.2 | 4175642.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000773 | 0 | 0.11507E-02 | 631511.1 | 4175645.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000774 | 0 | 0.11507E-02 | 631511.0 | 4175649.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000775 | 0 | 0.11507E-02 | 631511.0 | 4175653.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000776 | 0 | 0.11507E-02 | 631510.9 | 4175656.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000777 | 0 | 0.11507E-02 | 631510.8 | 4175660.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000778 | 0 | 0.11507E-02 | 631510.7 | 4175664.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000779 | 0 | 0.11507E-02 | 631510.7 | 4175667.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000780 | 0 | 0.11507E-02 | 631510.6 | 4175671.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000781 | 0 | 0.11507E-02 | 631510.5 | 4175675.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000782 | 0 | 0.11507E-02 | 631510.4 | 4175678.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000783 | 0 | 0.11507E-02 | 631510.3 | 4175682.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000784 | 0 | 0.11507E-02 | 631510.3 | 4175686.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000785 | 0 | 0.11507E-02 | 631510.2 | 4175689.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000786 | 0 | 0.11507E-02 | 631510.1 | 4175693.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000787 | 0 | 0.11507E-02 | 631510.0 | 4175697.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000788 | 0 | 0.11507E-02 | 631509.9 | 4175700.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000789 | 0 | 0.11507E-02 | 631509.9 | 4175704.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000790 | 0 | 0.11507E-02 | 631509.8 | 4175708.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000791 | 0 | 0.11507E-02 | 631509.7 | 4175711.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000792 | 0 | 0.11507E-02 | 631509.6 | 4175715.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000793 | 0 | 0.11507E-02 | 631509.6 | 4175719.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000794 | 0 | 0.11507E-02 | 631509.5 | 4175722.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000795 | 0 | 0.11507E-02 | 631509.4 | 4175726.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000796 | 0 | 0.11507E-02 | 631509.3 | 4175730.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000797 | 0 | 0.11507E-02 | 631509.2 | 4175733.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000798 | 0 | 0.11507E-02 | 631509.2 | 4175737.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000799 | 0 | 0.11507E-02 | 631509.1 | 4175740.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000800 | 0 | 0.11507E-02 | 631509.0 | 4175744.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |



*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000801 | 0 | 0.11507E-02 | 631508.9 | 4175748.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000802 | 0 | 0.11507E-02 | 631508.9 | 4175751.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000803 | 0 | 0.11507E-02 | 631508.8 | 4175755.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000804 | 0 | 0.11507E-02 | 631508.7 | 4175759.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000805 | 0 | 0.11507E-02 | 631508.6 | 4175762.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000806 | 0 | 0.11507E-02 | 631508.5 | 4175766.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000807 | 0 | 0.11507E-02 | 631508.5 | 4175770.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000808 | 0 | 0.11507E-02 | 631508.4 | 4175773.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000809 | 0 | 0.11507E-02 | 631508.3 | 4175777.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000810 | 0 | 0.11507E-02 | 631508.2 | 4175781.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000811 | 0 | 0.11507E-02 | 631508.1 | 4175784.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000812 | 0 | 0.11507E-02 | 631508.1 | 4175788.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000813 | 0 | 0.11507E-02 | 631508.0 | 4175792.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000814 | 0 | 0.11507E-02 | 631507.9 | 4175795.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000815 | 0 | 0.11507E-02 | 631507.8 | 4175799.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000816 | 0 | 0.11507E-02 | 631507.8 | 4175803.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000817 | 0 | 0.11507E-02 | 631507.7 | 4175806.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000818 | 0 | 0.11507E-02 | 631507.6 | 4175810.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000819 | 0 | 0.11507E-02 | 631507.5 | 4175814.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000820 | 0 | 0.11507E-02 | 631507.4 | 4175817.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000821 | 0 | 0.11507E-02 | 631507.4 | 4175821.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000822 | 0 | 0.11507E-02 | 631507.3 | 4175825.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000823 | 0 | 0.11507E-02 | 631507.2 | 4175828.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000824 | 0 | 0.11507E-02 | 631507.1 | 4175832.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000825 | 0 | 0.11507E-02 | 631507.1 | 4175836.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000826 | 0 | 0.11507E-02 | 631507.0 | 4175839.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000827 | 0 | 0.11507E-02 | 631506.9 | 4175843.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000828 | 0 | 0.11507E-02 | 631506.8 | 4175847.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000829 | 0 | 0.11507E-02 | 631506.7 | 4175850.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000830 | 0 | 0.11507E-02 | 631506.7 | 4175854.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000831 | 0 | 0.11507E-02 | 631506.6 | 4175858.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000832 | 0 | 0.11507E-02 | 631506.5 | 4175861.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000833 | 0 | 0.11507E-02 | 631506.4 | 4175865.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000834 | 0 | 0.11507E-02 | 631506.3 | 4175868.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000835 | 0 | 0.11507E-02 | 631505.1 | 4175872.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000836 | 0 | 0.11507E-02 | 631503.3 | 4175875.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000837 | 0 | 0.11507E-02 | 631501.5 | 4175878.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000838 | 0 | 0.11507E-02 | 631499.7 | 4175881.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000839 | 0 | 0.11507E-02 | 631497.9 | 4175885.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000840 | 0 | 0.11507E-02 | 631496.1 | 4175888.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|

| SOURCE ID | PART. CATS. | (GRAMS/SEC) | X (METERS) | Y (METERS) | ELEV. (METERS) | HEIGHT (METERS) | SY (METERS) | SZ (METERS) | SOURCE BY | SCALAR VARY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000841 | 0 | 0.11507E-02 | 631494.3 | 4175891.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000842 | 0 | 0.11507E-02 | 631492.5 | 4175894.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000843 | 0 | 0.11507E-02 | 631490.8 | 4175897.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000844 | 0 | 0.11507E-02 | 631489.0 | 4175901.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000845 | 0 | 0.11507E-02 | 631487.2 | 4175904.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000846 | 0 | 0.11507E-02 | 631485.4 | 4175907.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000847 | 0 | 0.11507E-02 | 631483.6 | 4175910.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000848 | 0 | 0.11507E-02 | 631481.8 | 4175913.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000849 | 0 | 0.11507E-02 | 631480.0 | 4175916.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000850 | 0 | 0.11507E-02 | 631478.2 | 4175920.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000851 | 0 | 0.11507E-02 | 631476.4 | 4175923.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000852 | 0 | 0.11507E-02 | 631474.6 | 4175926.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000853 | 0 | 0.11507E-02 | 631472.8 | 4175929.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000854 | 0 | 0.11507E-02 | 631471.0 | 4175932.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000855 | 0 | 0.11507E-02 | 631469.2 | 4175936.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000856 | 0 | 0.11507E-02 | 631467.4 | 4175939.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000857 | 0 | 0.11507E-02 | 631465.6 | 4175942.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000858 | 0 | 0.11507E-02 | 631463.9 | 4175945.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000859 | 0 | 0.11507E-02 | 631462.5 | 4175948.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000860 | 0 | 0.11507E-02 | 631462.5 | 4175952.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000861 | 0 | 0.11507E-02 | 631462.5 | 4175956.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000862 | 0 | 0.11507E-02 | 631462.5 | 4175959.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000863 | 0 | 0.11507E-02 | 631462.5 | 4175963.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000864 | 0 | 0.11507E-02 | 631462.5 | 4175967.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000865 | 0 | 0.11507E-02 | 631462.5 | 4175970.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000866 | 0 | 0.11507E-02 | 631462.5 | 4175974.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000867 | 0 | 0.11507E-02 | 631462.5 | 4175978.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000868 | 0 | 0.11507E-02 | 631462.5 | 4175981.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000869 | 0 | 0.11507E-02 | 631462.5 | 4175985.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000870 | 0 | 0.32051E-02 | 631459.4 | 4175990.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000871 | 0 | 0.32051E-02 | 631455.8 | 4175990.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000872 | 0 | 0.32051E-02 | 631452.1 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000873 | 0 | 0.32051E-02 | 631448.4 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000874 | 0 | 0.32051E-02 | 631444.8 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000875 | 0 | 0.32051E-02 | 631441.1 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000876 | 0 | 0.32051E-02 | 631437.5 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000877 | 0 | 0.32051E-02 | 631433.8 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000878 | 0 | 0.32051E-02 | 631430.1 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000879 | 0 | 0.32051E-02 | 631426.5 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000880 | 0 | 0.32051E-02 | 631422.8 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | PART. CATS. | (GRAMS/SEC) | X (METERS) | Y (METERS) | ELEV. (METERS) | HEIGHT (METERS) | SY (METERS) | SZ (METERS) | SOURCE BY | SCALAR VARY |
|---|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|---|---|---|---|---|---|---|
| L0000881 | 0 | 0.32051E-02 | 631419.2 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000882 | 0 | 0.32051E-02 | 631415.5 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000883 | 0 | 0.32051E-02 | 631411.9 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000884 | 0 | 0.32051E-02 | 631408.2 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000885 | 0 | 0.32051E-02 | 631404.5 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000886 | 0 | 0.32051E-02 | 631400.9 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000887 | 0 | 0.32051E-02 | 631397.2 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000888 | 0 | 0.32051E-02 | 631393.6 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000889 | 0 | 0.32051E-02 | 631389.9 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000890 | 0 | 0.32051E-02 | 631386.3 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000891 | 0 | 0.32051E-02 | 631382.6 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000892 | 0 | 0.32051E-02 | 631378.9 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000893 | 0 | 0.32051E-02 | 631375.3 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000894 | 0 | 0.32051E-02 | 631371.6 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000895 | 0 | 0.32051E-02 | 631368.0 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000896 | 0 | 0.32051E-02 | 631364.3 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000897 | 0 | 0.32051E-02 | 631360.7 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000898 | 0 | 0.32051E-02 | 631357.0 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000899 | 0 | 0.32051E-02 | 631353.3 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000900 | 0 | 0.32051E-02 | 631349.7 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000901 | 0 | 0.32051E-02 | 631346.0 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000902 | 0 | 0.32051E-02 | 631342.4 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000903 | 0 | 0.32051E-02 | 631338.7 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000904 | 0 | 0.32051E-02 | 631335.1 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000905 | 0 | 0.32051E-02 | 631331.4 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000906 | 0 | 0.32051E-02 | 631327.7 | 4175991.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000907 | 0 | 0.32051E-02 | 631324.1 | 4175991.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000908 | 0 | 0.32051E-02 | 631320.4 | 4175991.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000909 | 0 | 0.32051E-02 | 631316.8 | 4175991.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000910 | 0 | 0.32051E-02 | 631313.1 | 4175991.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000911 | 0 | 0.32051E-02 | 631309.5 | 4175991.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000912 | 0 | 0.32051E-02 | 631305.8 | 4175991.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000913 | 0 | 0.32051E-02 | 631302.1 | 4175991.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000914 | 0 | 0.32051E-02 | 631298.5 | 4175991.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000915 | 0 | 0.32051E-02 | 631294.8 | 4175991.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000916 | 0 | 0.32051E-02 | 631291.2 | 4175991.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000917 | 0 | 0.32051E-02 | 631287.5 | 4175991.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000918 | 0 | 0.32051E-02 | 631283.8 | 4175991.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000919 | 0 | 0.32051E-02 | 631280.2 | 4175991.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000920 | 0 | 0.32051E-02 | 631276.5 | 4175991.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|---|---|---|---|---|---|---|
| L0000921 | 0 | 0.32051E-02 | 631272.9 | 4175991.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000922 | 0 | 0.32051E-02 | 631269.2 | 4175991.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000923 | 0 | 0.32051E-02 | 631265.6 | 4175992.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000924 | 0 | 0.32051E-02 | 631261.9 | 4175992.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000925 | 0 | 0.32051E-02 | 631258.2 | 4175992.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000926 | 0 | 0.32051E-02 | 631254.6 | 4175992.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000927 | 0 | 0.32051E-02 | 631250.9 | 4175992.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000928 | 0 | 0.32051E-02 | 631247.3 | 4175992.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000929 | 0 | 0.32051E-02 | 631243.6 | 4175992.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000930 | 0 | 0.32051E-02 | 631240.0 | 4175992.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000931 | 0 | 0.32051E-02 | 631236.3 | 4175992.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000932 | 0 | 0.32051E-02 | 631232.6 | 4175992.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000933 | 0 | 0.32051E-02 | 631229.0 | 4175992.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000934 | 0 | 0.32051E-02 | 631225.3 | 4175992.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000935 | 0 | 0.32051E-02 | 631221.7 | 4175992.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000936 | 0 | 0.32051E-02 | 631218.0 | 4175992.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000937 | 0 | 0.32051E-02 | 631214.4 | 4175992.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000938 | 0 | 0.32051E-02 | 631210.7 | 4175992.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000939 | 0 | 0.32051E-02 | 631207.0 | 4175992.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000940 | 0 | 0.32051E-02 | 631203.4 | 4175992.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000941 | 0 | 0.32051E-02 | 631199.7 | 4175992.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000942 | 0 | 0.32051E-02 | 631196.1 | 4175992.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000943 | 0 | 0.32051E-02 | 631192.4 | 4175992.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000944 | 0 | 0.32051E-02 | 631188.8 | 4175992.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000945 | 0 | 0.32051E-02 | 631185.1 | 4175992.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000946 | 0 | 0.32051E-02 | 631181.4 | 4175992.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000947 | 0 | 0.32051E-02 | 631177.8 | 4175992.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000948 | 0 | 0.32051E-02 | 631174.1 | 4175992.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000949 | 0 | 0.32051E-02 | 631170.5 | 4175992.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000950 | 0 | 0.32051E-02 | 631166.8 | 4175992.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000951 | 0 | 0.32051E-02 | 631163.2 | 4175992.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000952 | 0 | 0.32051E-02 | 631159.5 | 4175992.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000953 | 0 | 0.32051E-02 | 631155.8 | 4175992.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000954 | 0 | 0.32051E-02 | 631152.2 | 4175992.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000955 | 0 | 0.32051E-02 | 631148.5 | 4175992.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000956 | 0 | 0.32051E-02 | 631144.9 | 4175992.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000957 | 0 | 0.32051E-02 | 631141.2 | 4175992.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000958 | 0 | 0.32051E-02 | 631137.5 | 4175992.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000959 | 0 | 0.32051E-02 | 631133.9 | 4175992.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000960 | 0 | 0.32051E-02 | 631130.2 | 4175992.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0000961 | 0 | 0.32051E-02 | 631126.6 | 4175992.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0000962 | 0 | 0.32051E-02 | 631122.9 | 4175992.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

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|---|---|---|---|---|---|---|---|---|---|
| L0000963 | 0 | 0.32051E-02 | 631119.3 | 4175992.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000964 | 0 | 0.32051E-02 | 631115.6 | 4175992.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000965 | 0 | 0.32051E-02 | 631111.9 | 4175992.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000966 | 0 | 0.32051E-02 | 631108.3 | 4175993.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000967 | 0 | 0.32051E-02 | 631104.6 | 4175993.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000968 | 0 | 0.32051E-02 | 631101.0 | 4175993.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000969 | 0 | 0.32051E-02 | 631097.3 | 4175993.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000970 | 0 | 0.32051E-02 | 631093.7 | 4175993.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000971 | 0 | 0.32051E-02 | 631090.0 | 4175993.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000972 | 0 | 0.32051E-02 | 631086.3 | 4175993.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000973 | 0 | 0.32051E-02 | 631082.7 | 4175993.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000974 | 0 | 0.32051E-02 | 631079.0 | 4175993.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000975 | 0 | 0.32051E-02 | 631075.4 | 4175993.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000976 | 0 | 0.32051E-02 | 631071.7 | 4175993.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000977 | 0 | 0.32051E-02 | 631068.1 | 4175993.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000978 | 0 | 0.32051E-02 | 631064.4 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000979 | 0 | 0.32051E-02 | 631060.7 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000980 | 0 | 0.32051E-02 | 631057.1 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000981 | 0 | 0.32051E-02 | 631053.4 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000982 | 0 | 0.32051E-02 | 631049.8 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000983 | 0 | 0.32051E-02 | 631046.1 | 4175993.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000984 | 0 | 0.32051E-02 | 631042.5 | 4175993.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000985 | 0 | 0.32051E-02 | 631038.8 | 4175993.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000986 | 0 | 0.32051E-02 | 631035.1 | 4175993.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000987 | 0 | 0.32051E-02 | 631031.5 | 4175993.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000988 | 0 | 0.32051E-02 | 631027.8 | 4175993.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000989 | 0 | 0.32051E-02 | 631024.2 | 4175993.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000990 | 0 | 0.32051E-02 | 631020.5 | 4175993.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000991 | 0 | 0.32051E-02 | 631016.8 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000992 | 0 | 0.32051E-02 | 631013.2 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000993 | 0 | 0.32051E-02 | 631009.5 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000994 | 0 | 0.32051E-02 | 631005.9 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000995 | 0 | 0.32051E-02 | 631002.2 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000996 | 0 | 0.32051E-02 | 630998.6 | 4175993.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000997 | 0 | 0.32051E-02 | 630994.9 | 4175993.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000998 | 0 | 0.32051E-02 | 630991.2 | 4175993.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0000999 | 0 | 0.32051E-02 | 630987.6 | 4175993.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001000 | 0 | 0.32051E-02 | 630983.9 | 4175993.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001001 | 0 | 0.32051E-02 | 630980.3 | 4175993.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001002 | 0 | 0.32051E-02 | 630976.6 | 4175993.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001003 | 0 | 0.32051E-02 | 630973.0 | 4175993.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001004 | 0 | 0.32051E-02 | 630969.3 | 4175993.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001005 | 0 | 0.32051E-02 | 630965.6 | 4175993.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001006 | 0 | 0.32051E-02 | 630962.0 | 4175993.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001007 | 0 | 0.32051E-02 | 630958.3 | 4175993.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001008 | 0 | 0.32051E-02 | 630954.7 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001009 | 0 | 0.32051E-02 | 630951.0 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001010 | 0 | 0.32051E-02 | 630947.4 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001011 | 0 | 0.32051E-02 | 630943.7 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001012 | 0 | 0.32051E-02 | 630940.0 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001013 | 0 | 0.32051E-02 | 630936.4 | 4175994.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001014 | 0 | 0.32051E-02 | 630932.7 | 4175994.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001015 | 0 | 0.32051E-02 | 630929.1 | 4175994.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001016 | 0 | 0.32051E-02 | 630925.4 | 4175994.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001017 | 0 | 0.32051E-02 | 630921.8 | 4175994.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001018 | 0 | 0.32051E-02 | 630918.1 | 4175994.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001019 | 0 | 0.32051E-02 | 630914.4 | 4175994.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001020 | 0 | 0.32051E-02 | 630910.8 | 4175994.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001021 | 0 | 0.32051E-02 | 630907.1 | 4175994.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001022 | 0 | 0.32051E-02 | 630903.5 | 4175994.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001023 | 0 | 0.32051E-02 | 630899.8 | 4175994.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001024 | 0 | 0.32051E-02 | 630896.2 | 4175994.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001025 | 0 | 0.32051E-02 | 630892.5 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001026 | 0 | 0.32051E-02 | 630888.8 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001027 | 0 | 0.32051E-02 | 630885.2 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001028 | 0 | 0.32051E-02 | 630881.5 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001029 | 0 | 0.32051E-02 | 630877.9 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001030 | 0 | 0.32051E-02 | 630874.2 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001031 | 0 | 0.32051E-02 | 630870.5 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001032 | 0 | 0.32051E-02 | 630866.9 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001033 | 0 | 0.32051E-02 | 630863.2 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001034 | 0 | 0.32051E-02 | 630859.6 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001035 | 0 | 0.32051E-02 | 630855.9 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001036 | 0 | 0.32051E-02 | 630852.3 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001037 | 0 | 0.32051E-02 | 630848.6 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001038 | 0 | 0.32051E-02 | 630844.9 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001039 | 0 | 0.32051E-02 | 630841.3 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001040 | 0 | 0.32051E-02 | 630837.6 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001041 | 0 | 0.32051E-02 | 630834.0 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001042 | 0 | 0.32051E-02 | 630830.3 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001043 | 0 | 0.32051E-02 | 630826.7 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001044 | 0 | 0.32051E-02 | 630823.0 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001045 | 0 | 0.32051E-02 | 630819.3 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001046 | 0 | 0.32051E-02 | 630815.7 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001047 | 0 | 0.32051E-02 | 630812.0 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001048 | 0 | 0.32051E-02 | 630808.4 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001049 | 0 | 0.32051E-02 | 630804.7 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001050 | 0 | 0.32051E-02 | 630801.1 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001051 | 0 | 0.32051E-02 | 630797.4 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001052 | 0 | 0.32051E-02 | 630793.7 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001053 | 0 | 0.32051E-02 | 630790.1 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001054 | 0 | 0.32051E-02 | 630786.4 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001055 | 0 | 0.32051E-02 | 630782.8 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001056 | 0 | 0.32051E-02 | 630779.1 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001057 | 0 | 0.32051E-02 | 630775.5 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001058 | 0 | 0.32051E-02 | 630771.8 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001059 | 0 | 0.32051E-02 | 630768.1 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001060 | 0 | 0.32051E-02 | 630764.5 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001061 | 0 | 0.32051E-02 | 630760.8 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001062 | 0 | 0.32051E-02 | 630757.2 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001063 | 0 | 0.32051E-02 | 630753.5 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001064 | 0 | 0.32051E-02 | 630749.9 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001065 | 0 | 0.32051E-02 | 630746.2 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001066 | 0 | 0.32051E-02 | 630742.5 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001067 | 0 | 0.32051E-02 | 630738.9 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001068 | 0 | 0.32051E-02 | 630735.2 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001069 | 0 | 0.32051E-02 | 630731.6 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001070 | 0 | 0.32051E-02 | 630727.9 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001071 | 0 | 0.32051E-02 | 630724.2 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001072 | 0 | 0.32051E-02 | 630720.6 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001073 | 0 | 0.32051E-02 | 630716.9 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001074 | 0 | 0.32051E-02 | 630713.3 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001075 | 0 | 0.32051E-02 | 630709.6 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001076 | 0 | 0.32051E-02 | 630706.0 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001077 | 0 | 0.32051E-02 | 630702.3 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001078 | 0 | 0.32051E-02 | 630698.6 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001079 | 0 | 0.32051E-02 | 630695.0 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001080 | 0 | 0.32051E-02 | 630691.3 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001081 | 0 | 0.32051E-02 | 630687.7 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001082 | 0 | 0.32051E-02 | 630684.0 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001083 | 0 | 0.32051E-02 | 630680.4 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001084 | 0 | 0.32051E-02 | 630676.7 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001085 | 0 | 0.32051E-02 | 630673.0 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001086 | 0 | 0.32051E-02 | 630669.4 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001087 | 0 | 0.32051E-02 | 630665.7 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001088 | 0 | 0.32051E-02 | 630662.1 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001089 | 0 | 0.32051E-02 | 630658.4 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001090 | 0 | 0.32051E-02 | 630654.8 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001091 | 0 | 0.32051E-02 | 630651.1 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001092 | 0 | 0.32051E-02 | 630647.4 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001093 | 0 | 0.32051E-02 | 630643.8 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001094 | 0 | 0.32051E-02 | 630640.1 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001095 | 0 | 0.32051E-02 | 630636.5 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001096 | 0 | 0.32051E-02 | 630632.8 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001097 | 0 | 0.32051E-02 | 630629.2 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001098 | 0 | 0.32051E-02 | 630625.5 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001099 | 0 | 0.32051E-02 | 630621.8 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001100 | 0 | 0.32051E-02 | 630618.2 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001101 | 0 | 0.32051E-02 | 630614.5 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001102 | 0 | 0.32051E-02 | 630610.9 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001103 | 0 | 0.32051E-02 | 630607.2 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001104 | 0 | 0.32051E-02 | 630603.5 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001105 | 0 | 0.32051E-02 | 630599.9 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001106 | 0 | 0.32051E-02 | 630596.2 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001107 | 0 | 0.32051E-02 | 630592.6 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001108 | 0 | 0.32051E-02 | 630588.9 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001109 | 0 | 0.32051E-02 | 630585.3 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001110 | 0 | 0.32051E-02 | 630581.6 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001111 | 0 | 0.32051E-02 | 630577.9 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001112 | 0 | 0.32051E-02 | 630574.3 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001113 | 0 | 0.32051E-02 | 630570.6 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001114 | 0 | 0.32051E-02 | 630567.0 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001115 | 0 | 0.32051E-02 | 630563.3 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001116 | 0 | 0.32051E-02 | 630559.7 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001117 | 0 | 0.32051E-02 | 630556.0 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001118 | 0 | 0.32051E-02 | 630552.3 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001119 | 0 | 0.32051E-02 | 630548.7 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001120 | 0 | 0.32051E-02 | 630545.0 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001121 | 0 | 0.32051E-02 | 630541.4 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001122 | 0 | 0.32051E-02 | 630537.7 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001123 | 0 | 0.32051E-02 | 630534.1 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001124 | 0 | 0.32051E-02 | 630530.4 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001125 | 0 | 0.32051E-02 | 630526.7 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001126 | 0 | 0.32051E-02 | 630523.1 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001127 | 0 | 0.32051E-02 | 630519.4 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001128 | 0 | 0.32051E-02 | 630515.8 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001129 | 0 | 0.32051E-02 | 630512.1 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001130 | 0 | 0.32051E-02 | 630508.5 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001131 | 0 | 0.32051E-02 | 630504.8 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001132 | 0 | 0.32051E-02 | 630501.1 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001133 | 0 | 0.32051E-02 | 630497.5 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001134 | 0 | 0.32051E-02 | 630493.8 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001135 | 0 | 0.32051E-02 | 630490.2 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001136 | 0 | 0.32051E-02 | 630486.5 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001137 | 0 | 0.32051E-02 | 630482.9 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001138 | 0 | 0.32051E-02 | 630479.2 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001139 | 0 | 0.32051E-02 | 630475.5 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001140 | 0 | 0.32051E-02 | 630471.9 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001141 | 0 | 0.32051E-02 | 630468.2 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001142 | 0 | 0.32051E-02 | 630464.6 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001143 | 0 | 0.32051E-02 | 630460.9 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001144 | 0 | 0.32051E-02 | 630457.2 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001145 | 0 | 0.32051E-02 | 630453.6 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001146 | 0 | 0.32051E-02 | 630449.9 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001147 | 0 | 0.32051E-02 | 630446.3 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001148 | 0 | 0.32051E-02 | 630442.6 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001149 | 0 | 0.32051E-02 | 630439.0 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001150 | 0 | 0.32051E-02 | 630435.3 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001151 | 0 | 0.32051E-02 | 630431.6 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001152 | 0 | 0.32051E-02 | 630428.0 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001153 | 0 | 0.32051E-02 | 630424.3 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001154 | 0 | 0.32051E-02 | 630420.7 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001155 | 0 | 0.32051E-02 | 630417.0 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001156 | 0 | 0.32051E-02 | 630413.4 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001157 | 0 | 0.32051E-02 | 630409.7 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001158 | 0 | 0.32051E-02 | 630406.0 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001159 | 0 | 0.32051E-02 | 630402.4 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001160 | 0 | 0.32051E-02 | 630398.7 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001161 | 0 | 0.32051E-02 | 630395.1 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001162 | 0 | 0.32051E-02 | 630391.4 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001163 | 0 | 0.32051E-02 | 630387.8 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001164 | 0 | 0.32051E-02 | 630384.1 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001165 | 0 | 0.32051E-02 | 630380.4 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001166 | 0 | 0.32051E-02 | 630376.8 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001167 | 0 | 0.32051E-02 | 630373.1 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001168 | 0 | 0.32051E-02 | 630369.5 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001169 | 0 | 0.32051E-02 | 630365.8 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001170 | 0 | 0.32051E-02 | 630362.2 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001171 | 0 | 0.32051E-02 | 630358.5 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001172 | 0 | 0.32051E-02 | 630354.8 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001173 | 0 | 0.32051E-02 | 630351.2 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001174 | 0 | 0.32051E-02 | 630347.5 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001175 | 0 | 0.32051E-02 | 630343.9 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001176 | 0 | 0.32051E-02 | 630340.2 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001177 | 0 | 0.32051E-02 | 630336.5 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001178 | 0 | 0.32051E-02 | 630332.9 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001179 | 0 | 0.32051E-02 | 630329.2 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001180 | 0 | 0.32051E-02 | 630325.6 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001181 | 0 | 0.32051E-02 | 630321.9 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001296 | 0 | 0.27027E-02 | 631463.6 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001297 | 0 | 0.27027E-02 | 631467.3 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001298 | 0 | 0.27027E-02 | 631471.0 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001299 | 0 | 0.27027E-02 | 631474.6 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001300 | 0 | 0.27027E-02 | 631478.3 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001301 | 0 | 0.27027E-02 | 631481.9 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001302 | 0 | 0.27027E-02 | 631485.6 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001303 | 0 | 0.27027E-02 | 631489.2 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001304 | 0 | 0.27027E-02 | 631492.9 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001305 | 0 | 0.27027E-02 | 631496.6 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001306 | 0 | 0.27027E-02 | 631500.2 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001307 | 0 | 0.27027E-02 | 631503.9 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001308 | 0 | 0.27027E-02 | 631507.5 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001309 | 0 | 0.27027E-02 | 631511.2 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001310 | 0 | 0.27027E-02 | 631514.8 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001311 | 0 | 0.27027E-02 | 631518.5 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001312 | 0 | 0.27027E-02 | 631522.2 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001313 | 0 | 0.27027E-02 | 631525.8 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001314 | 0 | 0.27027E-02 | 631529.5 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001315 | 0 | 0.27027E-02 | 631533.1 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001316 | 0 | 0.27027E-02 | 631536.8 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001317 | 0 | 0.27027E-02 | 631540.5 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001318 | 0 | 0.27027E-02 | 631544.1 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001319 | 0 | 0.27027E-02 | 631547.8 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001320 | 0 | 0.27027E-02 | 631551.4 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001321 | 0 | 0.27027E-02 | 631555.1 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001322 | 0 | 0.27027E-02 | 631558.7 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001323 | 0 | 0.27027E-02 | 631562.4 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001324 | 0 | 0.27027E-02 | 631566.1 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001325 | 0 | 0.27027E-02 | 631569.7 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001326 | 0 | 0.27027E-02 | 631573.4 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001327 | 0 | 0.27027E-02 | 631577.0 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001328 | 0 | 0.27027E-02 | 631580.7 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001329 | 0 | 0.27027E-02 | 631584.3 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001330 | 0 | 0.27027E-02 | 631588.0 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001331 | 0 | 0.27027E-02 | 631591.7 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001332 | 0 | 0.27027E-02 | 631595.3 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001333 | 0 | 0.27027E-02 | 631599.0 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001334 | 0 | 0.27027E-02 | 631602.6 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001335 | 0 | 0.27027E-02 | 631606.3 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001336 | 0 | 0.27027E-02 | 631609.9 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001337 | 0 | 0.27027E-02 | 631613.6 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001338 | 0 | 0.27027E-02 | 631617.3 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001339 | 0 | 0.27027E-02 | 631620.9 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001340 | 0 | 0.27027E-02 | 631624.6 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001341 | 0 | 0.27027E-02 | 631628.2 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001342 | 0 | 0.27027E-02 | 631631.9 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001343 | 0 | 0.27027E-02 | 631635.5 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001344 | 0 | 0.27027E-02 | 631639.2 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001345 | 0 | 0.27027E-02 | 631642.9 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001346 | 0 | 0.27027E-02 | 631646.5 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001347 | 0 | 0.27027E-02 | 631650.2 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001348 | 0 | 0.27027E-02 | 631653.8 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001349 | 0 | 0.27027E-02 | 631657.5 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001350 | 0 | 0.27027E-02 | 631661.1 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001351 | 0 | 0.27027E-02 | 631664.8 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001352 | 0 | 0.27027E-02 | 631668.5 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001353 | 0 | 0.27027E-02 | 631672.1 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001354 | 0 | 0.27027E-02 | 631675.8 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001355 | 0 | 0.27027E-02 | 631679.4 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001356 | 0 | 0.27027E-02 | 631683.1 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001357 | 0 | 0.27027E-02 | 631686.8 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001358 | 0 | 0.27027E-02 | 631690.4 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001359 | 0 | 0.27027E-02 | 631694.1 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001360 | 0 | 0.27027E-02 | 631697.7 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001361 | 0 | 0.27027E-02 | 631701.4 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001362 | 0 | 0.27027E-02 | 631705.0 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001363 | 0 | 0.27027E-02 | 631708.7 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001364 | 0 | 0.27027E-02 | 631712.4 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001365 | 0 | 0.27027E-02 | 631716.0 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001366 | 0 | 0.27027E-02 | 631719.7 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001367 | 0 | 0.27027E-02 | 631723.3 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001368 | 0 | 0.27027E-02 | 631727.0 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001369 | 0 | 0.27027E-02 | 631730.6 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001370 | 0 | 0.27027E-02 | 631734.3 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001371 | 0 | 0.27027E-02 | 631738.0 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001372 | 0 | 0.27027E-02 | 631741.6 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001373 | 0 | 0.27027E-02 | 631745.3 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001374 | 0 | 0.27027E-02 | 631748.9 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001375 | 0 | 0.27027E-02 | 631752.6 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001376 | 0 | 0.27027E-02 | 631756.2 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001377 | 0 | 0.27027E-02 | 631759.9 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001378 | 0 | 0.27027E-02 | 631763.6 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001379 | 0 | 0.27027E-02 | 631767.2 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001380 | 0 | 0.27027E-02 | 631770.9 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001381 | 0 | 0.27027E-02 | 631774.5 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001382 | 0 | 0.27027E-02 | 631778.2 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001383 | 0 | 0.27027E-02 | 631781.8 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001384 | 0 | 0.27027E-02 | 631785.5 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001385 | 0 | 0.27027E-02 | 631789.2 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001386 | 0 | 0.27027E-02 | 631792.8 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001387 | 0 | 0.27027E-02 | 631796.5 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001388 | 0 | 0.27027E-02 | 631800.1 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001389 | 0 | 0.27027E-02 | 631803.8 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001390 | 0 | 0.27027E-02 | 631807.5 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001391 | 0 | 0.27027E-02 | 631811.1 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001392 | 0 | 0.27027E-02 | 631814.8 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001393 | 0 | 0.27027E-02 | 631818.4 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001394 | 0 | 0.27027E-02 | 631822.1 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001395 | 0 | 0.27027E-02 | 631825.7 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001396 | 0 | 0.27027E-02 | 631829.4 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001397 | 0 | 0.27027E-02 | 631833.1 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001398 | 0 | 0.27027E-02 | 631836.7 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001399 | 0 | 0.27027E-02 | 631840.4 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001400 | 0 | 0.27027E-02 | 631844.0 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001401 | 0 | 0.27027E-02 | 631847.7 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001402 | 0 | 0.27027E-02 | 631851.3 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001403 | 0 | 0.27027E-02 | 631855.0 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001404 | 0 | 0.27027E-02 | 631858.7 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001405 | 0 | 0.27027E-02 | 631862.3 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001406 | 0 | 0.27027E-02 | 631866.0 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001407 | 0 | 0.27027E-02 | 631869.6 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001408 | 0 | 0.27027E-02 | 631873.3 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001409 | 0 | 0.27027E-02 | 631876.9 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001410 | 0 | 0.27027E-02 | 631880.6 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001411 | 0 | 0.27027E-02 | 631884.3 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001412 | 0 | 0.27027E-02 | 631887.9 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001413 | 0 | 0.27027E-02 | 631891.6 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001414 | 0 | 0.27027E-02 | 631895.2 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001415 | 0 | 0.27027E-02 | 631898.9 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001416 | 0 | 0.27027E-02 | 631902.5 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001417 | 0 | 0.27027E-02 | 631906.2 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001418 | 0 | 0.27027E-02 | 631909.9 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001419 | 0 | 0.27027E-02 | 631913.5 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001420 | 0 | 0.27027E-02 | 631917.2 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001421 | 0 | 0.27027E-02 | 631920.8 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001422 | 0 | 0.27027E-02 | 631924.5 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001423 | 0 | 0.27027E-02 | 631928.2 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001424 | 0 | 0.27027E-02 | 631931.8 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001425 | 0 | 0.27027E-02 | 631935.5 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001426 | 0 | 0.27027E-02 | 631939.1 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001427 | 0 | 0.27027E-02 | 631942.8 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001428 | 0 | 0.27027E-02 | 631946.4 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001429 | 0 | 0.27027E-02 | 631950.1 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001430 | 0 | 0.27027E-02 | 631953.8 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001431 | 0 | 0.27027E-02 | 631957.4 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001432 | 0 | 0.27027E-02 | 631961.1 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001433 | 0 | 0.27027E-02 | 631964.7 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001434 | 0 | 0.27027E-02 | 631968.4 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001435 | 0 | 0.27027E-02 | 631972.0 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001436 | 0 | 0.27027E-02 | 631975.7 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001437 | 0 | 0.27027E-02 | 631979.4 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001438 | 0 | 0.27027E-02 | 631983.0 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001439 | 0 | 0.27027E-02 | 631986.7 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001440 | 0 | 0.27027E-02 | 631990.3 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001441 | 0 | 0.27027E-02 | 631994.0 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001442 | 0 | 0.27027E-02 | 631997.6 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001443 | 0 | 0.27027E-02 | 632001.3 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001444 | 0 | 0.27027E-02 | 632005.0 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001445 | 0 | 0.27027E-02 | 632008.6 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001446 | 0 | 0.27027E-02 | 632012.3 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001447 | 0 | 0.27027E-02 | 632015.9 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001448 | 0 | 0.27027E-02 | 632019.6 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001449 | 0 | 0.27027E-02 | 632023.2 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001450 | 0 | 0.27027E-02 | 632026.9 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001451 | 0 | 0.27027E-02 | 632030.6 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001452 | 0 | 0.27027E-02 | 632034.2 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001453 | 0 | 0.27027E-02 | 632037.9 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001454 | 0 | 0.27027E-02 | 632041.5 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001455 | 0 | 0.27027E-02 | 632045.2 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001456 | 0 | 0.27027E-02 | 632048.9 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001457 | 0 | 0.27027E-02 | 632052.5 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001458 | 0 | 0.27027E-02 | 632056.2 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001459 | 0 | 0.27027E-02 | 632059.8 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001460 | 0 | 0.27027E-02 | 632063.5 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001461 | 0 | 0.27027E-02 | 632067.1 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001462 | 0 | 0.27027E-02 | 632070.8 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001463 | 0 | 0.27027E-02 | 632074.5 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001464 | 0 | 0.27027E-02 | 632078.1 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001465 | 0 | 0.27027E-02 | 632081.8 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001466 | 0 | 0.27027E-02 | 632085.4 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001467 | 0 | 0.27027E-02 | 632089.1 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001468 | 0 | 0.27027E-02 | 632092.7 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001469 | 0 | 0.27027E-02 | 632096.4 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001470 | 0 | 0.27027E-02 | 632100.1 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001471 | 0 | 0.27027E-02 | 632103.7 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001472 | 0 | 0.27027E-02 | 632107.4 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001473 | 0 | 0.27027E-02 | 632111.0 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001474 | 0 | 0.27027E-02 | 632114.7 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001475 | 0 | 0.27027E-02 | 632118.3 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001476 | 0 | 0.27027E-02 | 632122.0 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001477 | 0 | 0.27027E-02 | 632125.7 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001478 | 0 | 0.27027E-02 | 632129.3 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001479 | 0 | 0.27027E-02 | 632133.0 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001480 | 0 | 0.27027E-02 | 632136.6 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001481 | 0 | 0.27027E-02 | 632140.3 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001482 | 0 | 0.27027E-02 | 632143.9 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001483 | 0 | 0.27027E-02 | 632147.6 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001484 | 0 | 0.27027E-02 | 632151.3 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001485 | 0 | 0.27027E-02 | 632154.9 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001486 | 0 | 0.27027E-02 | 632158.6 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001487 | 0 | 0.27027E-02 | 632162.2 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001488 | 0 | 0.27027E-02 | 632165.9 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001489 | 0 | 0.27027E-02 | 632169.6 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001490 | 0 | 0.27027E-02 | 632173.2 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001491 | 0 | 0.27027E-02 | 632176.9 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001492 | 0 | 0.27027E-02 | 632180.5 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001493 | 0 | 0.27027E-02 | 632184.2 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001494 | 0 | 0.27027E-02 | 632187.8 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001495 | 0 | 0.27027E-02 | 632191.5 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001496 | 0 | 0.27027E-02 | 632195.2 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001497 | 0 | 0.27027E-02 | 632198.8 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001498 | 0 | 0.27027E-02 | 632202.5 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001499 | 0 | 0.27027E-02 | 632206.1 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001500 | 0 | 0.27027E-02 | 632209.8 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001501 | 0 | 0.27027E-02 | 632213.4 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001502 | 0 | 0.27027E-02 | 632217.1 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001503 | 0 | 0.27027E-02 | 632220.8 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001504 | 0 | 0.27027E-02 | 632224.4 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001505 | 0 | 0.27027E-02 | 632228.1 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001506 | 0 | 0.27027E-02 | 632231.7 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001507 | 0 | 0.27027E-02 | 632235.4 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001508 | 0 | 0.27027E-02 | 632239.0 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001509 | 0 | 0.27027E-02 | 632242.7 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001510 | 0 | 0.27027E-02 | 632246.4 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001511 | 0 | 0.27027E-02 | 632250.0 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001512 | 0 | 0.27027E-02 | 632253.7 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001513 | 0 | 0.27027E-02 | 632257.3 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001514 | 0 | 0.27027E-02 | 632261.0 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001515 | 0 | 0.27027E-02 | 632264.6 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001516 | 0 | 0.27027E-02 | 632268.3 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001517 | 0 | 0.27027E-02 | 632272.0 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001518 | 0 | 0.27027E-02 | 632275.6 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001519 | 0 | 0.27027E-02 | 632279.3 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001520 | 0 | 0.27027E-02 | 632282.9 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001521 | 0 | 0.27027E-02 | 632286.6 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001522 | 0 | 0.27027E-02 | 632290.3 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001523 | 0 | 0.27027E-02 | 632293.9 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001524 | 0 | 0.27027E-02 | 632297.6 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001525 | 0 | 0.27027E-02 | 632301.2 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001526 | 0 | 0.27027E-02 | 632304.9 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001527 | 0 | 0.27027E-02 | 632308.5 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001528 | 0 | 0.27027E-02 | 632312.2 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001529 | 0 | 0.27027E-02 | 632315.9 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001530 | 0 | 0.27027E-02 | 632319.5 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001531 | 0 | 0.27027E-02 | 632323.2 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001532 | 0 | 0.27027E-02 | 632326.8 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001533 | 0 | 0.27027E-02 | 632330.5 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001534 | 0 | 0.27027E-02 | 632334.1 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001535 | 0 | 0.27027E-02 | 632337.8 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001536 | 0 | 0.27027E-02 | 632341.5 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001537 | 0 | 0.27027E-02 | 632345.1 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001538 | 0 | 0.27027E-02 | 632348.8 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001539 | 0 | 0.27027E-02 | 632352.4 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001540 | 0 | 0.27027E-02 | 632356.1 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001541 | 0 | 0.27027E-02 | 632359.7 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001542 | 0 | 0.27027E-02 | 632363.4 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001543 | 0 | 0.27027E-02 | 632367.1 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001544 | 0 | 0.27027E-02 | 632370.7 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001545 | 0 | 0.27027E-02 | 632374.4 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001546 | 0 | 0.27027E-02 | 632378.0 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001547 | 0 | 0.27027E-02 | 632381.7 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001548 | 0 | 0.27027E-02 | 632385.3 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001549 | 0 | 0.27027E-02 | 632389.0 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001550 | 0 | 0.27027E-02 | 632392.7 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001551 | 0 | 0.27027E-02 | 632396.3 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001552 | 0 | 0.27027E-02 | 632400.0 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001553 | 0 | 0.27027E-02 | 632403.6 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001554 | 0 | 0.27027E-02 | 632407.3 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001555 | 0 | 0.27027E-02 | 632411.0 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001556 | 0 | 0.27027E-02 | 632414.6 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001557 | 0 | 0.27027E-02 | 632418.3 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001558 | 0 | 0.27027E-02 | 632421.9 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001559 | 0 | 0.27027E-02 | 632425.6 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001560 | 0 | 0.27027E-02 | 632429.2 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001561 | 0 | 0.27027E-02 | 632432.9 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001562 | 0 | 0.27027E-02 | 632436.6 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001563 | 0 | 0.27027E-02 | 632440.2 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001564 | 0 | 0.27027E-02 | 632443.9 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001565 | 0 | 0.27027E-02 | 632447.5 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001566 | 0 | 0.27027E-02 | 632451.2 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001567 | 0 | 0.27027E-02 | 632454.8 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001568 | 0 | 0.27027E-02 | 632458.5 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001569 | 0 | 0.27027E-02 | 632462.2 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001570 | 0 | 0.27027E-02 | 632465.8 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001571 | 0 | 0.27027E-02 | 632469.5 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001572 | 0 | 0.27027E-02 | 632473.1 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001573 | 0 | 0.27027E-02 | 632476.8 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001574 | 0 | 0.27027E-02 | 632480.4 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001575 | 0 | 0.27027E-02 | 632484.1 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001576 | 0 | 0.27027E-02 | 632487.8 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001577 | 0 | 0.27027E-02 | 632491.4 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001578 | 0 | 0.27027E-02 | 632495.1 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001579 | 0 | 0.27027E-02 | 632498.7 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001580 | 0 | 0.27027E-02 | 632502.4 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001581 | 0 | 0.27027E-02 | 632506.0 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001582 | 0 | 0.27027E-02 | 632509.7 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001583 | 0 | 0.27027E-02 | 632513.4 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001584 | 0 | 0.27027E-02 | 632517.0 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001585 | 0 | 0.27027E-02 | 632520.7 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001586 | 0 | 0.27027E-02 | 632524.3 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001587 | 0 | 0.27027E-02 | 632528.0 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001588 | 0 | 0.27027E-02 | 632531.7 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001589 | 0 | 0.27027E-02 | 632535.3 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001590 | 0 | 0.27027E-02 | 632539.0 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001591 | 0 | 0.27027E-02 | 632542.6 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001592 | 0 | 0.27027E-02 | 632546.3 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001593 | 0 | 0.27027E-02 | 632549.9 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001594 | 0 | 0.27027E-02 | 632553.6 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001595 | 0 | 0.27027E-02 | 632557.3 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001596 | 0 | 0.27027E-02 | 632560.9 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001597 | 0 | 0.27027E-02 | 632564.6 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001598 | 0 | 0.27027E-02 | 632568.2 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001599 | 0 | 0.27027E-02 | 632571.9 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001600 | 0 | 0.27027E-02 | 632575.5 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001601 | 0 | 0.27027E-02 | 632579.2 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001602 | 0 | 0.27027E-02 | 632582.9 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001603 | 0 | 0.27027E-02 | 632586.5 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001604 | 0 | 0.27027E-02 | 632590.2 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001605 | 0 | 0.27027E-02 | 632593.8 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001606 | 0 | 0.27027E-02 | 632597.5 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001607 | 0 | 0.27027E-02 | 632601.1 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001608 | 0 | 0.27027E-02 | 632604.8 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001609 | 0 | 0.27027E-02 | 632608.5 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001610 | 0 | 0.27027E-02 | 632612.1 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001611 | 0 | 0.27027E-02 | 632615.8 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001612 | 0 | 0.27027E-02 | 632619.4 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001613 | 0 | 0.27027E-02 | 632623.1 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001614 | 0 | 0.27027E-02 | 632626.7 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001615 | 0 | 0.27027E-02 | 632630.4 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001616 | 0 | 0.27027E-02 | 632634.1 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001617 | 0 | 0.27027E-02 | 632637.7 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001618 | 0 | 0.27027E-02 | 632641.4 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001619 | 0 | 0.27027E-02 | 632645.0 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001620 | 0 | 0.27027E-02 | 632648.7 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001621 | 0 | 0.27027E-02 | 632652.4 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001622 | 0 | 0.27027E-02 | 632656.0 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001623 | 0 | 0.27027E-02 | 632659.7 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001624 | 0 | 0.27027E-02 | 632663.3 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001625 | 0 | 0.27027E-02 | 632667.0 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001626 | 0 | 0.27027E-02 | 632670.6 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001627 | 0 | 0.27027E-02 | 632674.3 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001628 | 0 | 0.27027E-02 | 632678.0 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001629 | 0 | 0.27027E-02 | 632681.6 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001630 | 0 | 0.27027E-02 | 632685.3 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001631 | 0 | 0.27027E-02 | 632688.9 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001632 | 0 | 0.27027E-02 | 632692.6 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001633 | 0 | 0.27027E-02 | 632696.2 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001634 | 0 | 0.27027E-02 | 632699.9 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001635 | 0 | 0.27027E-02 | 632703.6 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001636 | 0 | 0.27027E-02 | 632707.2 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001637 | 0 | 0.27027E-02 | 632710.9 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001638 | 0 | 0.27027E-02 | 632714.5 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001639 | 0 | 0.27027E-02 | 632718.2 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001640 | 0 | 0.27027E-02 | 632721.8 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001641 | 0 | 0.27027E-02 | 632725.5 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001642 | 0 | 0.27027E-02 | 632729.2 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001643 | 0 | 0.27027E-02 | 632732.8 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001644 | 0 | 0.27027E-02 | 632736.5 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001645 | 0 | 0.27027E-02 | 632740.1 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001646 | 0 | 0.27027E-02 | 632743.8 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001647 | 0 | 0.27027E-02 | 632747.4 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001648 | 0 | 0.27027E-02 | 632751.1 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001649 | 0 | 0.27027E-02 | 632754.8 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001650 | 0 | 0.27027E-02 | 632758.4 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001651 | 0 | 0.27027E-02 | 632762.1 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001652 | 0 | 0.27027E-02 | 632765.7 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001653 | 0 | 0.27027E-02 | 632769.4 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001654 | 0 | 0.27027E-02 | 632773.1 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001655 | 0 | 0.27027E-02 | 632776.7 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001656 | 0 | 0.27027E-02 | 632780.4 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001657 | 0 | 0.27027E-02 | 632784.0 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001658 | 0 | 0.27027E-02 | 632787.7 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001659 | 0 | 0.27027E-02 | 632791.3 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001660 | 0 | 0.27027E-02 | 632795.0 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001661 | 0 | 0.27027E-02 | 632798.7 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001662 | 0 | 0.27027E-02 | 632802.3 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001663 | 0 | 0.27027E-02 | 632806.0 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001664 | 0 | 0.27027E-02 | 632809.6 | 4176000.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001665 | 0 | 0.27027E-02 | 632813.3 | 4176000.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001666 | 0 | 0.37594E-02 | 632813.3 | 4176000.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001667 | 0 | 0.37594E-02 | 632809.6 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001668 | 0 | 0.37594E-02 | 632805.9 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001669 | 0 | 0.37594E-02 | 632802.3 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001670 | 0 | 0.37594E-02 | 632798.6 | 4176000.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001671 | 0 | 0.37594E-02 | 632795.0 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001672 | 0 | 0.37594E-02 | 632791.3 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001673 | 0 | 0.37594E-02 | 632787.7 | 4176000.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001674 | 0 | 0.37594E-02 | 632784.0 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001675 | 0 | 0.37594E-02 | 632780.3 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001676 | 0 | 0.37594E-02 | 632776.7 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001677 | 0 | 0.37594E-02 | 632773.0 | 4175999.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001678 | 0 | 0.37594E-02 | 632769.4 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001679 | 0 | 0.37594E-02 | 632765.7 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001680 | 0 | 0.37594E-02 | 632762.1 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001681 | 0 | 0.37594E-02 | 632758.4 | 4175999.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001682 | 0 | 0.37594E-02 | 632754.7 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001683 | 0 | 0.37594E-02 | 632751.1 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001684 | 0 | 0.37594E-02 | 632747.4 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001685 | 0 | 0.37594E-02 | 632743.8 | 4175999.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001686 | 0 | 0.37594E-02 | 632740.1 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001687 | 0 | 0.37594E-02 | 632736.4 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001688 | 0 | 0.37594E-02 | 632732.8 | 4175999.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001689 | 0 | 0.37594E-02 | 632729.1 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001690 | 0 | 0.37594E-02 | 632725.5 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001691 | 0 | 0.37594E-02 | 632721.8 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001692 | 0 | 0.37594E-02 | 632718.2 | 4175999.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001693 | 0 | 0.37594E-02 | 632714.5 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001694 | 0 | 0.37594E-02 | 632710.8 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001695 | 0 | 0.37594E-02 | 632707.2 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001696 | 0 | 0.37594E-02 | 632703.5 | 4175999.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001697 | 0 | 0.37594E-02 | 632699.9 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001698 | 0 | 0.37594E-02 | 632696.2 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001699 | 0 | 0.37594E-02 | 632692.6 | 4175999.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001700 | 0 | 0.37594E-02 | 632688.9 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001701 | 0 | 0.37594E-02 | 632685.2 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001702 | 0 | 0.37594E-02 | 632681.6 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001703 | 0 | 0.37594E-02 | 632677.9 | 4175999.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001704 | 0 | 0.37594E-02 | 632674.3 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001705 | 0 | 0.37594E-02 | 632670.6 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001706 | 0 | 0.37594E-02 | 632667.0 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001707 | 0 | 0.37594E-02 | 632663.3 | 4175999.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001708 | 0 | 0.37594E-02 | 632659.6 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001709 | 0 | 0.37594E-02 | 632656.0 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001710 | 0 | 0.37594E-02 | 632652.3 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001711 | 0 | 0.37594E-02 | 632648.7 | 4175999.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001712 | 0 | 0.37594E-02 | 632645.0 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001713 | 0 | 0.37594E-02 | 632641.4 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001714 | 0 | 0.37594E-02 | 632637.7 | 4175998.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001715 | 0 | 0.37594E-02 | 632634.0 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001716 | 0 | 0.37594E-02 | 632630.4 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001717 | 0 | 0.37594E-02 | 632626.7 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001718 | 0 | 0.37594E-02 | 632623.1 | 4175998.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001719 | 0 | 0.37594E-02 | 632619.4 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001720 | 0 | 0.37594E-02 | 632615.8 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001721 | 0 | 0.37594E-02 | 632612.1 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001722 | 0 | 0.37594E-02 | 632608.4 | 4175998.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001723 | 0 | 0.37594E-02 | 632604.8 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001724 | 0 | 0.37594E-02 | 632601.1 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001725 | 0 | 0.37594E-02 | 632597.5 | 4175998.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001726 | 0 | 0.37594E-02 | 632593.8 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001727 | 0 | 0.37594E-02 | 632590.1 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001728 | 0 | 0.37594E-02 | 632586.5 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001729 | 0 | 0.37594E-02 | 632582.8 | 4175998.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001730 | 0 | 0.37594E-02 | 632579.2 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001731 | 0 | 0.37594E-02 | 632575.5 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001732 | 0 | 0.37594E-02 | 632571.9 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001733 | 0 | 0.37594E-02 | 632568.2 | 4175998.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001734 | 0 | 0.37594E-02 | 632564.5 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001735 | 0 | 0.37594E-02 | 632560.9 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001736 | 0 | 0.37594E-02 | 632557.2 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001737 | 0 | 0.37594E-02 | 632553.6 | 4175998.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001738 | 0 | 0.37594E-02 | 632549.9 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001739 | 0 | 0.37594E-02 | 632546.3 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001740 | 0 | 0.37594E-02 | 632542.6 | 4175998.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001741 | 0 | 0.37594E-02 | 632538.9 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001742 | 0 | 0.37594E-02 | 632535.3 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001743 | 0 | 0.37594E-02 | 632531.6 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001744 | 0 | 0.37594E-02 | 632528.0 | 4175998.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001745 | 0 | 0.37594E-02 | 632524.3 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001746 | 0 | 0.37594E-02 | 632520.7 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001747 | 0 | 0.37594E-02 | 632517.0 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001748 | 0 | 0.37594E-02 | 632513.3 | 4175998.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001749 | 0 | 0.37594E-02 | 632509.7 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001750 | 0 | 0.37594E-02 | 632506.0 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001751 | 0 | 0.37594E-02 | 632502.4 | 4175997.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001752 | 0 | 0.37594E-02 | 632498.7 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001753 | 0 | 0.37594E-02 | 632495.1 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001754 | 0 | 0.37594E-02 | 632491.4 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001755 | 0 | 0.37594E-02 | 632487.7 | 4175997.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001756 | 0 | 0.37594E-02 | 632484.1 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001757 | 0 | 0.37594E-02 | 632480.4 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001758 | 0 | 0.37594E-02 | 632476.8 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001759 | 0 | 0.37594E-02 | 632473.1 | 4175997.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001760 | 0 | 0.37594E-02 | 632469.5 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001761 | 0 | 0.37594E-02 | 632465.8 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001762 | 0 | 0.37594E-02 | 632462.1 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001763 | 0 | 0.37594E-02 | 632458.5 | 4175997.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001764 | 0 | 0.37594E-02 | 632454.8 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001765 | 0 | 0.37594E-02 | 632451.2 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001766 | 0 | 0.37594E-02 | 632447.5 | 4175997.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001767 | 0 | 0.37594E-02 | 632443.8 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001768 | 0 | 0.37594E-02 | 632440.2 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001769 | 0 | 0.37594E-02 | 632436.5 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001770 | 0 | 0.37594E-02 | 632432.9 | 4175997.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001771 | 0 | 0.37594E-02 | 632429.2 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001772 | 0 | 0.37594E-02 | 632425.6 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001773 | 0 | 0.37594E-02 | 632421.9 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001774 | 0 | 0.37594E-02 | 632418.2 | 4175997.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001775 | 0 | 0.37594E-02 | 632414.6 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001776 | 0 | 0.37594E-02 | 632410.9 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001777 | 0 | 0.37594E-02 | 632407.3 | 4175997.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001778 | 0 | 0.37594E-02 | 632403.6 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001779 | 0 | 0.37594E-02 | 632400.0 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001780 | 0 | 0.37594E-02 | 632396.3 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001781 | 0 | 0.37594E-02 | 632392.6 | 4175997.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001782 | 0 | 0.37594E-02 | 632389.0 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001783 | 0 | 0.37594E-02 | 632385.3 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001784 | 0 | 0.37594E-02 | 632381.7 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001785 | 0 | 0.37594E-02 | 632378.0 | 4175997.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001786 | 0 | 0.37594E-02 | 632374.4 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001787 | 0 | 0.37594E-02 | 632370.7 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001788 | 0 | 0.37594E-02 | 632367.0 | 4175996.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001789 | 0 | 0.37594E-02 | 632363.4 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001790 | 0 | 0.37594E-02 | 632359.7 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001791 | 0 | 0.37594E-02 | 632356.1 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001792 | 0 | 0.37594E-02 | 632352.4 | 4175996.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001793 | 0 | 0.37594E-02 | 632348.8 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001794 | 0 | 0.37594E-02 | 632345.1 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001795 | 0 | 0.37594E-02 | 632341.4 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001796 | 0 | 0.37594E-02 | 632337.8 | 4175996.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001797 | 0 | 0.37594E-02 | 632334.1 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001798 | 0 | 0.37594E-02 | 632330.5 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001799 | 0 | 0.37594E-02 | 632326.8 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001800 | 0 | 0.37594E-02 | 632323.2 | 4175996.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001801 | 0 | 0.37594E-02 | 632319.5 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001802 | 0 | 0.37594E-02 | 632315.8 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001803 | 0 | 0.37594E-02 | 632312.2 | 4175996.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001804 | 0 | 0.37594E-02 | 632308.5 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001805 | 0 | 0.37594E-02 | 632304.9 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001806 | 0 | 0.37594E-02 | 632301.2 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001807 | 0 | 0.37594E-02 | 632297.5 | 4175996.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001808 | 0 | 0.37594E-02 | 632293.9 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001809 | 0 | 0.37594E-02 | 632290.2 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001810 | 0 | 0.37594E-02 | 632286.6 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001811 | 0 | 0.37594E-02 | 632282.9 | 4175996.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001812 | 0 | 0.37594E-02 | 632279.3 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001813 | 0 | 0.37594E-02 | 632275.6 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001814 | 0 | 0.37594E-02 | 632271.9 | 4175996.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001815 | 0 | 0.37594E-02 | 632268.3 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001816 | 0 | 0.37594E-02 | 632264.6 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001817 | 0 | 0.37594E-02 | 632261.0 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001818 | 0 | 0.37594E-02 | 632257.3 | 4175996.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001819 | 0 | 0.37594E-02 | 632253.7 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001820 | 0 | 0.37594E-02 | 632250.0 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001821 | 0 | 0.37594E-02 | 632246.3 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001822 | 0 | 0.37594E-02 | 632242.7 | 4175996.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001823 | 0 | 0.37594E-02 | 632239.0 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001824 | 0 | 0.37594E-02 | 632235.4 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001825 | 0 | 0.37594E-02 | 632231.7 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001826 | 0 | 0.37594E-02 | 632228.1 | 4175995.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001827 | 0 | 0.37594E-02 | 632224.4 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001828 | 0 | 0.37594E-02 | 632220.7 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001829 | 0 | 0.37594E-02 | 632217.1 | 4175995.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001830 | 0 | 0.37594E-02 | 632213.4 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001831 | 0 | 0.37594E-02 | 632209.8 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001832 | 0 | 0.37594E-02 | 632206.1 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0001833 | 0 | 0.37594E-02 | 632202.5 | 4175995.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0001834 | 0 | 0.37594E-02 | 632198.8 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001835 | 0 | 0.37594E-02 | 632195.1 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001836 | 0 | 0.37594E-02 | 632191.5 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001837 | 0 | 0.37594E-02 | 632187.8 | 4175995.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001838 | 0 | 0.37594E-02 | 632184.2 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001839 | 0 | 0.37594E-02 | 632180.5 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001840 | 0 | 0.37594E-02 | 632176.9 | 4175995.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001841 | 0 | 0.37594E-02 | 632173.2 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001842 | 0 | 0.37594E-02 | 632169.5 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001843 | 0 | 0.37594E-02 | 632165.9 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001844 | 0 | 0.37594E-02 | 632162.2 | 4175995.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001845 | 0 | 0.37594E-02 | 632158.6 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001846 | 0 | 0.37594E-02 | 632154.9 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001847 | 0 | 0.37594E-02 | 632151.2 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001848 | 0 | 0.37594E-02 | 632147.6 | 4175995.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001849 | 0 | 0.37594E-02 | 632143.9 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001850 | 0 | 0.37594E-02 | 632140.3 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001851 | 0 | 0.37594E-02 | 632136.6 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001852 | 0 | 0.37594E-02 | 632133.0 | 4175995.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001853 | 0 | 0.37594E-02 | 632129.3 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001854 | 0 | 0.37594E-02 | 632125.6 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001855 | 0 | 0.37594E-02 | 632122.0 | 4175995.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001856 | 0 | 0.37594E-02 | 632118.3 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001857 | 0 | 0.37594E-02 | 632114.7 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001858 | 0 | 0.37594E-02 | 632111.0 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001859 | 0 | 0.37594E-02 | 632107.4 | 4175995.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001860 | 0 | 0.37594E-02 | 632103.7 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001861 | 0 | 0.37594E-02 | 632100.0 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001862 | 0 | 0.37594E-02 | 632096.4 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001863 | 0 | 0.37594E-02 | 632092.7 | 4175994.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001864 | 0 | 0.37594E-02 | 632089.1 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001865 | 0 | 0.37594E-02 | 632085.4 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001866 | 0 | 0.37594E-02 | 632081.8 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001867 | 0 | 0.37594E-02 | 632078.1 | 4175994.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001868 | 0 | 0.37594E-02 | 632074.4 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001869 | 0 | 0.37594E-02 | 632070.8 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001870 | 0 | 0.37594E-02 | 632067.1 | 4175994.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001871 | 0 | 0.37594E-02 | 632063.5 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001872 | 0 | 0.37594E-02 | 632059.8 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001873 | 0 | 0.37594E-02 | 632056.2 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001874 | 0 | 0.37594E-02 | 632052.5 | 4175994.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001875 | 0 | 0.37594E-02 | 632048.8 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001876 | 0 | 0.37594E-02 | 632045.2 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001877 | 0 | 0.37594E-02 | 632041.5 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001878 | 0 | 0.37594E-02 | 632037.9 | 4175994.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001879 | 0 | 0.37594E-02 | 632034.2 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001880 | 0 | 0.37594E-02 | 632030.6 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001881 | 0 | 0.37594E-02 | 632026.9 | 4175994.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001882 | 0 | 0.37594E-02 | 632023.2 | 4175994.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001883 | 0 | 0.37594E-02 | 632019.6 | 4175994.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001884 | 0 | 0.37594E-02 | 632015.9 | 4175994.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001885 | 0 | 0.37594E-02 | 632012.3 | 4175994.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001886 | 0 | 0.37594E-02 | 632008.6 | 4175994.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001887 | 0 | 0.37594E-02 | 632004.9 | 4175994.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001888 | 0 | 0.37594E-02 | 632001.3 | 4175994.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001889 | 0 | 0.37594E-02 | 631997.6 | 4175994.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001890 | 0 | 0.37594E-02 | 631994.0 | 4175994.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001891 | 0 | 0.37594E-02 | 631990.3 | 4175994.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001892 | 0 | 0.37594E-02 | 631986.7 | 4175994.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001893 | 0 | 0.37594E-02 | 631983.0 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001894 | 0 | 0.37594E-02 | 631979.3 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001895 | 0 | 0.37594E-02 | 631975.7 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001896 | 0 | 0.37594E-02 | 631972.0 | 4175994.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001897 | 0 | 0.37594E-02 | 631968.4 | 4175993.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001898 | 0 | 0.37594E-02 | 631964.7 | 4175993.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001899 | 0 | 0.37594E-02 | 631961.1 | 4175993.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001900 | 0 | 0.37594E-02 | 631957.4 | 4175993.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001901 | 0 | 0.37594E-02 | 631953.7 | 4175993.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001902 | 0 | 0.37594E-02 | 631950.1 | 4175993.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001903 | 0 | 0.37594E-02 | 631946.4 | 4175993.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001904 | 0 | 0.37594E-02 | 631942.8 | 4175993.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001905 | 0 | 0.37594E-02 | 631939.1 | 4175993.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001906 | 0 | 0.37594E-02 | 631935.5 | 4175993.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001907 | 0 | 0.37594E-02 | 631931.8 | 4175993.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001908 | 0 | 0.37594E-02 | 631928.1 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001909 | 0 | 0.37594E-02 | 631924.5 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001910 | 0 | 0.37594E-02 | 631920.8 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001911 | 0 | 0.37594E-02 | 631917.2 | 4175993.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001912 | 0 | 0.37594E-02 | 631913.5 | 4175993.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001913 | 0 | 0.37594E-02 | 631909.9 | 4175993.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001914 | 0 | 0.37594E-02 | 631906.2 | 4175993.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001915 | 0 | 0.37594E-02 | 631902.5 | 4175993.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001916 | 0 | 0.37594E-02 | 631898.9 | 4175993.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001917 | 0 | 0.37594E-02 | 631895.2 | 4175993.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001918 | 0 | 0.37594E-02 | 631891.6 | 4175993.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001919 | 0 | 0.37594E-02 | 631887.9 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001920 | 0 | 0.37594E-02 | 631884.3 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001921 | 0 | 0.37594E-02 | 631880.6 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001922 | 0 | 0.37594E-02 | 631876.9 | 4175993.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001923 | 0 | 0.37594E-02 | 631873.3 | 4175993.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001924 | 0 | 0.37594E-02 | 631869.6 | 4175993.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001925 | 0 | 0.37594E-02 | 631866.0 | 4175993.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001926 | 0 | 0.37594E-02 | 631862.3 | 4175993.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001927 | 0 | 0.37594E-02 | 631858.6 | 4175993.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001928 | 0 | 0.37594E-02 | 631855.0 | 4175993.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001929 | 0 | 0.37594E-02 | 631851.3 | 4175993.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001930 | 0 | 0.37594E-02 | 631847.7 | 4175993.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001931 | 0 | 0.37594E-02 | 631844.0 | 4175993.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001932 | 0 | 0.24038E-02 | 630319.7 | 4175984.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001933 | 0 | 0.24038E-02 | 630323.3 | 4175984.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001934 | 0 | 0.24038E-02 | 630327.0 | 4175984.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001935 | 0 | 0.24038E-02 | 630330.6 | 4175984.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001936 | 0 | 0.24038E-02 | 630334.3 | 4175984.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001937 | 0 | 0.24038E-02 | 630338.0 | 4175984.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001938 | 0 | 0.24038E-02 | 630341.6 | 4175984.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001939 | 0 | 0.24038E-02 | 630345.3 | 4175984.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001940 | 0 | 0.24038E-02 | 630348.9 | 4175984.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001941 | 0 | 0.24038E-02 | 630352.6 | 4175984.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001942 | 0 | 0.24038E-02 | 630356.2 | 4175984.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001943 | 0 | 0.24038E-02 | 630359.9 | 4175984.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001944 | 0 | 0.24038E-02 | 630363.6 | 4175984.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001945 | 0 | 0.24038E-02 | 630367.2 | 4175984.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001946 | 0 | 0.24038E-02 | 630370.9 | 4175984.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001947 | 0 | 0.24038E-02 | 630374.5 | 4175984.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001948 | 0 | 0.24038E-02 | 630378.2 | 4175984.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001949 | 0 | 0.24038E-02 | 630381.8 | 4175984.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001950 | 0 | 0.24038E-02 | 630385.5 | 4175984.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001951 | 0 | 0.24038E-02 | 630389.2 | 4175984.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001952 | 0 | 0.24038E-02 | 630392.8 | 4175984.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001953 | 0 | 0.24038E-02 | 630396.5 | 4175984.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001954 | 0 | 0.24038E-02 | 630400.1 | 4175984.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |



file:///C/...977GSBU)/Documents/HRA/Tracy%20Costco%20DepotV2/AERMOD/Tracy%20CostcoV2.ADO%20(AERMOD%20Output%20file).txt[6/8/2022 6:45:42 PM]

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001955 | 0 | 0.24038E-02 | 630403.8 | 4175984.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001956 | 0 | 0.24038E-02 | 630407.4 | 4175984.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001957 | 0 | 0.24038E-02 | 630411.1 | 4175984.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001958 | 0 | 0.24038E-02 | 630414.8 | 4175984.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001959 | 0 | 0.24038E-02 | 630418.4 | 4175984.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001960 | 0 | 0.24038E-02 | 630422.1 | 4175984.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001961 | 0 | 0.24038E-02 | 630425.7 | 4175984.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001962 | 0 | 0.24038E-02 | 630429.4 | 4175984.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001963 | 0 | 0.24038E-02 | 630433.1 | 4175984.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001964 | 0 | 0.24038E-02 | 630436.7 | 4175985.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001965 | 0 | 0.24038E-02 | 630440.4 | 4175985.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001966 | 0 | 0.24038E-02 | 630444.0 | 4175985.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001967 | 0 | 0.24038E-02 | 630447.7 | 4175985.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001968 | 0 | 0.24038E-02 | 630451.3 | 4175985.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001969 | 0 | 0.24038E-02 | 630455.0 | 4175985.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001970 | 0 | 0.24038E-02 | 630458.7 | 4175985.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001971 | 0 | 0.24038E-02 | 630462.3 | 4175985.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001972 | 0 | 0.24038E-02 | 630466.0 | 4175985.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001973 | 0 | 0.24038E-02 | 630469.6 | 4175985.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001974 | 0 | 0.24038E-02 | 630473.3 | 4175985.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001975 | 0 | 0.24038E-02 | 630476.9 | 4175985.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001976 | 0 | 0.24038E-02 | 630480.6 | 4175985.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001977 | 0 | 0.24038E-02 | 630484.3 | 4175985.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001978 | 0 | 0.24038E-02 | 630487.9 | 4175985.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001979 | 0 | 0.24038E-02 | 630491.6 | 4175985.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001980 | 0 | 0.24038E-02 | 630495.2 | 4175985.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001981 | 0 | 0.24038E-02 | 630498.9 | 4175985.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001982 | 0 | 0.24038E-02 | 630502.5 | 4175985.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001983 | 0 | 0.24038E-02 | 630506.2 | 4175985.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001984 | 0 | 0.24038E-02 | 630509.9 | 4175985.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001985 | 0 | 0.24038E-02 | 630513.5 | 4175985.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001986 | 0 | 0.24038E-02 | 630517.2 | 4175985.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001987 | 0 | 0.24038E-02 | 630520.8 | 4175985.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001988 | 0 | 0.24038E-02 | 630524.5 | 4175985.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001989 | 0 | 0.24038E-02 | 630528.1 | 4175985.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001990 | 0 | 0.24038E-02 | 630531.8 | 4175985.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001991 | 0 | 0.24038E-02 | 630535.5 | 4175985.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001992 | 0 | 0.24038E-02 | 630539.1 | 4175985.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001993 | 0 | 0.24038E-02 | 630542.8 | 4175985.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001994 | 0 | 0.24038E-02 | 630546.4 | 4175985.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | BASE Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0001995 | 0 | 0.24038E-02 | 630550.1 | 4175985.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001996 | 0 | 0.24038E-02 | 630553.7 | 4175985.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001997 | 0 | 0.24038E-02 | 630557.4 | 4175985.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001998 | 0 | 0.24038E-02 | 630561.1 | 4175985.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0001999 | 0 | 0.24038E-02 | 630564.7 | 4175985.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002000 | 0 | 0.24038E-02 | 630568.4 | 4175985.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002001 | 0 | 0.24038E-02 | 630572.0 | 4175985.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002002 | 0 | 0.24038E-02 | 630575.7 | 4175985.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002003 | 0 | 0.24038E-02 | 630579.4 | 4175985.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002004 | 0 | 0.24038E-02 | 630583.0 | 4175985.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002005 | 0 | 0.24038E-02 | 630586.7 | 4175985.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002006 | 0 | 0.24038E-02 | 630590.3 | 4175985.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002007 | 0 | 0.24038E-02 | 630594.0 | 4175985.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002008 | 0 | 0.24038E-02 | 630597.6 | 4175985.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002009 | 0 | 0.24038E-02 | 630601.3 | 4175985.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002010 | 0 | 0.24038E-02 | 630605.0 | 4175985.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002011 | 0 | 0.24038E-02 | 630608.6 | 4175985.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002012 | 0 | 0.24038E-02 | 630612.3 | 4175985.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002013 | 0 | 0.24038E-02 | 630615.9 | 4175985.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002014 | 0 | 0.24038E-02 | 630619.6 | 4175985.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002015 | 0 | 0.24038E-02 | 630623.2 | 4175985.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002016 | 0 | 0.24038E-02 | 630626.9 | 4175985.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002017 | 0 | 0.24038E-02 | 630630.6 | 4175985.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002018 | 0 | 0.24038E-02 | 630634.2 | 4175985.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002019 | 0 | 0.24038E-02 | 630637.9 | 4175985.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002020 | 0 | 0.24038E-02 | 630641.5 | 4175985.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002021 | 0 | 0.24038E-02 | 630645.2 | 4175985.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002022 | 0 | 0.24038E-02 | 630648.8 | 4175986.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002023 | 0 | 0.24038E-02 | 630652.5 | 4175986.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002024 | 0 | 0.24038E-02 | 630656.2 | 4175986.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002025 | 0 | 0.24038E-02 | 630659.8 | 4175986.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002026 | 0 | 0.24038E-02 | 630663.5 | 4175986.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002027 | 0 | 0.24038E-02 | 630667.1 | 4175986.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002028 | 0 | 0.24038E-02 | 630670.8 | 4175986.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002029 | 0 | 0.24038E-02 | 630674.4 | 4175986.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002030 | 0 | 0.24038E-02 | 630678.1 | 4175986.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002031 | 0 | 0.24038E-02 | 630681.8 | 4175986.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002032 | 0 | 0.24038E-02 | 630685.4 | 4175986.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002033 | 0 | 0.24038E-02 | 630689.1 | 4175986.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002034 | 0 | 0.24038E-02 | 630692.7 | 4175986.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |



*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0002035 | 0 | 0.24038E-02 | 630696.4 | 4175986.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002036 | 0 | 0.24038E-02 | 630700.1 | 4175986.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002037 | 0 | 0.24038E-02 | 630703.7 | 4175986.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002038 | 0 | 0.24038E-02 | 630707.4 | 4175986.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002039 | 0 | 0.24038E-02 | 630711.0 | 4175986.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002040 | 0 | 0.24038E-02 | 630714.7 | 4175986.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002041 | 0 | 0.24038E-02 | 630718.3 | 4175986.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002042 | 0 | 0.24038E-02 | 630722.0 | 4175986.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002043 | 0 | 0.24038E-02 | 630725.7 | 4175986.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002044 | 0 | 0.24038E-02 | 630729.3 | 4175986.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002045 | 0 | 0.24038E-02 | 630733.0 | 4175986.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002046 | 0 | 0.24038E-02 | 630736.6 | 4175986.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002047 | 0 | 0.24038E-02 | 630740.3 | 4175986.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002048 | 0 | 0.24038E-02 | 630743.9 | 4175986.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002049 | 0 | 0.24038E-02 | 630747.6 | 4175986.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002050 | 0 | 0.24038E-02 | 630751.3 | 4175986.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002051 | 0 | 0.24038E-02 | 630754.9 | 4175986.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002052 | 0 | 0.24038E-02 | 630758.6 | 4175986.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002053 | 0 | 0.24038E-02 | 630762.2 | 4175986.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002054 | 0 | 0.24038E-02 | 630765.9 | 4175986.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002055 | 0 | 0.24038E-02 | 630769.5 | 4175986.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002056 | 0 | 0.24038E-02 | 630773.2 | 4175986.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002057 | 0 | 0.24038E-02 | 630776.9 | 4175986.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002058 | 0 | 0.24038E-02 | 630780.5 | 4175986.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002059 | 0 | 0.24038E-02 | 630784.2 | 4175986.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002060 | 0 | 0.24038E-02 | 630787.8 | 4175986.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002061 | 0 | 0.24038E-02 | 630791.5 | 4175986.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002062 | 0 | 0.24038E-02 | 630795.1 | 4175986.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002063 | 0 | 0.24038E-02 | 630798.8 | 4175986.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002064 | 0 | 0.24038E-02 | 630802.5 | 4175986.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002065 | 0 | 0.24038E-02 | 630806.1 | 4175986.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002066 | 0 | 0.24038E-02 | 630809.8 | 4175986.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002067 | 0 | 0.24038E-02 | 630813.4 | 4175986.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002068 | 0 | 0.24038E-02 | 630817.1 | 4175986.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002069 | 0 | 0.24038E-02 | 630820.8 | 4175986.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002070 | 0 | 0.24038E-02 | 630824.4 | 4175986.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002071 | 0 | 0.24038E-02 | 630828.1 | 4175986.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002072 | 0 | 0.24038E-02 | 630831.7 | 4175986.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002073 | 0 | 0.24038E-02 | 630835.4 | 4175986.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002074 | 0 | 0.24038E-02 | 630839.0 | 4175986.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|

| SOURCE ID | PART. CATS. | (GRAMS/SEC) | X (METERS) | Y (METERS) | ELEV. (METERS) | HEIGHT (METERS) | SY (METERS) | SZ (METERS) | SOURCE BY | SCALAR VARY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0002075 | 0 | 0.24038E-02 | 630842.7 | 4175986.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002076 | 0 | 0.24038E-02 | 630846.4 | 4175986.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002077 | 0 | 0.24038E-02 | 630850.0 | 4175986.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002078 | 0 | 0.24038E-02 | 630853.7 | 4175986.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002079 | 0 | 0.24038E-02 | 630857.3 | 4175986.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002080 | 0 | 0.24038E-02 | 630861.0 | 4175987.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002081 | 0 | 0.24038E-02 | 630864.6 | 4175987.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002082 | 0 | 0.24038E-02 | 630868.3 | 4175987.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002083 | 0 | 0.24038E-02 | 630872.0 | 4175987.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002084 | 0 | 0.24038E-02 | 630875.6 | 4175987.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002085 | 0 | 0.24038E-02 | 630879.3 | 4175987.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002086 | 0 | 0.24038E-02 | 630882.9 | 4175987.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002087 | 0 | 0.24038E-02 | 630886.6 | 4175987.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002088 | 0 | 0.24038E-02 | 630890.2 | 4175987.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002089 | 0 | 0.24038E-02 | 630893.9 | 4175987.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002090 | 0 | 0.24038E-02 | 630897.6 | 4175987.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002091 | 0 | 0.24038E-02 | 630901.2 | 4175987.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002092 | 0 | 0.24038E-02 | 630904.9 | 4175987.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002093 | 0 | 0.24038E-02 | 630908.5 | 4175987.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002094 | 0 | 0.24038E-02 | 630912.2 | 4175987.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002095 | 0 | 0.24038E-02 | 630915.8 | 4175987.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002096 | 0 | 0.24038E-02 | 630919.5 | 4175987.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002097 | 0 | 0.24038E-02 | 630923.2 | 4175987.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002098 | 0 | 0.24038E-02 | 630926.8 | 4175987.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002099 | 0 | 0.24038E-02 | 630930.5 | 4175987.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002100 | 0 | 0.24038E-02 | 630934.1 | 4175987.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002101 | 0 | 0.24038E-02 | 630937.8 | 4175987.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002102 | 0 | 0.24038E-02 | 630941.5 | 4175987.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002103 | 0 | 0.24038E-02 | 630945.1 | 4175987.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002104 | 0 | 0.24038E-02 | 630948.8 | 4175987.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002105 | 0 | 0.24038E-02 | 630952.4 | 4175987.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002106 | 0 | 0.24038E-02 | 630956.1 | 4175987.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002107 | 0 | 0.24038E-02 | 630959.7 | 4175987.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002108 | 0 | 0.24038E-02 | 630963.4 | 4175987.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002109 | 0 | 0.24038E-02 | 630967.1 | 4175987.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002110 | 0 | 0.24038E-02 | 630970.7 | 4175987.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002111 | 0 | 0.24038E-02 | 630974.4 | 4175987.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002112 | 0 | 0.24038E-02 | 630978.0 | 4175987.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002113 | 0 | 0.24038E-02 | 630981.7 | 4175987.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002114 | 0 | 0.24038E-02 | 630985.3 | 4175987.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | PART. CATS. | (GRAMS/SEC) | X (METERS) | Y (METERS) | ELEV. (METERS) | HEIGHT (METERS) | SY (METERS) | SZ (METERS) | SOURCE BY | SCALAR VARY |
|---|---|---|---|---|---|---|---|---|---|---|

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0002115 | 0 | 0.24038E-02 | 630989.0 | 4175987.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002116 | 0 | 0.24038E-02 | 630992.7 | 4175987.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002117 | 0 | 0.24038E-02 | 630996.3 | 4175987.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002118 | 0 | 0.24038E-02 | 631000.0 | 4175987.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002119 | 0 | 0.24038E-02 | 631003.6 | 4175987.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002120 | 0 | 0.24038E-02 | 631007.3 | 4175987.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002121 | 0 | 0.24038E-02 | 631010.9 | 4175987.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002122 | 0 | 0.24038E-02 | 631014.6 | 4175987.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002123 | 0 | 0.24038E-02 | 631018.3 | 4175987.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002124 | 0 | 0.24038E-02 | 631021.9 | 4175987.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002125 | 0 | 0.24038E-02 | 631025.6 | 4175987.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002126 | 0 | 0.24038E-02 | 631029.2 | 4175987.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002127 | 0 | 0.24038E-02 | 631032.9 | 4175987.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002128 | 0 | 0.24038E-02 | 631036.5 | 4175987.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002129 | 0 | 0.24038E-02 | 631040.2 | 4175987.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002130 | 0 | 0.24038E-02 | 631043.9 | 4175987.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002131 | 0 | 0.24038E-02 | 631047.5 | 4175987.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002132 | 0 | 0.24038E-02 | 631051.2 | 4175987.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002133 | 0 | 0.24038E-02 | 631054.8 | 4175987.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002134 | 0 | 0.24038E-02 | 631058.5 | 4175987.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002135 | 0 | 0.24038E-02 | 631062.2 | 4175987.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002136 | 0 | 0.24038E-02 | 631065.8 | 4175987.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002137 | 0 | 0.24038E-02 | 631069.5 | 4175987.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002138 | 0 | 0.24038E-02 | 631073.1 | 4175988.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002139 | 0 | 0.24038E-02 | 631076.8 | 4175988.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002140 | 0 | 0.24038E-02 | 631080.4 | 4175988.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002141 | 0 | 0.24038E-02 | 631084.1 | 4175988.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002142 | 0 | 0.24038E-02 | 631087.8 | 4175988.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002143 | 0 | 0.24038E-02 | 631091.4 | 4175988.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002144 | 0 | 0.24038E-02 | 631095.1 | 4175988.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002145 | 0 | 0.24038E-02 | 631098.7 | 4175988.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002146 | 0 | 0.24038E-02 | 631102.4 | 4175988.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002147 | 0 | 0.24038E-02 | 631106.0 | 4175988.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002148 | 0 | 0.24038E-02 | 631109.7 | 4175988.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002149 | 0 | 0.24038E-02 | 631113.4 | 4175988.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002150 | 0 | 0.24038E-02 | 631117.0 | 4175988.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002151 | 0 | 0.24038E-02 | 631120.7 | 4175988.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002152 | 0 | 0.24038E-02 | 631124.3 | 4175988.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002153 | 0 | 0.24038E-02 | 631128.0 | 4175988.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002154 | 0 | 0.24038E-02 | 631131.6 | 4175988.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | BASE X (METERS) | Y (METERS) | RELEASE ELEV. (METERS) | INIT. HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0002155 | 0 | 0.24038E-02 | 631135.3 | 4175988.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002156 | 0 | 0.24038E-02 | 631139.0 | 4175988.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002157 | 0 | 0.24038E-02 | 631142.6 | 4175988.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002158 | 0 | 0.24038E-02 | 631146.3 | 4175988.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002159 | 0 | 0.24038E-02 | 631149.9 | 4175988.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002160 | 0 | 0.24038E-02 | 631153.6 | 4175988.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002161 | 0 | 0.24038E-02 | 631157.2 | 4175988.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002162 | 0 | 0.24038E-02 | 631160.9 | 4175988.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002163 | 0 | 0.24038E-02 | 631164.6 | 4175988.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002164 | 0 | 0.24038E-02 | 631168.2 | 4175988.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002165 | 0 | 0.24038E-02 | 631171.9 | 4175988.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002166 | 0 | 0.24038E-02 | 631175.5 | 4175988.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002167 | 0 | 0.24038E-02 | 631179.2 | 4175988.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002168 | 0 | 0.24038E-02 | 631182.9 | 4175988.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002169 | 0 | 0.24038E-02 | 631186.5 | 4175988.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002170 | 0 | 0.24038E-02 | 631190.2 | 4175988.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002171 | 0 | 0.24038E-02 | 631193.8 | 4175988.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002172 | 0 | 0.24038E-02 | 631197.5 | 4175988.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002173 | 0 | 0.24038E-02 | 631201.1 | 4175988.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002174 | 0 | 0.24038E-02 | 631204.8 | 4175988.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002175 | 0 | 0.24038E-02 | 631208.5 | 4175988.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002176 | 0 | 0.24038E-02 | 631212.1 | 4175988.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002177 | 0 | 0.24038E-02 | 631215.8 | 4175988.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002178 | 0 | 0.24038E-02 | 631219.4 | 4175988.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002179 | 0 | 0.24038E-02 | 631223.1 | 4175988.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002180 | 0 | 0.24038E-02 | 631226.7 | 4175988.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002181 | 0 | 0.24038E-02 | 631230.4 | 4175988.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002182 | 0 | 0.24038E-02 | 631234.1 | 4175988.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002183 | 0 | 0.24038E-02 | 631237.7 | 4175988.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002184 | 0 | 0.24038E-02 | 631241.4 | 4175988.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002185 | 0 | 0.24038E-02 | 631245.0 | 4175988.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002186 | 0 | 0.24038E-02 | 631248.7 | 4175988.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002187 | 0 | 0.24038E-02 | 631252.3 | 4175988.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002188 | 0 | 0.24038E-02 | 631256.0 | 4175988.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002189 | 0 | 0.24038E-02 | 631259.7 | 4175988.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002190 | 0 | 0.24038E-02 | 631263.3 | 4175988.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002191 | 0 | 0.24038E-02 | 631267.0 | 4175988.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002192 | 0 | 0.24038E-02 | 631270.6 | 4175988.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002193 | 0 | 0.24038E-02 | 631274.3 | 4175988.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002194 | 0 | 0.24038E-02 | 631277.9 | 4175988.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0002195 | 0 | 0.24038E-02 | 631281.6 | 4175988.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002196 | 0 | 0.24038E-02 | 631285.3 | 4175989.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0002197 | 0 | 0.24038E-02 | 631288.9 | 4175989.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002198 | 0 | 0.24038E-02 | 631292.6 | 4175989.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002199 | 0 | 0.24038E-02 | 631296.2 | 4175989.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002200 | 0 | 0.24038E-02 | 631299.9 | 4175989.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002201 | 0 | 0.24038E-02 | 631303.5 | 4175989.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002202 | 0 | 0.24038E-02 | 631307.2 | 4175989.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002203 | 0 | 0.24038E-02 | 631310.9 | 4175989.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002204 | 0 | 0.24038E-02 | 631314.5 | 4175989.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002205 | 0 | 0.24038E-02 | 631318.2 | 4175989.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002206 | 0 | 0.24038E-02 | 631321.8 | 4175989.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002207 | 0 | 0.24038E-02 | 631325.5 | 4175989.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002208 | 0 | 0.24038E-02 | 631329.2 | 4175989.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002209 | 0 | 0.24038E-02 | 631332.8 | 4175989.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002210 | 0 | 0.24038E-02 | 631336.5 | 4175989.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002211 | 0 | 0.24038E-02 | 631340.1 | 4175989.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002212 | 0 | 0.24038E-02 | 631343.8 | 4175989.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002213 | 0 | 0.24038E-02 | 631347.4 | 4175989.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002214 | 0 | 0.24038E-02 | 631351.1 | 4175989.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002215 | 0 | 0.24038E-02 | 631354.8 | 4175989.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002216 | 0 | 0.24038E-02 | 631358.4 | 4175989.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002217 | 0 | 0.24038E-02 | 631362.1 | 4175989.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002218 | 0 | 0.24038E-02 | 631365.7 | 4175989.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002219 | 0 | 0.24038E-02 | 631369.4 | 4175989.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002220 | 0 | 0.24038E-02 | 631373.0 | 4175989.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002221 | 0 | 0.24038E-02 | 631376.7 | 4175989.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002222 | 0 | 0.24038E-02 | 631380.4 | 4175989.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002223 | 0 | 0.24038E-02 | 631384.0 | 4175989.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002224 | 0 | 0.24038E-02 | 631387.7 | 4175989.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002225 | 0 | 0.24038E-02 | 631391.3 | 4175989.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002226 | 0 | 0.24038E-02 | 631395.0 | 4175989.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002227 | 0 | 0.24038E-02 | 631398.6 | 4175989.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002228 | 0 | 0.24038E-02 | 631402.3 | 4175989.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002229 | 0 | 0.24038E-02 | 631406.0 | 4175989.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002230 | 0 | 0.24038E-02 | 631409.6 | 4175989.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002231 | 0 | 0.24038E-02 | 631413.3 | 4175989.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002232 | 0 | 0.24038E-02 | 631416.9 | 4175989.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002233 | 0 | 0.24038E-02 | 631420.6 | 4175989.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002234 | 0 | 0.24038E-02 | 631424.2 | 4175989.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0002235 | 0 | 0.24038E-02 | 631427.9 | 4175989.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002236 | 0 | 0.24038E-02 | 631431.6 | 4175989.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002237 | 0 | 0.24038E-02 | 631435.2 | 4175989.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002238 | 0 | 0.24038E-02 | 631438.9 | 4175989.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0002239 | 0 | 0.24038E-02 | 631442.5 | 4175989.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002240 | 0 | 0.24038E-02 | 631446.2 | 4175989.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002241 | 0 | 0.24038E-02 | 631449.9 | 4175989.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002242 | 0 | 0.24038E-02 | 631453.5 | 4175989.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002243 | 0 | 0.24038E-02 | 631457.2 | 4175989.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002244 | 0 | 0.24038E-02 | 631460.8 | 4175989.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002245 | 0 | 0.24038E-02 | 631464.5 | 4175989.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002246 | 0 | 0.24038E-02 | 631468.1 | 4175989.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002247 | 0 | 0.24038E-02 | 631471.8 | 4175989.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002248 | 0 | 0.24038E-02 | 631475.5 | 4175989.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002249 | 0 | 0.24038E-02 | 631479.1 | 4175989.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002250 | 0 | 0.24038E-02 | 631482.8 | 4175989.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002251 | 0 | 0.24038E-02 | 631486.4 | 4175989.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002252 | 0 | 0.24038E-02 | 631490.1 | 4175989.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002253 | 0 | 0.24038E-02 | 631493.7 | 4175989.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002254 | 0 | 0.24038E-02 | 631497.4 | 4175990.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002255 | 0 | 0.24038E-02 | 631501.1 | 4175990.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002256 | 0 | 0.24038E-02 | 631504.7 | 4175990.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002257 | 0 | 0.24038E-02 | 631508.4 | 4175990.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002258 | 0 | 0.24038E-02 | 631512.0 | 4175990.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002259 | 0 | 0.24038E-02 | 631515.7 | 4175990.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002260 | 0 | 0.24038E-02 | 631519.3 | 4175990.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002261 | 0 | 0.24038E-02 | 631523.0 | 4175990.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002262 | 0 | 0.24038E-02 | 631526.7 | 4175990.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002263 | 0 | 0.24038E-02 | 631530.3 | 4175990.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002264 | 0 | 0.24038E-02 | 631534.0 | 4175990.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002265 | 0 | 0.24038E-02 | 631537.6 | 4175990.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002266 | 0 | 0.24038E-02 | 631541.3 | 4175990.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002267 | 0 | 0.24038E-02 | 631544.9 | 4175990.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002268 | 0 | 0.24038E-02 | 631548.6 | 4175990.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002269 | 0 | 0.24038E-02 | 631552.3 | 4175990.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002270 | 0 | 0.24038E-02 | 631555.9 | 4175990.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002271 | 0 | 0.24038E-02 | 631559.6 | 4175990.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002272 | 0 | 0.24038E-02 | 631563.2 | 4175990.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002273 | 0 | 0.24038E-02 | 631566.9 | 4175990.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002274 | 0 | 0.24038E-02 | 631570.6 | 4175990.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0002275 | 0 | 0.24038E-02 | 631574.2 | 4175990.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002276 | 0 | 0.24038E-02 | 631577.9 | 4175990.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002277 | 0 | 0.24038E-02 | 631581.5 | 4175990.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002278 | 0 | 0.24038E-02 | 631585.2 | 4175990.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002279 | 0 | 0.24038E-02 | 631588.8 | 4175990.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002280 | 0 | 0.24038E-02 | 631592.5 | 4175990.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0002281 | 0 | 0.24038E-02 | 631596.2 | 4175990.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002282 | 0 | 0.24038E-02 | 631599.8 | 4175990.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002283 | 0 | 0.24038E-02 | 631603.5 | 4175990.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002284 | 0 | 0.24038E-02 | 631607.1 | 4175990.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002285 | 0 | 0.24038E-02 | 631610.8 | 4175990.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002286 | 0 | 0.24038E-02 | 631614.4 | 4175990.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002287 | 0 | 0.24038E-02 | 631618.1 | 4175990.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002288 | 0 | 0.24038E-02 | 631621.8 | 4175990.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002289 | 0 | 0.24038E-02 | 631625.4 | 4175990.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002290 | 0 | 0.24038E-02 | 631629.1 | 4175990.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002291 | 0 | 0.24038E-02 | 631632.7 | 4175990.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002292 | 0 | 0.24038E-02 | 631636.4 | 4175990.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002293 | 0 | 0.24038E-02 | 631640.0 | 4175990.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002294 | 0 | 0.24038E-02 | 631643.7 | 4175990.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002295 | 0 | 0.24038E-02 | 631647.4 | 4175990.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002296 | 0 | 0.24038E-02 | 631651.0 | 4175990.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002297 | 0 | 0.24038E-02 | 631654.7 | 4175990.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002298 | 0 | 0.24038E-02 | 631658.3 | 4175990.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002299 | 0 | 0.24038E-02 | 631662.0 | 4175990.7 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002300 | 0 | 0.24038E-02 | 631665.6 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002301 | 0 | 0.24038E-02 | 631669.3 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002302 | 0 | 0.24038E-02 | 631673.0 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002303 | 0 | 0.24038E-02 | 631676.6 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002304 | 0 | 0.24038E-02 | 631680.3 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002305 | 0 | 0.24038E-02 | 631683.9 | 4175990.8 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002306 | 0 | 0.24038E-02 | 631687.6 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002307 | 0 | 0.24038E-02 | 631691.2 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002308 | 0 | 0.24038E-02 | 631694.9 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002309 | 0 | 0.24038E-02 | 631698.6 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002310 | 0 | 0.24038E-02 | 631702.2 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002311 | 0 | 0.24038E-02 | 631705.9 | 4175990.9 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002312 | 0 | 0.24038E-02 | 631709.5 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002313 | 0 | 0.24038E-02 | 631713.2 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002314 | 0 | 0.24038E-02 | 631716.9 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | RELEASE HEIGHT (METERS) | INIT. SY (METERS) | INIT. SZ (METERS) | URBAN SOURCE | EMISSION RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|
| L0002315 | 0 | 0.24038E-02 | 631720.5 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002316 | 0 | 0.24038E-02 | 631724.2 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002317 | 0 | 0.24038E-02 | 631727.8 | 4175991.0 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002318 | 0 | 0.24038E-02 | 631731.5 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002319 | 0 | 0.24038E-02 | 631735.1 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002320 | 0 | 0.24038E-02 | 631738.8 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002321 | 0 | 0.24038E-02 | 631742.5 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |
| L0002322 | 0 | 0.24038E-02 | 631746.1 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L0002323 | 0 | 0.24038E-02 | 631749.8 | 4175991.1 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002324 | 0 | 0.24038E-02 | 631753.4 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002325 | 0 | 0.24038E-02 | 631757.1 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002326 | 0 | 0.24038E-02 | 631760.7 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002327 | 0 | 0.24038E-02 | 631764.4 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002328 | 0 | 0.24038E-02 | 631768.1 | 4175991.2 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002329 | 0 | 0.24038E-02 | 631771.7 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002330 | 0 | 0.24038E-02 | 631775.4 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002331 | 0 | 0.24038E-02 | 631779.0 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002332 | 0 | 0.24038E-02 | 631782.7 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002333 | 0 | 0.24038E-02 | 631786.3 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002334 | 0 | 0.24038E-02 | 631790.0 | 4175991.3 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002335 | 0 | 0.24038E-02 | 631793.7 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002336 | 0 | 0.24038E-02 | 631797.3 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002337 | 0 | 0.24038E-02 | 631801.0 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002338 | 0 | 0.24038E-02 | 631804.6 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002339 | 0 | 0.24038E-02 | 631808.3 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002340 | 0 | 0.24038E-02 | 631812.0 | 4175991.4 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002341 | 0 | 0.24038E-02 | 631815.6 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002342 | 0 | 0.24038E-02 | 631819.3 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002343 | 0 | 0.24038E-02 | 631822.9 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002344 | 0 | 0.24038E-02 | 631826.6 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002345 | 0 | 0.24038E-02 | 631830.2 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002346 | 0 | 0.24038E-02 | 631833.9 | 4175991.5 | 158.0 | 1.83 | 1.70 | 1.70 | NO |
| L0002347 | 0 | 0.24038E-02 | 631837.6 | 4175991.6 | 158.0 | 1.83 | 1.70 | 1.70 | NO |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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SLINE1 L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,
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L0000065 , L0000066 , L0000067 , L0000068 , L0000069 , L0000070 , L0000071 , L0000072 ,

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*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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L0000161 , L0000162 , L0000163 , L0000164 , L0000165 , L0000166 , L0000167 , L0000168 ,

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*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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L0000633 , L0000634 , L0000635 , L0000636 , L0000637 , L0000638 , L0000639 , L0000640 ,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

| SRCGROUP ID | SOURCE IDs |
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*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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L0000942 , L0000943 , L0000944 , L0000945 , L0000946 , L0000947 , L0000948 , L0000949 ,

L0000950 , L0000951 , L0000952 , L0000953 , L0000954 , L0000955 , L0000956 , L0000957 ,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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L0000958 , L0000959 , L0000960 , L0000961 , L0000962 , L0000963 , L0000964 , L0000965 ,

L0000966 , L0000967 , L0000968 , L0000969 , L0000970 , L0000971 , L0000972 , L0000973 ,

L0000974 , L0000975 , L0000976 , L0000977 , L0000978 , L0000979 , L0000980 , L0000981 ,

L0000982 , L0000983 , L0000984 , L0000985 , L0000986 , L0000987 , L0000988 , L0000989 ,

L0000990 , L0000991 , L0000992 , L0000993 , L0000994 , L0000995 , L0000996 , L0000997 ,

L0000998 , L0000999 , L0001000 , L0001001 , L0001002 , L0001003 , L0001004 , L0001005 ,

L0001006 , L0001007 , L0001008 , L0001009 , L0001010 , L0001011 , L0001012 , L0001013 ,

L0001014 , L0001015 , L0001016 , L0001017 , L0001018 , L0001019 , L0001020 , L0001021 ,

L0001022 , L0001023 , L0001024 , L0001025 , L0001026 , L0001027 , L0001028 , L0001029 ,

L0001030 , L0001031 , L0001032 , L0001033 , L0001034 , L0001035 , L0001036 , L0001037 ,

L0001038 , L0001039 , L0001040 , L0001041 , L0001042 , L0001043 , L0001044 , L0001045 ,

L0001046 , L0001047 , L0001048 , L0001049 , L0001050 , L0001051 , L0001052 , L0001053 ,

L0001054 , L0001055 , L0001056 , L0001057 , L0001058 , L0001059 , L0001060 , L0001061 ,

L0001062 , L0001063 , L0001064 , L0001065 , L0001066 , L0001067 , L0001068 , L0001069 ,

L0001070 , L0001071 , L0001072 , L0001073 , L0001074 , L0001075 , L0001076 , L0001077 ,

L0001078 , L0001079 , L0001080 , L0001081 , L0001082 , L0001083 , L0001084 , L0001085 ,

L0001086 , L0001087 , L0001088 , L0001089 , L0001090 , L0001091 , L0001092 , L0001093 ,

L0001094 , L0001095 , L0001096 , L0001097 , L0001098 , L0001099 , L0001100 , L0001101 ,

L0001102 , L0001103 , L0001104 , L0001105 , L0001106 , L0001107 , L0001108 , L0001109 ,

L0001110 , L0001111 , L0001112 , L0001113 , L0001114 , L0001115 , L0001116 , L0001117 ,

*** SOURCE IDs DEFINING SOURCE GROUPS ***

| SRCGROUP ID | SOURCE IDs |
|---|---|
| | L0001118 , L0001119 , L0001120 , L0001121 , L0001122 , L0001123 , L0001124 , L0001125 , |
| | L0001126 , L0001127 , L0001128 , L0001129 , L0001130 , L0001131 , L0001132 , L0001133 , |
| | L0001134 , L0001135 , L0001136 , L0001137 , L0001138 , L0001139 , L0001140 , L0001141 , |
| | L0001142 , L0001143 , L0001144 , L0001145 , L0001146 , L0001147 , L0001148 , L0001149 , |
| | L0001150 , L0001151 , L0001152 , L0001153 , L0001154 , L0001155 , L0001156 , L0001157 , |
| | L0001158 , L0001159 , L0001160 , L0001161 , L0001162 , L0001163 , L0001164 , L0001165 , |
| | L0001166 , L0001167 , L0001168 , L0001169 , L0001170 , L0001171 , L0001172 , L0001173 , |
| | L0001174 , L0001175 , L0001176 , L0001177 , L0001178 , L0001179 , L0001180 , L0001181 , |
| SLINE3 | L0001296 , L0001297 , L0001298 , L0001299 , L0001300 , L0001301 , L0001302 , L0001303 , |
| | L0001304 , L0001305 , L0001306 , L0001307 , L0001308 , L0001309 , L0001310 , L0001311 , |
| | L0001312 , L0001313 , L0001314 , L0001315 , L0001316 , L0001317 , L0001318 , L0001319 , |
| | L0001320 , L0001321 , L0001322 , L0001323 , L0001324 , L0001325 , L0001326 , L0001327 , |
| | L0001328 , L0001329 , L0001330 , L0001331 , L0001332 , L0001333 , L0001334 , L0001335 , |
| | L0001336 , L0001337 , L0001338 , L0001339 , L0001340 , L0001341 , L0001342 , L0001343 , |
| | L0001344 , L0001345 , L0001346 , L0001347 , L0001348 , L0001349 , L0001350 , L0001351 , |
| | L0001352 , L0001353 , L0001354 , L0001355 , L0001356 , L0001357 , L0001358 , L0001359 , |
| | L0001360 , L0001361 , L0001362 , L0001363 , L0001364 , L0001365 , L0001366 , L0001367 , |
| | L0001368 , L0001369 , L0001370 , L0001371 , L0001372 , L0001373 , L0001374 , L0001375 , |
| | L0001376 , L0001377 , L0001378 , L0001379 , L0001380 , L0001381 , L0001382 , L0001383 , |
| | L0001384 , L0001385 , L0001386 , L0001387 , L0001388 , L0001389 , L0001390 , L0001391 , |

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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L0001392 , L0001393 , L0001394 , L0001395 , L0001396 , L0001397 , L0001398 , L0001399 ,
L0001400 , L0001401 , L0001402 , L0001403 , L0001404 , L0001405 , L0001406 , L0001407 ,
L0001408 , L0001409 , L0001410 , L0001411 , L0001412 , L0001413 , L0001414 , L0001415 ,
L0001416 , L0001417 , L0001418 , L0001419 , L0001420 , L0001421 , L0001422 , L0001423 ,
L0001424 , L0001425 , L0001426 , L0001427 , L0001428 , L0001429 , L0001430 , L0001431 ,
L0001432 , L0001433 , L0001434 , L0001435 , L0001436 , L0001437 , L0001438 , L0001439 ,
L0001440 , L0001441 , L0001442 , L0001443 , L0001444 , L0001445 , L0001446 , L0001447 ,
L0001448 , L0001449 , L0001450 , L0001451 , L0001452 , L0001453 , L0001454 , L0001455 ,
L0001456 , L0001457 , L0001458 , L0001459 , L0001460 , L0001461 , L0001462 , L0001463 ,
L0001464 , L0001465 , L0001466 , L0001467 , L0001468 , L0001469 , L0001470 , L0001471 ,
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L0001488 , L0001489 , L0001490 , L0001491 , L0001492 , L0001493 , L0001494 , L0001495 ,
L0001496 , L0001497 , L0001498 , L0001499 , L0001500 , L0001501 , L0001502 , L0001503 ,
L0001504 , L0001505 , L0001506 , L0001507 , L0001508 , L0001509 , L0001510 , L0001511 ,
L0001512 , L0001513 , L0001514 , L0001515 , L0001516 , L0001517 , L0001518 , L0001519 ,
L0001520 , L0001521 , L0001522 , L0001523 , L0001524 , L0001525 , L0001526 , L0001527 ,
L0001528 , L0001529 , L0001530 , L0001531 , L0001532 , L0001533 , L0001534 , L0001535 ,
L0001536 , L0001537 , L0001538 , L0001539 , L0001540 , L0001541 , L0001542 , L0001543 ,
L0001544 , L0001545 , L0001546 , L0001547 , L0001548 , L0001549 , L0001550 , L0001551 ,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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L0001552 , L0001553 , L0001554 , L0001555 , L0001556 , L0001557 , L0001558 , L0001559 ,

L0001560 , L0001561 , L0001562 , L0001563 , L0001564 , L0001565 , L0001566 , L0001567 ,

L0001568 , L0001569 , L0001570 , L0001571 , L0001572 , L0001573 , L0001574 , L0001575 ,

L0001576 , L0001577 , L0001578 , L0001579 , L0001580 , L0001581 , L0001582 , L0001583 ,

L0001584 , L0001585 , L0001586 , L0001587 , L0001588 , L0001589 , L0001590 , L0001591 ,

L0001592 , L0001593 , L0001594 , L0001595 , L0001596 , L0001597 , L0001598 , L0001599 ,

L0001600 , L0001601 , L0001602 , L0001603 , L0001604 , L0001605 , L0001606 , L0001607 ,

L0001608 , L0001609 , L0001610 , L0001611 , L0001612 , L0001613 , L0001614 , L0001615 ,

L0001616 , L0001617 , L0001618 , L0001619 , L0001620 , L0001621 , L0001622 , L0001623 ,

L0001624 , L0001625 , L0001626 , L0001627 , L0001628 , L0001629 , L0001630 , L0001631 ,

L0001632 , L0001633 , L0001634 , L0001635 , L0001636 , L0001637 , L0001638 , L0001639 ,

L0001640 , L0001641 , L0001642 , L0001643 , L0001644 , L0001645 , L0001646 , L0001647 ,

L0001648 , L0001649 , L0001650 , L0001651 , L0001652 , L0001653 , L0001654 , L0001655 ,

L0001656 , L0001657 , L0001658 , L0001659 , L0001660 , L0001661 , L0001662 , L0001663 ,

L0001664 , L0001665 ,

SLINE4 L0001666 , L0001667 , L0001668 , L0001669 , L0001670 , L0001671 , L0001672 , L0001673 ,

L0001674 , L0001675 , L0001676 , L0001677 , L0001678 , L0001679 , L0001680 , L0001681 ,

L0001682 , L0001683 , L0001684 , L0001685 , L0001686 , L0001687 , L0001688 , L0001689 ,

L0001690 , L0001691 , L0001692 , L0001693 , L0001694 , L0001695 , L0001696 , L0001697 ,

L0001698 , L0001699 , L0001700 , L0001701 , L0001702 , L0001703 , L0001704 , L0001705 ,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

| SRCGROUP ID | SOURCE IDs |
|---|---|

L0001706 , L0001707 , L0001708 , L0001709 , L0001710 , L0001711 , L0001712 , L0001713 ,

L0001714 , L0001715 , L0001716 , L0001717 , L0001718 , L0001719 , L0001720 , L0001721 ,

L0001722 , L0001723 , L0001724 , L0001725 , L0001726 , L0001727 , L0001728 , L0001729 ,

L0001730 , L0001731 , L0001732 , L0001733 , L0001734 , L0001735 , L0001736 , L0001737 ,

L0001738 , L0001739 , L0001740 , L0001741 , L0001742 , L0001743 , L0001744 , L0001745 ,

L0001746 , L0001747 , L0001748 , L0001749 , L0001750 , L0001751 , L0001752 , L0001753 ,

L0001754 , L0001755 , L0001756 , L0001757 , L0001758 , L0001759 , L0001760 , L0001761 ,

L0001762 , L0001763 , L0001764 , L0001765 , L0001766 , L0001767 , L0001768 , L0001769 ,

L0001770 , L0001771 , L0001772 , L0001773 , L0001774 , L0001775 , L0001776 , L0001777 ,

L0001778 , L0001779 , L0001780 , L0001781 , L0001782 , L0001783 , L0001784 , L0001785 ,

L0001786 , L0001787 , L0001788 , L0001789 , L0001790 , L0001791 , L0001792 , L0001793 ,

L0001794 , L0001795 , L0001796 , L0001797 , L0001798 , L0001799 , L0001800 , L0001801 ,

L0001802 , L0001803 , L0001804 , L0001805 , L0001806 , L0001807 , L0001808 , L0001809 ,

L0001810 , L0001811 , L0001812 , L0001813 , L0001814 , L0001815 , L0001816 , L0001817 ,

L0001818 , L0001819 , L0001820 , L0001821 , L0001822 , L0001823 , L0001824 , L0001825 ,

L0001826 , L0001827 , L0001828 , L0001829 , L0001830 , L0001831 , L0001832 , L0001833 ,

L0001834 , L0001835 , L0001836 , L0001837 , L0001838 , L0001839 , L0001840 , L0001841 ,

L0001842 , L0001843 , L0001844 , L0001845 , L0001846 , L0001847 , L0001848 , L0001849 ,

L0001850 , L0001851 , L0001852 , L0001853 , L0001854 , L0001855 , L0001856 , L0001857 ,

L0001858 , L0001859 , L0001860 , L0001861 , L0001862 , L0001863 , L0001864 , L0001865 ,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

| SRCGROUP ID | SOURCE IDs |
|---|---|

L0001866 , L0001867 , L0001868 , L0001869 , L0001870 , L0001871 , L0001872 , L0001873 ,

L0001874 , L0001875 , L0001876 , L0001877 , L0001878 , L0001879 , L0001880 , L0001881 ,

L0001882 , L0001883 , L0001884 , L0001885 , L0001886 , L0001887 , L0001888 , L0001889 ,

L0001890 , L0001891 , L0001892 , L0001893 , L0001894 , L0001895 , L0001896 , L0001897 ,

L0001898 , L0001899 , L0001900 , L0001901 , L0001902 , L0001903 , L0001904 , L0001905 ,

L0001906 , L0001907 , L0001908 , L0001909 , L0001910 , L0001911 , L0001912 , L0001913 ,

L0001914 , L0001915 , L0001916 , L0001917 , L0001918 , L0001919 , L0001920 , L0001921 ,

L0001922 , L0001923 , L0001924 , L0001925 , L0001926 , L0001927 , L0001928 , L0001929 ,

L0001930 , L0001931 ,

SLINE5 L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 ,

L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 ,

L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 ,

L0001956 , L0001957 , L0001958 , L0001959 , L0001960 , L0001961 , L0001962 , L0001963 ,

L0001964 , L0001965 , L0001966 , L0001967 , L0001968 , L0001969 , L0001970 , L0001971 ,

L0001972 , L0001973 , L0001974 , L0001975 , L0001976 , L0001977 , L0001978 , L0001979 ,

L0001980 , L0001981 , L0001982 , L0001983 , L0001984 , L0001985 , L0001986 , L0001987 ,

L0001988 , L0001989 , L0001990 , L0001991 , L0001992 , L0001993 , L0001994 , L0001995 ,

L0001996 , L0001997 , L0001998 , L0001999 , L0002000 , L0002001 , L0002002 , L0002003 ,

L0002004 , L0002005 , L0002006 , L0002007 , L0002008 , L0002009 , L0002010 , L0002011 ,

L0002012 , L0002013 , L0002014 , L0002015 , L0002016 , L0002017 , L0002018 , L0002019 ,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
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L0002020 , L0002021 , L0002022 , L0002023 , L0002024 , L0002025 , L0002026 , L0002027 ,

L0002028 , L0002029 , L0002030 , L0002031 , L0002032 , L0002033 , L0002034 , L0002035 ,

L0002036 , L0002037 , L0002038 , L0002039 , L0002040 , L0002041 , L0002042 , L0002043 ,

L0002044 , L0002045 , L0002046 , L0002047 , L0002048 , L0002049 , L0002050 , L0002051 ,

L0002052 , L0002053 , L0002054 , L0002055 , L0002056 , L0002057 , L0002058 , L0002059 ,

L0002060 , L0002061 , L0002062 , L0002063 , L0002064 , L0002065 , L0002066 , L0002067 ,
L0002068 , L0002069 , L0002070 , L0002071 , L0002072 , L0002073 , L0002074 , L0002075 ,
L0002076 , L0002077 , L0002078 , L0002079 , L0002080 , L0002081 , L0002082 , L0002083 ,
L0002084 , L0002085 , L0002086 , L0002087 , L0002088 , L0002089 , L0002090 , L0002091 ,
L0002092 , L0002093 , L0002094 , L0002095 , L0002096 , L0002097 , L0002098 , L0002099 ,
L0002100 , L0002101 , L0002102 , L0002103 , L0002104 , L0002105 , L0002106 , L0002107 ,
L0002108 , L0002109 , L0002110 , L0002111 , L0002112 , L0002113 , L0002114 , L0002115 ,
L0002116 , L0002117 , L0002118 , L0002119 , L0002120 , L0002121 , L0002122 , L0002123 ,
L0002124 , L0002125 , L0002126 , L0002127 , L0002128 , L0002129 , L0002130 , L0002131 ,
L0002132 , L0002133 , L0002134 , L0002135 , L0002136 , L0002137 , L0002138 , L0002139 ,
L0002140 , L0002141 , L0002142 , L0002143 , L0002144 , L0002145 , L0002146 , L0002147 ,
L0002148 , L0002149 , L0002150 , L0002151 , L0002152 , L0002153 , L0002154 , L0002155 ,
L0002156 , L0002157 , L0002158 , L0002159 , L0002160 , L0002161 , L0002162 , L0002163 ,
L0002164 , L0002165 , L0002166 , L0002167 , L0002168 , L0002169 , L0002170 , L0002171 ,
L0002172 , L0002173 , L0002174 , L0002175 , L0002176 , L0002177 , L0002178 , L0002179 ,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs
---------- ----------

L0002180 , L0002181 , L0002182 , L0002183 , L0002184 , L0002185 , L0002186 , L0002187 ,
L0002188 , L0002189 , L0002190 , L0002191 , L0002192 , L0002193 , L0002194 , L0002195 ,
L0002196 , L0002197 , L0002198 , L0002199 , L0002200 , L0002201 , L0002202 , L0002203 ,
L0002204 , L0002205 , L0002206 , L0002207 , L0002208 , L0002209 , L0002210 , L0002211 ,
L0002212 , L0002213 , L0002214 , L0002215 , L0002216 , L0002217 , L0002218 , L0002219 ,
L0002220 , L0002221 , L0002222 , L0002223 , L0002224 , L0002225 , L0002226 , L0002227 ,
L0002228 , L0002229 , L0002230 , L0002231 , L0002232 , L0002233 , L0002234 , L0002235 ,

L0002236 , L0002237 , L0002238 , L0002239 , L0002240 , L0002241 , L0002242 , L0002243 ,

L0002244 , L0002245 , L0002246 , L0002247 , L0002248 , L0002249 , L0002250 , L0002251 ,

L0002252 , L0002253 , L0002254 , L0002255 , L0002256 , L0002257 , L0002258 , L0002259 ,

L0002260 , L0002261 , L0002262 , L0002263 , L0002264 , L0002265 , L0002266 , L0002267 ,

L0002268 , L0002269 , L0002270 , L0002271 , L0002272 , L0002273 , L0002274 , L0002275 ,

L0002276 , L0002277 , L0002278 , L0002279 , L0002280 , L0002281 , L0002282 , L0002283 ,

L0002284 , L0002285 , L0002286 , L0002287 , L0002288 , L0002289 , L0002290 , L0002291 ,

L0002292 , L0002293 , L0002294 , L0002295 , L0002296 , L0002297 , L0002298 , L0002299 ,

L0002300 , L0002301 , L0002302 , L0002303 , L0002304 , L0002305 , L0002306 , L0002307 ,

L0002308 , L0002309 , L0002310 , L0002311 , L0002312 , L0002313 , L0002314 , L0002315 ,

L0002316 , L0002317 , L0002318 , L0002319 , L0002320 , L0002321 , L0002322 , L0002323 ,

L0002324 , L0002325 , L0002326 , L0002327 , L0002328 , L0002329 , L0002330 , L0002331 ,

L0002332 , L0002333 , L0002334 , L0002335 , L0002336 , L0002337 , L0002338 , L0002339 ,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

| SRCGROUP ID | SOURCE IDs |
|---|---|

L0002340 , L0002341 , L0002342 , L0002343 , L0002344 , L0002345 , L0002346 , L0002347 ,

STCK1 STCK1 ,

STCK10 STCK10 ,

STCK11 STCK11 ,

STCK12 STCK12 ,

STCK13 STCK13 ,

STCK14 STCK14 ,

STCK15 STCK15 ,

STCK16 STCK16 ,

STCK17 STCK17 ,

STCK18 STCK18 ,

STCK19 STCK19 ,

STCK2 STCK2 ,

STCK20 STCK20 ,

STCK21 STCK21 ,

STCK22 STCK22 ,

STCK23 STCK23 ,

STCK24 STCK24 ,

STCK25 STCK25 ,

STCK26 STCK26 ,



*** SOURCE IDs DEFINING SOURCE GROUPS ***

| SRCGROUP ID | SOURCE IDs |
|---|---|

STCK27 STCK27 ,

STCK28 STCK28 ,

STCK3 STCK3 ,

STCK4 STCK4 ,

STCK5 STCK5 ,

STCK6 STCK6 ,

STCK7 STCK7 ,

STCK8 STCK8 ,

STCK9 STCK9 ,

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK1

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -533.1, | 81.8, | 2 | 6.1, | 428.2, | 654.5, | -542.4, | 44.8, |
| 3 | 6.1, | 512.5, | 630.6, | -535.3, | 6.4, | 4 | 6.1, | 581.2, | 591.2, | -515.5, | -32.2, |
| 5 | 6.1, | 632.2, | 537.5, | -483.8, | -69.8, | 6 | 6.1, | 664.1, | 475.4, | -437.3, | -105.3, |
| 7 | 6.1, | 675.8, | 400.3, | -377.5, | -137.6, | 8 | 6.1, | 666.9, | 313.1, | -306.3, | -165.7, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | -186.4, | 10 | 6.1, | 658.5, | 330.9, | -247.2, | -203.9, |
| 11 | 6.1, | 654.5, | 428.2, | -258.9, | -215.2, | 12 | 6.1, | 630.6, | 512.5, | -262.6, | -220.0, |
| 13 | 6.1, | 591.2, | 581.2, | -258.4, | -219.9, | 14 | 6.1, | 537.5, | 632.2, | -246.3, | -215.0, |
| 15 | 6.1, | 475.4, | 664.1, | -226.7, | -199.6, | 16 | 6.1, | 400.3, | 675.8, | -200.3, | -177.4, |
| 17 | 6.1, | 313.1, | 666.9, | -167.8, | -149.7, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -125.4, | -81.8, | 20 | 6.1, | 428.2, | 654.5, | -112.1, | -44.8, |
| 21 | 6.1, | 512.5, | 630.6, | -95.3, | -6.4, | 22 | 6.1, | 581.2, | 591.2, | -75.7, | 32.2, |
| 23 | 6.1, | 632.2, | 537.5, | -53.8, | 69.8, | 24 | 6.1, | 664.1, | 475.4, | -38.1, | 105.3, |
| 25 | 6.1, | 675.8, | 400.3, | -22.8, | 137.6, | 26 | 6.1, | 666.9, | 313.1, | -6.8, | 165.7, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | 186.4, | 28 | 6.1, | 658.5, | 330.9, | -83.6, | 203.9, |
| 29 | 6.1, | 654.5, | 428.2, | -169.3, | 215.2, | 30 | 6.1, | 630.6, | 512.5, | -249.9, | 220.0, |
| 31 | 6.1, | 591.2, | 581.2, | -322.8, | 219.9, | 32 | 6.1, | 537.5, | 632.2, | -385.9, | 215.0, |
| 33 | 6.1, | 475.4, | 664.1, | -437.3, | 199.6, | 34 | 6.1, | 400.3, | 675.8, | -475.5, | 177.4, |
| 35 | 6.1, | 313.1, | 666.9, | -499.1, | 149.7, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |

SOURCE ID: STCK2

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -434.7, | 99.2, | 2 | 6.1, | 428.2, | 654.5, | -448.5, | 79.0, |
| 3 | 6.1, | 512.5, | 630.6, | -448.7, | 56.4, | 4 | 6.1, | 581.2, | 591.2, | -438.9, | 32.1, |
| 5 | 6.1, | 632.2, | 537.5, | -419.5, | 6.8, | 6 | 6.1, | 664.1, | 475.4, | -387.3, | -18.7, |
| 7 | 6.1, | 675.8, | 400.3, | -343.3, | -43.6, | 8 | 6.1, | 666.9, | 313.1, | -288.9, | -67.2, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | -86.4, | 10 | 6.1, | 658.5, | 330.9, | -264.6, | -105.4, |
| 11 | 6.1, | 654.5, | 428.2, | -293.1, | -121.2, | 12 | 6.1, | 630.6, | 512.5, | -312.6, | -133.4, |
| 13 | 6.1, | 591.2, | 581.2, | -322.7, | -143.3, | 14 | 6.1, | 537.5, | 632.2, | -322.9, | -150.7, |
| 15 | 6.1, | 475.4, | 664.1, | -313.3, | -149.6, | 16 | 6.1, | 400.3, | 675.8, | -294.3, | -143.1, |
| 17 | 6.1, | 313.1, | 666.9, | -266.2, | -132.4, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -223.9, | -99.2, | 20 | 6.1, | 428.2, | 654.5, | -206.0, | -79.0, |
| 21 | 6.1, | 512.5, | 630.6, | -181.9, | -56.4, | 22 | 6.1, | 581.2, | 591.2, | -152.3, | -32.1, |
| 23 | 6.1, | 632.2, | 537.5, | -118.0, | -6.8, | 24 | 6.1, | 664.1, | 475.4, | -88.1, | 18.7, |
| 25 | 6.1, | 675.8, | 400.3, | -57.0, | 43.6, | 26 | 6.1, | 666.9, | 313.1, | -24.2, | 67.2, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | 86.4, | 28 | 6.1, | 658.5, | 330.9, | -66.3, | 105.4, |
| 29 | 6.1, | 654.5, | 428.2, | -135.1, | 121.2, | 30 | 6.1, | 630.6, | 512.5, | -199.9, | 133.4, |
| 31 | 6.1, | 591.2, | 581.2, | -258.5, | 143.3, | 32 | 6.1, | 537.5, | 632.2, | -309.3, | 150.7, |
| 33 | 6.1, | 475.4, | 664.1, | -350.7, | 149.6, | 34 | 6.1, | 400.3, | 675.8, | -381.5, | 143.1, |
| 35 | 6.1, | 313.1, | 666.9, | -400.7, | 132.4, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |

SOURCE ID: STCK3

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -336.2, | 116.5, | 2 | 6.1, | 428.2, | 654.5, | -354.5, | 113.2, |
| 3 | 6.1, | 512.5, | 630.6, | -362.1, | 106.4, | 4 | 6.1, | 581.2, | 591.2, | -362.3, | 96.3, |
| 5 | 6.1, | 632.2, | 537.5, | -355.2, | 83.4, | 6 | 6.1, | 664.1, | 475.4, | -337.3, | 67.9, |
| 7 | 6.1, | 675.8, | 400.3, | -309.1, | 50.3, | 8 | 6.1, | 666.9, | 313.1, | -271.5, | 31.3, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | 13.7, | 10 | 6.1, | 658.5, | 330.9, | -282.0, | -6.9, |
| 11 | 6.1, | 654.5, | 428.2, | -327.3, | -27.2, | 12 | 6.1, | 630.6, | 512.5, | -362.6, | -46.8, |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 6.1, | 591.2, | 581.2, | -386.9, | -66.7, | 14 | 6.1, | 537.5, | 632.2, | -399.5, | -86.4, |
| 15 | 6.1, | 475.4, | 664.1, | -399.9, | -99.6, | 16 | 6.1, | 400.3, | 675.8, | -388.2, | -108.9, |
| 17 | 6.1, | 313.1, | 666.9, | -364.7, | -115.0, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -322.4, | -116.5, | 20 | 6.1, | 428.2, | 654.5, | -300.0, | -113.2, |
| 21 | 6.1, | 512.5, | 630.6, | -268.5, | -106.4, | 22 | 6.1, | 581.2, | 591.2, | -228.9, | -96.3, |
| 23 | 6.1, | 632.2, | 537.5, | -182.3, | -83.4, | 24 | 6.1, | 664.1, | 475.4, | -138.1, | -67.9, |
| 25 | 6.1, | 675.8, | 400.3, | -91.2, | -50.3, | 26 | 6.1, | 666.9, | 313.1, | -41.5, | -31.3, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | -13.6, | 28 | 6.1, | 658.5, | 330.9, | -48.9, | 6.9, |
| 29 | 6.1, | 654.5, | 428.2, | -100.9, | 27.2, | 30 | 6.1, | 630.6, | 512.5, | -149.9, | 46.8, |
| 31 | 6.1, | 591.2, | 581.2, | -194.2, | 66.7, | 32 | 6.1, | 537.5, | 632.2, | -232.7, | 86.4, |
| 33 | 6.1, | 475.4, | 664.1, | -264.1, | 99.6, | 34 | 6.1, | 400.3, | 675.8, | -287.5, | 108.9, |
| 35 | 6.1, | 313.1, | 666.9, | -302.2, | 115.0, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |

SOURCE ID: STCK4

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -237.7, | 133.9, | 2 | 6.1, | 428.2, | 654.5, | -260.5, | 147.4, |
| 3 | 6.1, | 512.5, | 630.6, | -275.4, | 156.4, | 4 | 6.1, | 581.2, | 591.2, | -285.7, | 160.6, |
| 5 | 6.1, | 632.2, | 537.5, | -290.9, | 160.0, | 6 | 6.1, | 664.1, | 475.4, | -287.3, | 154.5, |
| 7 | 6.1, | 675.8, | 400.3, | -274.9, | 144.3, | 8 | 6.1, | 666.9, | 313.1, | -254.2, | 129.8, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | 113.6, | 10 | 6.1, | 658.5, | 330.9, | -299.3, | 91.6, |
| 11 | 6.1, | 654.5, | 428.2, | -361.5, | 66.7, | 12 | 6.1, | 630.6, | 512.5, | -412.6, | 39.8, |
| 13 | 6.1, | 591.2, | 581.2, | -451.2, | 9.9, | 14 | 6.1, | 537.5, | 632.2, | -476.1, | -22.2, |
| 15 | 6.1, | 475.4, | 664.1, | -486.6, | -49.6, | 16 | 6.1, | 400.3, | 675.8, | -482.2, | -74.7, |
| 17 | 6.1, | 313.1, | 666.9, | -463.2, | -97.6, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -420.9, | -133.9, | 20 | 6.1, | 428.2, | 654.5, | -394.0, | -147.4, |
| 21 | 6.1, | 512.5, | 630.6, | -355.1, | -156.4, | 22 | 6.1, | 581.2, | 591.2, | -305.5, | -160.6, |
| 23 | 6.1, | 632.2, | 537.5, | -246.6, | -160.0, | 24 | 6.1, | 664.1, | 475.4, | -188.1, | -154.5, |
| 25 | 6.1, | 675.8, | 400.3, | -125.4, | -144.3, | 26 | 6.1, | 666.9, | 313.1, | -58.9, | -129.8, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | -113.6, | 28 | 6.1, | 658.5, | 330.9, | -31.6, | -91.6, |
| 29 | 6.1, | 654.5, | 428.2, | -66.7, | -66.7, | 30 | 6.1, | 630.6, | 512.5, | -99.8, | -39.8, |
| 31 | 6.1, | 591.2, | 581.2, | -130.0, | -9.9, | 32 | 6.1, | 537.5, | 632.2, | -156.1, | 22.2, |
| 33 | 6.1, | 475.4, | 664.1, | -177.5, | 49.6, | 34 | 6.1, | 400.3, | 675.8, | -193.6, | 74.7, |
| 35 | 6.1, | 313.1, | 666.9, | -203.7, | 97.6, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK5

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -139.2, | 151.3, | 2 | 6.1, | 428.2, | 654.5, | -166.6, | 181.6, |
| 3 | 6.1, | 512.5, | 630.6, | -188.9, | 206.4, | 4 | 6.1, | 581.2, | 591.2, | -209.1, | 224.9, |
| 5 | 6.1, | 632.2, | 537.5, | -226.7, | 236.6, | 6 | 6.1, | 664.1, | 475.4, | -237.3, | 241.1, |
| 7 | 6.1, | 675.8, | 400.3, | -240.7, | 238.3, | 8 | 6.1, | 666.9, | 313.1, | -236.8, | 228.2, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | 213.7, | 10 | 6.1, | 658.5, | 330.9, | -316.7, | 190.1, |
| 11 | 6.1, | 654.5, | 428.2, | -395.7, | 160.7, | 12 | 6.1, | 630.6, | 512.5, | -462.6, | 126.5, |
| 13 | 6.1, | 591.2, | 581.2, | -515.5, | 86.5, | 14 | 6.1, | 537.5, | 632.2, | -552.7, | 42.1, |
| 15 | 6.1, | 475.4, | 664.1, | -573.1, | 0.4, | 16 | 6.1, | 400.3, | 675.8, | -576.2, | -40.5, |
| 17 | 6.1, | 313.1, | 666.9, | -561.7, | -80.3, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -519.3, | -151.3, | 20 | 6.1, | 428.2, | 654.5, | -487.9, | -181.6, |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 6.1, | 512.5, | 630.6, | -441.7, | -206.4, | 22 | 6.1, | 581.2, | 591.2, | -382.1, | -224.9, |
| 23 | 6.1, | 632.2, | 537.5, | -310.9, | -236.6, | 24 | 6.1, | 664.1, | 475.4, | -238.1, | -241.1, |
| 25 | 6.1, | 675.8, | 400.3, | -159.6, | -238.3, | 26 | 6.1, | 666.9, | 313.1, | -76.3, | -228.2, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | -213.6, | 28 | 6.1, | 658.5, | 330.9, | -14.2, | -190.1, |
| 29 | 6.1, | 654.5, | 428.2, | -32.5, | -160.7, | 30 | 6.1, | 630.6, | 512.5, | -49.8, | -126.5, |
| 31 | 6.1, | 591.2, | 581.2, | -65.7, | -86.5, | 32 | 6.1, | 537.5, | 632.2, | -79.5, | -42.1, |
| 33 | 6.1, | 475.4, | 664.1, | -90.9, | -0.4, | 34 | 6.1, | 400.3, | 675.8, | -99.6, | 40.5, |
| 35 | 6.1, | 313.1, | 666.9, | -105.2, | 80.3, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |

SOURCE ID: STCK6

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -493.2, | -144.7, | 2 | 6.1, | 428.2, | 654.5, | -463.8, | -171.4, |
| 3 | 6.1, | 512.5, | 630.6, | -420.3, | -192.8, | 4 | 6.1, | 581.2, | 591.2, | -367.7, | -208.4, |
| 5 | 6.1, | 632.2, | 537.5, | -307.6, | -217.7, | 6 | 6.1, | 664.1, | 475.4, | -238.1, | -220.3, |
| 7 | 6.1, | 675.8, | 400.3, | -161.4, | -216.2, | 8 | 6.1, | 666.9, | 313.1, | -79.8, | -205.6, |
| 9 | 6.1, | 642.6, | 223.5, | 1.9, | -186.4, | 10 | 6.1, | 658.5, | 330.9, | -20.7, | -163.9, |
| 11 | 6.1, | 654.5, | 428.2, | -42.7, | -136.5, | 12 | 6.1, | 630.6, | 512.5, | -63.4, | -105.0, |
| 13 | 6.1, | 591.2, | 581.2, | -82.2, | -72.1, | 14 | 6.1, | 537.5, | 632.2, | -98.5, | -38.8, |
| 15 | 6.1, | 475.4, | 664.1, | -111.7, | -0.4, | 16 | 6.1, | 400.3, | 675.8, | -121.6, | 38.8, |
| 17 | 6.1, | 313.1, | 666.9, | -127.8, | 76.8, | 18 | 6.1, | 223.5, | 642.6, | -134.9, | 113.7, |
| 19 | 6.1, | 330.9, | 658.5, | -165.4, | 144.7, | 20 | 6.1, | 428.2, | 654.5, | -190.7, | 171.4, |
| 21 | 6.1, | 512.5, | 630.6, | -210.3, | 192.8, | 22 | 6.1, | 581.2, | 591.2, | -223.5, | 208.4, |
| 23 | 6.1, | 632.2, | 537.5, | -230.0, | 217.7, | 24 | 6.1, | 664.1, | 475.4, | -237.3, | 220.3, |
| 25 | 6.1, | 675.8, | 400.3, | -238.9, | 216.2, | 26 | 6.1, | 666.9, | 313.1, | -233.3, | 205.6, |
| 27 | 6.1, | 642.6, | 223.5, | -225.4, | 186.4, | 28 | 6.1, | 658.5, | 330.9, | -310.2, | 163.9, |
| 29 | 6.1, | 654.5, | 428.2, | -385.4, | 136.5, | 30 | 6.1, | 630.6, | 512.5, | -449.0, | 105.0, |
| 31 | 6.1, | 591.2, | 581.2, | -499.0, | 72.1, | 32 | 6.1, | 537.5, | 632.2, | -533.8, | 38.8, |
| 33 | 6.1, | 475.4, | 664.1, | -552.3, | 0.4, | 34 | 6.1, | 400.3, | 675.8, | -554.1, | -38.8, |
| 35 | 6.1, | 313.1, | 666.9, | -539.1, | -76.8, | 36 | 6.1, | 223.5, | 642.6, | -507.6, | -113.7, |

SOURCE ID: STCK7

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -394.7, | -127.3, | 2 | 6.1, | 428.2, | 654.5, | -369.8, | -137.2, |
| 3 | 6.1, | 512.5, | 630.6, | -333.7, | -142.8, | 4 | 6.1, | 581.2, | 591.2, | -291.1, | -144.1, |
| 5 | 6.1, | 632.2, | 537.5, | -243.3, | -141.1, | 6 | 6.1, | 664.1, | 475.4, | -188.1, | -133.7, |
| 7 | 6.1, | 675.8, | 400.3, | -127.2, | -122.3, | 8 | 6.1, | 666.9, | 313.1, | -62.4, | -107.1, |
| 9 | 6.1, | 642.6, | 223.5, | 1.9, | -86.3, | 10 | 6.1, | 658.5, | 330.9, | -38.1, | -65.5, |
| 11 | 6.1, | 654.5, | 428.2, | -76.9, | -42.5, | 12 | 6.1, | 630.6, | 512.5, | -113.4, | -18.4, |
| 13 | 6.1, | 591.2, | 581.2, | -146.5, | 4.5, | 14 | 6.1, | 537.5, | 632.2, | -175.1, | 25.5, |
| 15 | 6.1, | 475.4, | 664.1, | -198.3, | 49.6, | 16 | 6.1, | 400.3, | 675.8, | -215.6, | 73.0, |
| 17 | 6.1, | 313.1, | 666.9, | -226.3, | 94.1, | 18 | 6.1, | 223.5, | 642.6, | -234.9, | 113.7, |
| 19 | 6.1, | 330.9, | 658.5, | -263.8, | 127.3, | 20 | 6.1, | 428.2, | 654.5, | -284.7, | 137.2, |
| 21 | 6.1, | 512.5, | 630.6, | -296.9, | 142.8, | 22 | 6.1, | 581.2, | 591.2, | -300.1, | 144.1, |
| 23 | 6.1, | 632.2, | 537.5, | -294.2, | 141.1, | 24 | 6.1, | 664.1, | 475.4, | -287.3, | 133.7, |
| 25 | 6.1, | 675.8, | 400.3, | -273.1, | 122.3, | 26 | 6.1, | 666.9, | 313.1, | -250.7, | 107.1, |
| 27 | 6.1, | 642.6, | 223.5, | -225.4, | 86.3, | 28 | 6.1, | 658.5, | 330.9, | -292.8, | 65.5, |
| 29 | 6.1, | 654.5, | 428.2, | -351.2, | 42.5, | 30 | 6.1, | 630.6, | 512.5, | -399.0, | 18.4, |
| 31 | 6.1, | 591.2, | 581.2, | -434.7, | -4.5, | 32 | 6.1, | 537.5, | 632.2, | -457.2, | -25.5, |
| 33 | 6.1, | 475.4, | 664.1, | -465.7, | -49.6, | 34 | 6.1, | 400.3, | 675.8, | -460.2, | -73.0, |
| 35 | 6.1, | 313.1, | 666.9, | -440.6, | -94.1, | 36 | 6.1, | 223.5, | 642.6, | -407.6, | -113.7, |

SOURCE ID: STCK8

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|

1 6.1, 330.9, 658.5, -296.2, -110.0, 2 6.1, 428.2, 654.5, -275.8, -103.0,
3 6.1, 512.5, 630.6, -247.1, -92.8, 4 6.1, 581.2, 591.2, -214.5, -79.8,
5 6.1, 632.2, 537.5, -179.0, -64.5, 6 6.1, 664.1, 475.4, -138.1, -47.1,
7 6.1, 675.8, 400.3, -93.0, -28.3, 8 6.1, 666.9, 313.1, -45.0, -8.7,
9 6.1, 642.6, 223.5, 1.9, 13.7, 10 6.1, 658.5, 330.9, -55.5, 33.0,
11 6.1, 654.5, 428.2, -111.1, 51.4, 12 6.1, 630.6, 512.5, -163.4, 68.2,
13 6.1, 591.2, 581.2, -210.8, 81.1, 14 6.1, 537.5, 632.2, -251.7, 89.8,
15 6.1, 475.4, 664.1, -284.9, 99.6, 16 6.1, 400.3, 675.8, -309.6, 107.2,
17 6.1, 313.1, 666.9, -324.8, 111.5, 18 6.1, 223.5, 642.6, -334.9, 113.6,
19 6.1, 330.9, 658.5, -362.3, 110.0, 20 6.1, 428.2, 654.5, -378.7, 103.0,
21 6.1, 512.5, 630.6, -383.5, 92.8, 22 6.1, 581.2, 591.2, -376.8, 79.8,
23 6.1, 632.2, 537.5, -358.5, 64.5, 24 6.1, 664.1, 475.4, -337.3, 47.1,
25 6.1, 675.8, 400.3, -307.3, 28.3, 26 6.1, 666.9, 313.1, -268.1, 8.7,
27 6.1, 642.6, 223.5, -225.4, -13.7, 28 6.1, 658.5, 330.9, -275.4, -33.0,
29 6.1, 654.5, 428.2, -317.0, -51.4, 30 6.1, 630.6, 512.5, -349.0, -68.2,
31 6.1, 591.2, 581.2, -370.4, -81.1, 32 6.1, 537.5, 632.2, -380.6, -89.8,
33 6.1, 475.4, 664.1, -379.1, -99.6, 34 6.1, 400.3, 675.8, -366.2, -107.2,
35 6.1, 313.1, 666.9, -342.1, -111.5, 36 6.1, 223.5, 642.6, -307.6, -113.6,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK9

IFV BH BW BL XADJ YADJ IFV BH BW BL XADJ YADJ
1 6.1, 330.9, 658.5, -197.8, -92.6, 2 6.1, 428.2, 654.5, -181.9, -68.8,
3 6.1, 512.5, 630.6, -160.5, -42.8, 4 6.1, 581.2, 591.2, -137.9, -15.6,
5 6.1, 632.2, 537.5, -114.7, 12.2, 6 6.1, 664.1, 475.4, -88.1, 39.5,
7 6.1, 675.8, 400.3, -58.8, 65.7, 8 6.1, 666.9, 313.1, -27.7, 89.8,
9 6.1, 642.6, 223.5, 1.9, 113.6, 10 6.1, 658.5, 330.9, -72.8, 131.5,
11 6.1, 654.5, 428.2, -145.3, 145.4, 12 6.1, 630.6, 512.5, -213.4, 154.8,
13 6.1, 591.2, 581.2, -275.0, 157.7, 14 6.1, 537.5, 632.2, -328.3, 154.0,
15 6.1, 475.4, 664.1, -371.6, 149.6, 16 6.1, 400.3, 675.8, -403.5, 141.4,
17 6.1, 313.1, 666.9, -423.3, 128.9, 18 6.1, 223.5, 642.6, -434.9, 113.6,
19 6.1, 330.9, 658.5, -460.8, 92.6, 20 6.1, 428.2, 654.5, -472.6, 68.8,
21 6.1, 512.5, 630.6, -470.1, 42.8, 22 6.1, 581.2, 591.2, -453.4, 15.6,
23 6.1, 632.2, 537.5, -422.8, -12.2, 24 6.1, 664.1, 475.4, -387.3, -39.5,
25 6.1, 675.8, 400.3, -341.5, -65.7, 26 6.1, 666.9, 313.1, -285.4, -89.8,
27 6.1, 642.6, 223.5, -225.4, -113.6, 28 6.1, 658.5, 330.9, -258.1, -131.5,
29 6.1, 654.5, 428.2, -282.8, -145.4, 30 6.1, 630.6, 512.5, -299.0, -154.8,
31 6.1, 591.2, 581.2, -306.2, -157.7, 32 6.1, 537.5, 632.2, -304.0, -154.0,
33 6.1, 475.4, 664.1, -292.5, -149.6, 34 6.1, 400.3, 675.8, -272.2, -141.4,
35 6.1, 313.1, 666.9, -243.6, -128.9, 36 6.1, 223.5, 642.6, -207.6, -113.6,

SOURCE ID: STCK10

IFV BH BW BL XADJ YADJ IFV BH BW BL XADJ YADJ
1 6.1, 330.9, 658.5, -99.3, -75.2, 2 6.1, 428.2, 654.5, -87.9, -34.5,
3 6.1, 512.5, 630.6, -73.8, 7.2, 4 6.1, 581.2, 591.2, -61.3, 48.7,
5 6.1, 632.2, 537.5, -50.5, 88.8, 6 6.1, 664.1, 475.4, -38.1, 126.1,
7 6.1, 675.8, 400.3, -24.6, 159.6, 8 6.1, 666.9, 313.1, -10.3, 188.3,

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 6.1, | 642.6, | 223.5, | 1.9, | 213.7, | 10 | 6.1, | 658.5, | 330.9, | -90.2, | 230.0, |
| 11 | 6.1, | 654.5, | 428.2, | -179.5, | 239.4, | 12 | 6.1, | 630.6, | 512.5, | -263.4, | 241.5, |
| 13 | 6.1, | 591.2, | 581.2, | -339.3, | 234.3, | 14 | 6.1, | 537.5, | 632.2, | -404.9, | 218.3, |
| 15 | 6.1, | 475.4, | 664.1, | -458.2, | 199.6, | 16 | 6.1, | 400.3, | 675.8, | -497.5, | 175.6, |
| 17 | 6.1, | 313.1, | 666.9, | -521.7, | 146.2, | 18 | 6.1, | 223.5, | 642.6, | -534.9, | 113.6, |
| 19 | 6.1, | 330.9, | 658.5, | -559.3, | 75.2, | 20 | 6.1, | 428.2, | 654.5, | -566.6, | 34.5, |
| 21 | 6.1, | 512.5, | 630.6, | -556.7, | -7.2, | 22 | 6.1, | 581.2, | 591.2, | -530.0, | -48.7, |
| 23 | 6.1, | 632.2, | 537.5, | -487.1, | -88.8, | 24 | 6.1, | 664.1, | 475.4, | -437.3, | -126.1, |
| 25 | 6.1, | 675.8, | 400.3, | -375.8, | -159.6, | 26 | 6.1, | 666.9, | 313.1, | -302.8, | -188.3, |
| 27 | 6.1, | 642.6, | 223.5, | -225.4, | -213.7, | 28 | 6.1, | 658.5, | 330.9, | -240.7, | -230.0, |
| 29 | 6.1, | 654.5, | 428.2, | -248.6, | -239.4, | 30 | 6.1, | 630.6, | 512.5, | -249.0, | -241.5, |
| 31 | 6.1, | 591.2, | 581.2, | -241.9, | -234.3, | 32 | 6.1, | 537.5, | 632.2, | -227.4, | -218.3, |
| 33 | 6.1, | 475.4, | 664.1, | -205.9, | -199.6, | 34 | 6.1, | 400.3, | 675.8, | -178.2, | -175.6, |
| 35 | 6.1, | 313.1, | 666.9, | -145.2, | -146.2, | 36 | 6.1, | 223.5, | 642.6, | -107.6, | -113.6, |

SOURCE ID: STCK11

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 199.0, | 472.9, | -247.5, | 57.0, | 2 | 6.1, | 271.5, | 463.0, | -249.1, | 53.7, |
| 3 | 6.1, | 335.8, | 439.1, | -243.2, | 48.8, | 4 | 6.1, | 389.9, | 401.9, | -229.8, | 42.4, |
| 5 | 6.1, | 432.1, | 355.5, | -212.6, | 34.7, | 6 | 6.1, | 461.2, | 306.2, | -196.8, | 25.9, |
| 7 | 6.1, | 476.3, | 247.7, | -175.1, | 16.4, | 8 | 6.1, | 477.0, | 181.6, | -148.0, | 6.4, |
| 9 | 6.1, | 468.3, | 120.4, | -118.7, | -4.1, | 10 | 6.1, | 472.9, | 199.0, | -156.5, | -11.0, |
| 11 | 6.1, | 463.0, | 271.5, | -189.5, | -17.6, | 12 | 6.1, | 439.1, | 335.8, | -216.7, | -23.6, |
| 13 | 6.1, | 401.9, | 389.9, | -237.3, | -28.9, | 14 | 6.1, | 355.5, | 432.1, | -250.8, | -34.8, |
| 15 | 6.1, | 306.2, | 461.2, | -256.6, | -43.7, | 16 | 6.1, | 247.7, | 476.3, | -254.6, | -51.2, |
| 17 | 6.1, | 181.6, | 477.0, | -244.9, | -57.2, | 18 | 6.1, | 120.4, | 468.3, | -230.0, | -58.5, |
| 19 | 6.1, | 199.0, | 472.9, | -225.4, | -57.0, | 20 | 6.1, | 271.5, | 463.0, | -214.0, | -53.7, |
| 21 | 6.1, | 335.8, | 439.1, | -196.0, | -48.8, | 22 | 6.1, | 389.9, | 401.9, | -172.1, | -42.4, |
| 23 | 6.1, | 432.1, | 355.5, | -142.9, | -34.7, | 24 | 6.1, | 461.2, | 306.2, | -109.4, | -25.9, |
| 25 | 6.1, | 476.3, | 247.7, | -72.6, | -16.4, | 26 | 6.1, | 477.0, | 181.6, | -33.6, | -6.4, |
| 27 | 6.1, | 468.3, | 120.4, | -1.7, | 4.1, | 28 | 6.1, | 472.9, | 199.0, | -42.5, | 11.0, |
| 29 | 6.1, | 463.0, | 271.5, | -82.1, | 17.6, | 30 | 6.1, | 439.1, | 335.8, | -119.1, | 23.6, |
| 31 | 6.1, | 401.9, | 389.9, | -152.6, | 28.9, | 32 | 6.1, | 355.5, | 432.1, | -181.4, | 34.8, |
| 33 | 6.1, | 306.2, | 461.2, | -204.7, | 43.7, | 34 | 6.1, | 247.7, | 476.3, | -221.8, | 51.2, |
| 35 | 6.1, | 181.6, | 477.0, | -232.1, | 57.2, | 36 | 6.1, | 120.4, | 468.3, | -238.3, | 58.5, |

SOURCE ID: STCK12

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 199.0, | 472.9, | -149.0, | 74.3, | 2 | 6.1, | 271.5, | 463.0, | -155.1, | 87.9, |
| 3 | 6.1, | 335.8, | 439.1, | -156.6, | 98.8, | 4 | 6.1, | 389.9, | 401.9, | -153.2, | 106.6, |
| 5 | 6.1, | 432.1, | 355.5, | -148.3, | 111.3, | 6 | 6.1, | 461.2, | 306.2, | -146.8, | 112.5, |
| 7 | 6.1, | 476.3, | 247.7, | -140.9, | 110.4, | 8 | 6.1, | 477.0, | 181.6, | -130.6, | 104.9, |
| 9 | 6.1, | 468.3, | 120.4, | -118.7, | 95.9, | 10 | 6.1, | 472.9, | 199.0, | -173.8, | 87.5, |
| 11 | 6.1, | 463.0, | 271.5, | -223.7, | 76.4, | 12 | 6.1, | 439.1, | 335.8, | -266.7, | 63.0, |
| 13 | 6.1, | 401.9, | 389.9, | -301.6, | 47.7, | 14 | 6.1, | 355.5, | 432.1, | -327.4, | 29.4, |
| 15 | 6.1, | 306.2, | 461.2, | -343.2, | 6.3, | 16 | 6.1, | 247.7, | 476.3, | -348.6, | -17.0, |
| 17 | 6.1, | 181.6, | 477.0, | -343.3, | -39.8, | 18 | 6.1, | 120.4, | 468.3, | -330.0, | -58.5, |
| 19 | 6.1, | 199.0, | 472.9, | -323.9, | -74.3, | 20 | 6.1, | 271.5, | 463.0, | -307.9, | -87.9, |
| 21 | 6.1, | 335.8, | 439.1, | -282.6, | -98.8, | 22 | 6.1, | 389.9, | 401.9, | -248.7, | -106.6, |
| 23 | 6.1, | 432.1, | 355.5, | -207.2, | -111.3, | 24 | 6.1, | 461.2, | 306.2, | -159.4, | -112.5, |
| 25 | 6.1, | 476.3, | 247.7, | -106.8, | -110.4, | 26 | 6.1, | 477.0, | 181.6, | -51.0, | -104.9, |
| 27 | 6.1, | 468.3, | 120.4, | -1.7, | -95.9, | 28 | 6.1, | 472.9, | 199.0, | -25.2, | -87.5, |
| 29 | 6.1, | 463.0, | 271.5, | -47.9, | -76.4, | 30 | 6.1, | 439.1, | 335.8, | -69.1, | -63.0, |
| 31 | 6.1, | 401.9, | 389.9, | -88.3, | -47.7, | 32 | 6.1, | 355.5, | 432.1, | -104.8, | -29.4, |

33 6.1, 306.2, 461.2, -118.1, -6.3, 34 6.1, 247.7, 476.3, -127.8, 17.0,
35 6.1, 181.6, 477.0, -133.6, 39.8, 36 6.1, 120.4, 468.3, -138.3, 58.5,



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK13

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 199.0, | 472.9, | -226.6, | -61.2, | 2 | 6.1, | 271.5, | 463.0, | -208.1, | -59.1, |
| 3 | 6.1, | 335.8, | 439.1, | -183.2, | -55.1, | 4 | 6.1, | 389.9, | 401.9, | -152.7, | -49.5, |
| 5 | 6.1, | 432.1, | 355.5, | -120.7, | -42.4, | 6 | 6.1, | 461.2, | 306.2, | -92.9, | -34.1, |
| 7 | 6.1, | 476.3, | 247.7, | -62.3, | -24.6, | 8 | 6.1, | 477.0, | 181.6, | -29.8, | -14.5, |
| 9 | 6.1, | 468.3, | 120.4, | 1.3, | -4.1, | 10 | 6.1, | 472.9, | 199.0, | -38.3, | 9.8, |
| 11 | 6.1, | 463.0, | 271.5, | -76.7, | 23.5, | 12 | 6.1, | 439.1, | 335.8, | -112.8, | 36.4, |
| 13 | 6.1, | 401.9, | 389.9, | -145.4, | 48.2, | 14 | 6.1, | 355.5, | 432.1, | -173.6, | 57.1, |
| 15 | 6.1, | 306.2, | 461.2, | -196.6, | 60.2, | 16 | 6.1, | 247.7, | 476.3, | -213.5, | 61.5, |
| 17 | 6.1, | 181.6, | 477.0, | -224.0, | 61.0, | 18 | 6.1, | 120.4, | 468.3, | -230.0, | 61.5, |
| 19 | 6.1, | 199.0, | 472.9, | -246.2, | 61.2, | 20 | 6.1, | 271.5, | 463.0, | -255.0, | 59.1, |
| 21 | 6.1, | 335.8, | 439.1, | -256.0, | 55.1, | 22 | 6.1, | 389.9, | 401.9, | -249.2, | 49.5, |
| 23 | 6.1, | 432.1, | 355.5, | -234.9, | 42.4, | 24 | 6.1, | 461.2, | 306.2, | -213.4, | 34.1, |
| 25 | 6.1, | 476.3, | 247.7, | -185.4, | 24.6, | 26 | 6.1, | 477.0, | 181.6, | -151.8, | 14.5, |
| 27 | 6.1, | 468.3, | 120.4, | -121.7, | 4.1, | 28 | 6.1, | 472.9, | 199.0, | -160.7, | -9.8, |
| 29 | 6.1, | 463.0, | 271.5, | -194.8, | -23.5, | 30 | 6.1, | 439.1, | 335.8, | -223.1, | -36.4, |
| 31 | 6.1, | 401.9, | 389.9, | -244.5, | -48.2, | 32 | 6.1, | 355.5, | 432.1, | -258.5, | -57.1, |
| 33 | 6.1, | 306.2, | 461.2, | -264.7, | -60.2, | 34 | 6.1, | 247.7, | 476.3, | -262.8, | -61.5, |
| 35 | 6.1, | 181.6, | 477.0, | -252.9, | -61.0, | 36 | 6.1, | 120.4, | 468.3, | -238.3, | -61.5, |

SOURCE ID: STCK14

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 199.0, | 472.9, | -128.1, | -43.8, | 2 | 6.1, | 271.5, | 463.0, | -114.1, | -24.9, |
| 3 | 6.1, | 335.8, | 439.1, | -96.6, | -5.1, | 4 | 6.1, | 389.9, | 401.9, | -76.1, | 14.7, |
| 5 | 6.1, | 432.1, | 355.5, | -56.4, | 34.1, | 6 | 6.1, | 461.2, | 306.2, | -42.9, | 52.5, |
| 7 | 6.1, | 476.3, | 247.7, | -28.1, | 69.3, | 8 | 6.1, | 477.0, | 181.6, | -12.5, | 84.0, |
| 9 | 6.1, | 468.3, | 120.4, | 1.3, | 95.9, | 10 | 6.1, | 472.9, | 199.0, | -55.7, | 108.3, |
| 11 | 6.1, | 463.0, | 271.5, | -110.9, | 117.4, | 12 | 6.1, | 439.1, | 335.8, | -162.8, | 123.0, |
| 13 | 6.1, | 401.9, | 389.9, | -209.7, | 124.8, | 14 | 6.1, | 355.5, | 432.1, | -250.2, | 121.4, |
| 15 | 6.1, | 306.2, | 461.2, | -283.2, | 110.2, | 16 | 6.1, | 247.7, | 476.3, | -307.5, | 95.8, |
| 17 | 6.1, | 181.6, | 477.0, | -322.5, | 78.3, | 18 | 6.1, | 120.4, | 468.3, | -330.0, | 61.5, |
| 19 | 6.1, | 199.0, | 472.9, | -344.7, | 43.8, | 20 | 6.1, | 271.5, | 463.0, | -349.0, | 24.9, |
| 21 | 6.1, | 335.8, | 439.1, | -342.6, | 5.1, | 22 | 6.1, | 389.9, | 401.9, | -325.8, | -14.7, |
| 23 | 6.1, | 432.1, | 355.5, | -299.1, | -34.1, | 24 | 6.1, | 461.2, | 306.2, | -263.4, | -52.5, |
| 25 | 6.1, | 476.3, | 247.7, | -219.6, | -69.3, | 26 | 6.1, | 477.0, | 181.6, | -169.1, | -84.0, |
| 27 | 6.1, | 468.3, | 120.4, | -121.7, | -95.9, | 28 | 6.1, | 472.9, | 199.0, | -143.3, | -108.3, |
| 29 | 6.1, | 463.0, | 271.5, | -160.6, | -117.4, | 30 | 6.1, | 439.1, | 335.8, | -173.1, | -123.0, |
| 31 | 6.1, | 401.9, | 389.9, | -180.2, | -124.8, | 32 | 6.1, | 355.5, | 432.1, | -181.9, | -121.4, |
| 33 | 6.1, | 306.2, | 461.2, | -178.1, | -110.2, | 34 | 6.1, | 247.7, | 476.3, | -168.8, | -95.7, |
| 35 | 6.1, | 181.6, | 477.0, | -154.5, | -78.3, | 36 | 6.1, | 120.4, | 468.3, | -138.3, | -61.5, |

SOURCE ID: STCK15

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -533.1, | 81.8, | 2 | 6.1, | 428.2, | 654.5, | -542.4, | 44.8, |
| 3 | 6.1, | 512.5, | 630.6, | -535.3, | 6.4, | 4 | 6.1, | 581.2, | 591.2, | -515.5, | -32.2, |
| 5 | 6.1, | 632.2, | 537.5, | -483.8, | -69.8, | 6 | 6.1, | 664.1, | 475.4, | -437.3, | -105.3, |
| 7 | 6.1, | 675.8, | 400.3, | -377.5, | -137.6, | 8 | 6.1, | 666.9, | 313.1, | -306.3, | -165.7, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | -186.4, | 10 | 6.1, | 658.5, | 330.9, | -247.2, | -203.9, |
| 11 | 6.1, | 654.5, | 428.2, | -258.9, | -215.2, | 12 | 6.1, | 630.6, | 512.5, | -262.6, | -220.0, |
| 13 | 6.1, | 591.2, | 581.2, | -258.4, | -219.9, | 14 | 6.1, | 537.5, | 632.2, | -246.3, | -215.0, |
| 15 | 6.1, | 475.4, | 664.1, | -226.7, | -199.6, | 16 | 6.1, | 400.3, | 675.8, | -200.3, | -177.4, |
| 17 | 6.1, | 313.1, | 666.9, | -167.8, | -149.7, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -125.4, | -81.8, | 20 | 6.1, | 428.2, | 654.5, | -112.1, | -44.8, |
| 21 | 6.1, | 512.5, | 630.6, | -95.3, | -6.4, | 22 | 6.1, | 581.2, | 591.2, | -75.7, | 32.2, |
| 23 | 6.1, | 632.2, | 537.5, | -53.8, | 69.8, | 24 | 6.1, | 664.1, | 475.4, | -38.1, | 105.3, |
| 25 | 6.1, | 675.8, | 400.3, | -22.8, | 137.6, | 26 | 6.1, | 666.9, | 313.1, | -6.8, | 165.7, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | 186.4, | 28 | 6.1, | 658.5, | 330.9, | -83.6, | 203.9, |
| 29 | 6.1, | 654.5, | 428.2, | -169.3, | 215.2, | 30 | 6.1, | 630.6, | 512.5, | -249.9, | 220.0, |
| 31 | 6.1, | 591.2, | 581.2, | -322.8, | 219.9, | 32 | 6.1, | 537.5, | 632.2, | -385.9, | 215.0, |
| 33 | 6.1, | 475.4, | 664.1, | -437.3, | 199.6, | 34 | 6.1, | 400.3, | 675.8, | -475.5, | 177.4, |
| 35 | 6.1, | 313.1, | 666.9, | -499.1, | 149.7, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |

SOURCE ID: STCK16

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -434.7, | 99.2, | 2 | 6.1, | 428.2, | 654.5, | -448.5, | 79.0, |
| 3 | 6.1, | 512.5, | 630.6, | -448.7, | 56.4, | 4 | 6.1, | 581.2, | 591.2, | -438.9, | 32.1, |
| 5 | 6.1, | 632.2, | 537.5, | -419.5, | 6.8, | 6 | 6.1, | 664.1, | 475.4, | -387.3, | -18.7, |
| 7 | 6.1, | 675.8, | 400.3, | -343.3, | -43.6, | 8 | 6.1, | 666.9, | 313.1, | -288.9, | -67.2, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | -86.4, | 10 | 6.1, | 658.5, | 330.9, | -264.6, | -105.4, |
| 11 | 6.1, | 654.5, | 428.2, | -293.1, | -121.2, | 12 | 6.1, | 630.6, | 512.5, | -312.6, | -133.4, |
| 13 | 6.1, | 591.2, | 581.2, | -322.7, | -143.3, | 14 | 6.1, | 537.5, | 632.2, | -322.9, | -150.7, |
| 15 | 6.1, | 475.4, | 664.1, | -313.3, | -149.6, | 16 | 6.1, | 400.3, | 675.8, | -294.3, | -143.1, |
| 17 | 6.1, | 313.1, | 666.9, | -266.2, | -132.4, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -223.9, | -99.2, | 20 | 6.1, | 428.2, | 654.5, | -206.0, | -79.0, |
| 21 | 6.1, | 512.5, | 630.6, | -181.9, | -56.4, | 22 | 6.1, | 581.2, | 591.2, | -152.3, | -32.1, |
| 23 | 6.1, | 632.2, | 537.5, | -118.0, | -6.8, | 24 | 6.1, | 664.1, | 475.4, | -88.1, | 18.7, |
| 25 | 6.1, | 675.8, | 400.3, | -57.0, | 43.6, | 26 | 6.1, | 666.9, | 313.1, | -24.2, | 67.2, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | 86.4, | 28 | 6.1, | 658.5, | 330.9, | -66.3, | 105.4, |
| 29 | 6.1, | 654.5, | 428.2, | -135.1, | 121.2, | 30 | 6.1, | 630.6, | 512.5, | -199.9, | 133.4, |
| 31 | 6.1, | 591.2, | 581.2, | -258.5, | 143.3, | 32 | 6.1, | 537.5, | 632.2, | -309.3, | 150.7, |
| 33 | 6.1, | 475.4, | 664.1, | -350.7, | 149.6, | 34 | 6.1, | 400.3, | 675.8, | -381.5, | 143.1, |
| 35 | 6.1, | 313.1, | 666.9, | -400.7, | 132.4, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK17

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -336.2, | 116.5, | 2 | 6.1, | 428.2, | 654.5, | -354.5, | 113.2, |
| 3 | 6.1, | 512.5, | 630.6, | -362.1, | 106.4, | 4 | 6.1, | 581.2, | 591.2, | -362.3, | 96.3, |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 6.1, | 632.2, | 537.5, | -355.2, | 83.4, | 6 | 6.1, | 664.1, | 475.4, | -337.3, | 67.9, |
| 7 | 6.1, | 675.8, | 400.3, | -309.1, | 50.3, | 8 | 6.1, | 666.9, | 313.1, | -271.5, | 31.3, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | 13.7, | 10 | 6.1, | 658.5, | 330.9, | -282.0, | -6.9, |
| 11 | 6.1, | 654.5, | 428.2, | -327.3, | -27.2, | 12 | 6.1, | 630.6, | 512.5, | -362.6, | -46.8, |
| 13 | 6.1, | 591.2, | 581.2, | -386.9, | -66.7, | 14 | 6.1, | 537.5, | 632.2, | -399.5, | -86.4, |
| 15 | 6.1, | 475.4, | 664.1, | -399.9, | -99.6, | 16 | 6.1, | 400.3, | 675.8, | -388.2, | -108.9, |
| 17 | 6.1, | 313.1, | 666.9, | -364.7, | -115.0, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -322.4, | -116.5, | 20 | 6.1, | 428.2, | 654.5, | -300.0, | -113.2, |
| 21 | 6.1, | 512.5, | 630.6, | -268.5, | -106.4, | 22 | 6.1, | 581.2, | 591.2, | -228.9, | -96.3, |
| 23 | 6.1, | 632.2, | 537.5, | -182.3, | -83.4, | 24 | 6.1, | 664.1, | 475.4, | -138.1, | -67.9, |
| 25 | 6.1, | 675.8, | 400.3, | -91.2, | -50.3, | 26 | 6.1, | 666.9, | 313.1, | -41.5, | -31.3, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | -13.6, | 28 | 6.1, | 658.5, | 330.9, | -48.9, | 6.9, |
| 29 | 6.1, | 654.5, | 428.2, | -100.9, | 27.2, | 30 | 6.1, | 630.6, | 512.5, | -149.9, | 46.8, |
| 31 | 6.1, | 591.2, | 581.2, | -194.2, | 66.7, | 32 | 6.1, | 537.5, | 632.2, | -232.7, | 86.4, |
| 33 | 6.1, | 475.4, | 664.1, | -264.1, | 99.6, | 34 | 6.1, | 400.3, | 675.8, | -287.5, | 108.9, |
| 35 | 6.1, | 313.1, | 666.9, | -302.2, | 115.0, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |

SOURCE ID: STCK18

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -237.7, | 133.9, | 2 | 6.1, | 428.2, | 654.5, | -260.5, | 147.4, |
| 3 | 6.1, | 512.5, | 630.6, | -275.4, | 156.4, | 4 | 6.1, | 581.2, | 591.2, | -285.7, | 160.6, |
| 5 | 6.1, | 632.2, | 537.5, | -290.9, | 160.0, | 6 | 6.1, | 664.1, | 475.4, | -287.3, | 154.5, |
| 7 | 6.1, | 675.8, | 400.3, | -274.9, | 144.3, | 8 | 6.1, | 666.9, | 313.1, | -254.2, | 129.8, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | 113.6, | 10 | 6.1, | 658.5, | 330.9, | -299.3, | 91.6, |
| 11 | 6.1, | 654.5, | 428.2, | -361.5, | 66.7, | 12 | 6.1, | 630.6, | 512.5, | -412.6, | 39.8, |
| 13 | 6.1, | 591.2, | 581.2, | -451.2, | 9.9, | 14 | 6.1, | 537.5, | 632.2, | -476.1, | -22.2, |
| 15 | 6.1, | 475.4, | 664.1, | -486.6, | -49.6, | 16 | 6.1, | 400.3, | 675.8, | -482.2, | -74.7, |
| 17 | 6.1, | 313.1, | 666.9, | -463.2, | -97.6, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -420.9, | -133.9, | 20 | 6.1, | 428.2, | 654.5, | -394.0, | -147.4, |
| 21 | 6.1, | 512.5, | 630.6, | -355.1, | -156.4, | 22 | 6.1, | 581.2, | 591.2, | -305.5, | -160.6, |
| 23 | 6.1, | 632.2, | 537.5, | -246.6, | -160.0, | 24 | 6.1, | 664.1, | 475.4, | -188.1, | -154.5, |
| 25 | 6.1, | 675.8, | 400.3, | -125.4, | -144.3, | 26 | 6.1, | 666.9, | 313.1, | -58.9, | -129.8, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | -113.6, | 28 | 6.1, | 658.5, | 330.9, | -31.6, | -91.6, |
| 29 | 6.1, | 654.5, | 428.2, | -66.7, | -66.7, | 30 | 6.1, | 630.6, | 512.5, | -99.8, | -39.8, |
| 31 | 6.1, | 591.2, | 581.2, | -130.0, | -9.9, | 32 | 6.1, | 537.5, | 632.2, | -156.1, | 22.2, |
| 33 | 6.1, | 475.4, | 664.1, | -177.5, | 49.6, | 34 | 6.1, | 400.3, | 675.8, | -193.6, | 74.7, |
| 35 | 6.1, | 313.1, | 666.9, | -203.7, | 97.6, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |

SOURCE ID: STCK19

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -139.2, | 151.3, | 2 | 6.1, | 428.2, | 654.5, | -166.6, | 181.6, |
| 3 | 6.1, | 512.5, | 630.6, | -188.9, | 206.4, | 4 | 6.1, | 581.2, | 591.2, | -209.1, | 224.9, |
| 5 | 6.1, | 632.2, | 537.5, | -226.7, | 236.6, | 6 | 6.1, | 664.1, | 475.4, | -237.3, | 241.1, |
| 7 | 6.1, | 675.8, | 400.3, | -240.7, | 238.3, | 8 | 6.1, | 666.9, | 313.1, | -236.8, | 228.2, |
| 9 | 6.1, | 642.6, | 223.5, | -228.1, | 213.7, | 10 | 6.1, | 658.5, | 330.9, | -316.7, | 190.1, |
| 11 | 6.1, | 654.5, | 428.2, | -395.7, | 160.7, | 12 | 6.1, | 630.6, | 512.5, | -462.6, | 126.5, |
| 13 | 6.1, | 591.2, | 581.2, | -515.5, | 86.5, | 14 | 6.1, | 537.5, | 632.2, | -552.7, | 42.1, |
| 15 | 6.1, | 475.4, | 664.1, | -573.1, | 0.4, | 16 | 6.1, | 400.3, | 675.8, | -576.2, | -40.5, |
| 17 | 6.1, | 313.1, | 666.9, | -561.7, | -80.3, | 18 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |
| 19 | 6.1, | 330.9, | 658.5, | -519.3, | -151.3, | 20 | 6.1, | 428.2, | 654.5, | -487.9, | -181.6, |
| 21 | 6.1, | 512.5, | 630.6, | -441.7, | -206.4, | 22 | 6.1, | 581.2, | 591.2, | -382.1, | -224.9, |
| 23 | 6.1, | 632.2, | 537.5, | -310.9, | -236.6, | 24 | 6.1, | 664.1, | 475.4, | -238.1, | -241.1, |
| 25 | 6.1, | 675.8, | 400.3, | -159.6, | -238.3, | 26 | 6.1, | 666.9, | 313.1, | -76.3, | -228.2, |
| 27 | 6.1, | 642.6, | 223.5, | 4.6, | -213.6, | 28 | 6.1, | 658.5, | 330.9, | -14.2, | -190.1, |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 6.1, | 654.5, | 428.2, | -32.5, | -160.7, | 30 | 6.1, | 630.6, | 512.5, | -49.8, | -126.5, |
| 31 | 6.1, | 591.2, | 581.2, | -65.7, | -86.5, | 32 | 6.1, | 537.5, | 632.2, | -79.5, | -42.1, |
| 33 | 6.1, | 475.4, | 664.1, | -90.9, | -0.4, | 34 | 6.1, | 400.3, | 675.8, | -99.6, | 40.5, |
| 35 | 6.1, | 313.1, | 666.9, | -105.2, | 80.3, | 36 | 0.0, | 0.0, | 0.0, | 0.0, | 0.0, |

SOURCE ID: STCK20

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -493.2, | -144.7, | 2 | 6.1, | 428.2, | 654.5, | -463.8, | -171.4, |
| 3 | 6.1, | 512.5, | 630.6, | -420.3, | -192.8, | 4 | 6.1, | 581.2, | 591.2, | -367.7, | -208.4, |
| 5 | 6.1, | 632.2, | 537.5, | -307.6, | -217.7, | 6 | 6.1, | 664.1, | 475.4, | -238.1, | -220.3, |
| 7 | 6.1, | 675.8, | 400.3, | -161.4, | -216.2, | 8 | 6.1, | 666.9, | 313.1, | -79.8, | -205.6, |
| 9 | 6.1, | 642.6, | 223.5, | 1.9, | -186.4, | 10 | 6.1, | 658.5, | 330.9, | -20.7, | -163.9, |
| 11 | 6.1, | 654.5, | 428.2, | -42.7, | -136.5, | 12 | 6.1, | 630.6, | 512.5, | -63.4, | -105.0, |
| 13 | 6.1, | 591.2, | 581.2, | -82.2, | -72.1, | 14 | 6.1, | 537.5, | 632.2, | -98.5, | -38.8, |
| 15 | 6.1, | 475.4, | 664.1, | -111.7, | -0.4, | 16 | 6.1, | 400.3, | 675.8, | -121.6, | 38.8, |
| 17 | 6.1, | 313.1, | 666.9, | -127.8, | 76.8, | 18 | 6.1, | 223.5, | 642.6, | -134.9, | 113.7, |
| 19 | 6.1, | 330.9, | 658.5, | -165.4, | 144.7, | 20 | 6.1, | 428.2, | 654.5, | -190.7, | 171.4, |
| 21 | 6.1, | 512.5, | 630.6, | -210.3, | 192.8, | 22 | 6.1, | 581.2, | 591.2, | -223.5, | 208.4, |
| 23 | 6.1, | 632.2, | 537.5, | -230.0, | 217.7, | 24 | 6.1, | 664.1, | 475.4, | -237.3, | 220.3, |
| 25 | 6.1, | 675.8, | 400.3, | -238.9, | 216.2, | 26 | 6.1, | 666.9, | 313.1, | -233.3, | 205.6, |
| 27 | 6.1, | 642.6, | 223.5, | -225.4, | 186.4, | 28 | 6.1, | 658.5, | 330.9, | -310.2, | 163.9, |
| 29 | 6.1, | 654.5, | 428.2, | -385.4, | 136.5, | 30 | 6.1, | 630.6, | 512.5, | -449.0, | 105.0, |
| 31 | 6.1, | 591.2, | 581.2, | -499.0, | 72.1, | 32 | 6.1, | 537.5, | 632.2, | -533.8, | 38.8, |
| 33 | 6.1, | 475.4, | 664.1, | -552.3, | 0.4, | 34 | 6.1, | 400.3, | 675.8, | -554.1, | -38.8, |
| 35 | 6.1, | 313.1, | 666.9, | -539.1, | -76.8, | 36 | 6.1, | 223.5, | 642.6, | -507.6, | -113.7, |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK21

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -394.7, | -127.3, | 2 | 6.1, | 428.2, | 654.5, | -369.8, | -137.2, |
| 3 | 6.1, | 512.5, | 630.6, | -333.7, | -142.8, | 4 | 6.1, | 581.2, | 591.2, | -291.1, | -144.1, |
| 5 | 6.1, | 632.2, | 537.5, | -243.3, | -141.1, | 6 | 6.1, | 664.1, | 475.4, | -188.1, | -133.7, |
| 7 | 6.1, | 675.8, | 400.3, | -127.2, | -122.3, | 8 | 6.1, | 666.9, | 313.1, | -62.4, | -107.1, |
| 9 | 6.1, | 642.6, | 223.5, | 1.9, | -86.3, | 10 | 6.1, | 658.5, | 330.9, | -38.1, | -65.5, |
| 11 | 6.1, | 654.5, | 428.2, | -76.9, | -42.5, | 12 | 6.1, | 630.6, | 512.5, | -113.4, | -18.4, |
| 13 | 6.1, | 591.2, | 581.2, | -146.5, | 4.5, | 14 | 6.1, | 537.5, | 632.2, | -175.1, | 25.5, |
| 15 | 6.1, | 475.4, | 664.1, | -198.3, | 49.6, | 16 | 6.1, | 400.3, | 675.8, | -215.6, | 73.0, |
| 17 | 6.1, | 313.1, | 666.9, | -226.3, | 94.1, | 18 | 6.1, | 223.5, | 642.6, | -234.9, | 113.7, |
| 19 | 6.1, | 330.9, | 658.5, | -263.8, | 127.3, | 20 | 6.1, | 428.2, | 654.5, | -284.7, | 137.2, |
| 21 | 6.1, | 512.5, | 630.6, | -296.9, | 142.8, | 22 | 6.1, | 581.2, | 591.2, | -300.1, | 144.1, |
| 23 | 6.1, | 632.2, | 537.5, | -294.2, | 141.1, | 24 | 6.1, | 664.1, | 475.4, | -287.3, | 133.7, |
| 25 | 6.1, | 675.8, | 400.3, | -273.1, | 122.3, | 26 | 6.1, | 666.9, | 313.1, | -250.7, | 107.1, |
| 27 | 6.1, | 642.6, | 223.5, | -225.4, | 86.3, | 28 | 6.1, | 658.5, | 330.9, | -292.8, | 65.5, |
| 29 | 6.1, | 654.5, | 428.2, | -351.2, | 42.5, | 30 | 6.1, | 630.6, | 512.5, | -399.0, | 18.4, |
| 31 | 6.1, | 591.2, | 581.2, | -434.7, | -4.5, | 32 | 6.1, | 537.5, | 632.2, | -457.2, | -25.5, |
| 33 | 6.1, | 475.4, | 664.1, | -465.7, | -49.6, | 34 | 6.1, | 400.3, | 675.8, | -460.2, | -73.0, |
| 35 | 6.1, | 313.1, | 666.9, | -440.6, | -94.1, | 36 | 6.1, | 223.5, | 642.6, | -407.6, | -113.7, |

SOURCE ID: STCK22

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -296.2, | -110.0, | 2 | 6.1, | 428.2, | 654.5, | -275.8, | -103.0, |
| 3 | 6.1, | 512.5, | 630.6, | -247.1, | -92.8, | 4 | 6.1, | 581.2, | 591.2, | -214.5, | -79.8, |
| 5 | 6.1, | 632.2, | 537.5, | -179.0, | -64.5, | 6 | 6.1, | 664.1, | 475.4, | -138.1, | -47.1, |
| 7 | 6.1, | 675.8, | 400.3, | -93.0, | -28.3, | 8 | 6.1, | 666.9, | 313.1, | -45.0, | -8.7, |
| 9 | 6.1, | 642.6, | 223.5, | 1.9, | 13.7, | 10 | 6.1, | 658.5, | 330.9, | -55.5, | 33.0, |
| 11 | 6.1, | 654.5, | 428.2, | -111.1, | 51.4, | 12 | 6.1, | 630.6, | 512.5, | -163.4, | 68.2, |
| 13 | 6.1, | 591.2, | 581.2, | -210.8, | 81.1, | 14 | 6.1, | 537.5, | 632.2, | -251.7, | 89.8, |
| 15 | 6.1, | 475.4, | 664.1, | -284.9, | 99.6, | 16 | 6.1, | 400.3, | 675.8, | -309.6, | 107.2, |
| 17 | 6.1, | 313.1, | 666.9, | -324.8, | 111.5, | 18 | 6.1, | 223.5, | 642.6, | -334.9, | 113.6, |
| 19 | 6.1, | 330.9, | 658.5, | -362.3, | 110.0, | 20 | 6.1, | 428.2, | 654.5, | -378.7, | 103.0, |
| 21 | 6.1, | 512.5, | 630.6, | -383.5, | 92.8, | 22 | 6.1, | 581.2, | 591.2, | -376.8, | 79.8, |
| 23 | 6.1, | 632.2, | 537.5, | -358.5, | 64.5, | 24 | 6.1, | 664.1, | 475.4, | -337.3, | 47.1, |
| 25 | 6.1, | 675.8, | 400.3, | -307.3, | 28.3, | 26 | 6.1, | 666.9, | 313.1, | -268.1, | 8.7, |
| 27 | 6.1, | 642.6, | 223.5, | -225.4, | -13.7, | 28 | 6.1, | 658.5, | 330.9, | -275.4, | -33.0, |
| 29 | 6.1, | 654.5, | 428.2, | -317.0, | -51.4, | 30 | 6.1, | 630.6, | 512.5, | -349.0, | -68.2, |
| 31 | 6.1, | 591.2, | 581.2, | -370.4, | -81.1, | 32 | 6.1, | 537.5, | 632.2, | -380.6, | -89.8, |
| 33 | 6.1, | 475.4, | 664.1, | -379.1, | -99.6, | 34 | 6.1, | 400.3, | 675.8, | -366.2, | -107.2, |
| 35 | 6.1, | 313.1, | 666.9, | -342.1, | -111.5, | 36 | 6.1, | 223.5, | 642.6, | -307.6, | -113.6, |

SOURCE ID: STCK23

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -197.8, | -92.6, | 2 | 6.1, | 428.2, | 654.5, | -181.9, | -68.8, |
| 3 | 6.1, | 512.5, | 630.6, | -160.5, | -42.8, | 4 | 6.1, | 581.2, | 591.2, | -137.9, | -15.6, |
| 5 | 6.1, | 632.2, | 537.5, | -114.7, | 12.2, | 6 | 6.1, | 664.1, | 475.4, | -88.1, | 39.5, |
| 7 | 6.1, | 675.8, | 400.3, | -58.8, | 65.7, | 8 | 6.1, | 666.9, | 313.1, | -27.7, | 89.8, |
| 9 | 6.1, | 642.6, | 223.5, | 1.9, | 113.6, | 10 | 6.1, | 658.5, | 330.9, | -72.8, | 131.5, |
| 11 | 6.1, | 654.5, | 428.2, | -145.3, | 145.4, | 12 | 6.1, | 630.6, | 512.5, | -213.4, | 154.8, |
| 13 | 6.1, | 591.2, | 581.2, | -275.0, | 157.7, | 14 | 6.1, | 537.5, | 632.2, | -328.3, | 154.0, |
| 15 | 6.1, | 475.4, | 664.1, | -371.6, | 149.6, | 16 | 6.1, | 400.3, | 675.8, | -403.5, | 141.4, |
| 17 | 6.1, | 313.1, | 666.9, | -423.3, | 128.9, | 18 | 6.1, | 223.5, | 642.6, | -434.9, | 113.6, |
| 19 | 6.1, | 330.9, | 658.5, | -460.8, | 92.6, | 20 | 6.1, | 428.2, | 654.5, | -472.6, | 68.8, |
| 21 | 6.1, | 512.5, | 630.6, | -470.1, | 42.8, | 22 | 6.1, | 581.2, | 591.2, | -453.4, | 15.6, |
| 23 | 6.1, | 632.2, | 537.5, | -422.8, | -12.2, | 24 | 6.1, | 664.1, | 475.4, | -387.3, | -39.5, |
| 25 | 6.1, | 675.8, | 400.3, | -341.5, | -65.7, | 26 | 6.1, | 666.9, | 313.1, | -285.4, | -89.8, |
| 27 | 6.1, | 642.6, | 223.5, | -225.4, | -113.6, | 28 | 6.1, | 658.5, | 330.9, | -258.1, | -131.5, |
| 29 | 6.1, | 654.5, | 428.2, | -282.8, | -145.4, | 30 | 6.1, | 630.6, | 512.5, | -299.0, | -154.8, |
| 31 | 6.1, | 591.2, | 581.2, | -306.2, | -157.7, | 32 | 6.1, | 537.5, | 632.2, | -304.0, | -154.0, |
| 33 | 6.1, | 475.4, | 664.1, | -292.5, | -149.6, | 34 | 6.1, | 400.3, | 675.8, | -272.2, | -141.4, |
| 35 | 6.1, | 313.1, | 666.9, | -243.6, | -128.9, | 36 | 6.1, | 223.5, | 642.6, | -207.6, | -113.6, |

SOURCE ID: STCK24

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 330.9, | 658.5, | -99.3, | -75.2, | 2 | 6.1, | 428.2, | 654.5, | -87.9, | -34.5, |
| 3 | 6.1, | 512.5, | 630.6, | -73.8, | 7.2, | 4 | 6.1, | 581.2, | 591.2, | -61.3, | 48.7, |
| 5 | 6.1, | 632.2, | 537.5, | -50.5, | 88.8, | 6 | 6.1, | 664.1, | 475.4, | -38.1, | 126.1, |
| 7 | 6.1, | 675.8, | 400.3, | -24.6, | 159.6, | 8 | 6.1, | 666.9, | 313.1, | -10.3, | 188.3, |
| 9 | 6.1, | 642.6, | 223.5, | 1.9, | 213.7, | 10 | 6.1, | 658.5, | 330.9, | -90.2, | 230.0, |
| 11 | 6.1, | 654.5, | 428.2, | -179.5, | 239.4, | 12 | 6.1, | 630.6, | 512.5, | -263.4, | 241.5, |
| 13 | 6.1, | 591.2, | 581.2, | -339.3, | 234.3, | 14 | 6.1, | 537.5, | 632.2, | -404.9, | 218.3, |
| 15 | 6.1, | 475.4, | 664.1, | -458.2, | 199.6, | 16 | 6.1, | 400.3, | 675.8, | -497.5, | 175.6, |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 6.1, | 313.1, | 666.9, | -521.7, | 146.2, | 18 | 6.1, | 223.5, | 642.6, | -534.9, | 113.6, |
| 19 | 6.1, | 330.9, | 658.5, | -559.3, | 75.2, | 20 | 6.1, | 428.2, | 654.5, | -566.6, | 34.5, |
| 21 | 6.1, | 512.5, | 630.6, | -556.7, | -7.2, | 22 | 6.1, | 581.2, | 591.2, | -530.0, | -48.7, |
| 23 | 6.1, | 632.2, | 537.5, | -487.1, | -88.8, | 24 | 6.1, | 664.1, | 475.4, | -437.3, | -126.1, |
| 25 | 6.1, | 675.8, | 400.3, | -375.8, | -159.6, | 26 | 6.1, | 666.9, | 313.1, | -302.8, | -188.3, |
| 27 | 6.1, | 642.6, | 223.5, | -225.4, | -213.7, | 28 | 6.1, | 658.5, | 330.9, | -240.7, | -230.0, |
| 29 | 6.1, | 654.5, | 428.2, | -248.6, | -239.4, | 30 | 6.1, | 630.6, | 512.5, | -249.0, | -241.5, |
| 31 | 6.1, | 591.2, | 581.2, | -241.9, | -234.3, | 32 | 6.1, | 537.5, | 632.2, | -227.4, | -218.3, |
| 33 | 6.1, | 475.4, | 664.1, | -205.9, | -199.6, | 34 | 6.1, | 400.3, | 675.8, | -178.2, | -175.6, |
| 35 | 6.1, | 313.1, | 666.9, | -145.2, | -146.2, | 36 | 6.1, | 223.5, | 642.6, | -107.6, | -113.6, |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK25

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 199.0, | 472.9, | -247.5, | 57.0, | 2 | 6.1, | 271.5, | 463.0, | -249.1, | 53.7, |
| 3 | 6.1, | 335.8, | 439.1, | -243.2, | 48.8, | 4 | 6.1, | 389.9, | 401.9, | -229.8, | 42.4, |
| 5 | 6.1, | 432.1, | 355.5, | -212.6, | 34.7, | 6 | 6.1, | 461.2, | 306.2, | -196.8, | 25.9, |
| 7 | 6.1, | 476.3, | 247.7, | -175.1, | 16.4, | 8 | 6.1, | 477.0, | 181.6, | -148.0, | 6.4, |
| 9 | 6.1, | 468.3, | 120.4, | -118.7, | -4.1, | 10 | 6.1, | 472.9, | 199.0, | -156.5, | -11.0, |
| 11 | 6.1, | 463.0, | 271.5, | -189.5, | -17.6, | 12 | 6.1, | 439.1, | 335.8, | -216.7, | -23.6, |
| 13 | 6.1, | 401.9, | 389.9, | -237.3, | -28.9, | 14 | 6.1, | 355.5, | 432.1, | -250.8, | -34.8, |
| 15 | 6.1, | 306.2, | 461.2, | -256.6, | -43.7, | 16 | 6.1, | 247.7, | 476.3, | -254.6, | -51.2, |
| 17 | 6.1, | 181.6, | 477.0, | -244.9, | -57.2, | 18 | 6.1, | 120.4, | 468.3, | -230.0, | -58.5, |
| 19 | 6.1, | 199.0, | 472.9, | -225.4, | -57.0, | 20 | 6.1, | 271.5, | 463.0, | -214.0, | -53.7, |
| 21 | 6.1, | 335.8, | 439.1, | -196.0, | -48.8, | 22 | 6.1, | 389.9, | 401.9, | -172.1, | -42.4, |
| 23 | 6.1, | 432.1, | 355.5, | -142.9, | -34.7, | 24 | 6.1, | 461.2, | 306.2, | -109.4, | -25.9, |
| 25 | 6.1, | 476.3, | 247.7, | -72.6, | -16.4, | 26 | 6.1, | 477.0, | 181.6, | -33.6, | -6.4, |
| 27 | 6.1, | 468.3, | 120.4, | -1.7, | 4.1, | 28 | 6.1, | 472.9, | 199.0, | -42.5, | 11.0, |
| 29 | 6.1, | 463.0, | 271.5, | -82.1, | 17.6, | 30 | 6.1, | 439.1, | 335.8, | -119.1, | 23.6, |
| 31 | 6.1, | 401.9, | 389.9, | -152.6, | 28.9, | 32 | 6.1, | 355.5, | 432.1, | -181.4, | 34.8, |
| 33 | 6.1, | 306.2, | 461.2, | -204.7, | 43.7, | 34 | 6.1, | 247.7, | 476.3, | -221.8, | 51.2, |
| 35 | 6.1, | 181.6, | 477.0, | -232.1, | 57.2, | 36 | 6.1, | 120.4, | 468.3, | -238.3, | 58.5, |

SOURCE ID: STCK26

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 199.0, | 472.9, | -149.0, | 74.3, | 2 | 6.1, | 271.5, | 463.0, | -155.1, | 87.9, |
| 3 | 6.1, | 335.8, | 439.1, | -156.6, | 98.8, | 4 | 6.1, | 389.9, | 401.9, | -153.2, | 106.6, |
| 5 | 6.1, | 432.1, | 355.5, | -148.3, | 111.3, | 6 | 6.1, | 461.2, | 306.2, | -146.8, | 112.5, |
| 7 | 6.1, | 476.3, | 247.7, | -140.9, | 110.4, | 8 | 6.1, | 477.0, | 181.6, | -130.6, | 104.9, |
| 9 | 6.1, | 468.3, | 120.4, | -118.7, | 95.9, | 10 | 6.1, | 472.9, | 199.0, | -173.8, | 87.5, |
| 11 | 6.1, | 463.0, | 271.5, | -223.7, | 76.4, | 12 | 6.1, | 439.1, | 335.8, | -266.7, | 63.0, |
| 13 | 6.1, | 401.9, | 389.9, | -301.6, | 47.7, | 14 | 6.1, | 355.5, | 432.1, | -327.4, | 29.4, |
| 15 | 6.1, | 306.2, | 461.2, | -343.2, | 6.3, | 16 | 6.1, | 247.7, | 476.3, | -348.6, | -17.0, |
| 17 | 6.1, | 181.6, | 477.0, | -343.3, | -39.8, | 18 | 6.1, | 120.4, | 468.3, | -330.0, | -58.5, |
| 19 | 6.1, | 199.0, | 472.9, | -323.9, | -74.3, | 20 | 6.1, | 271.5, | 463.0, | -307.9, | -87.9, |
| 21 | 6.1, | 335.8, | 439.1, | -282.6, | -98.8, | 22 | 6.1, | 389.9, | 401.9, | -248.7, | -106.6, |
| 23 | 6.1, | 432.1, | 355.5, | -207.2, | -111.3, | 24 | 6.1, | 461.2, | 306.2, | -159.4, | -112.5, |

25 6.1, 476.3, 247.7, -106.8, -110.4, 26 6.1, 477.0, 181.6, -51.0, -104.9,
27 6.1, 468.3, 120.4, -1.7, -95.9, 28 6.1, 472.9, 199.0, -25.2, -87.5,
29 6.1, 463.0, 271.5, -47.9, -76.4, 30 6.1, 439.1, 335.8, -69.1, -63.0,
31 6.1, 401.9, 389.9, -88.3, -47.7, 32 6.1, 355.5, 432.1, -104.8, -29.4,
33 6.1, 306.2, 461.2, -118.1, -6.3, 34 6.1, 247.7, 476.3, -127.8, 17.0,
35 6.1, 181.6, 477.0, -133.6, 39.8, 36 6.1, 120.4, 468.3, -138.3, 58.5,

SOURCE ID: STCK27

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 199.0, | 472.9, | -226.6, | -61.2, | 2 | 6.1, | 271.5, | 463.0, | -208.1, | -59.1, |
| 3 | 6.1, | 335.8, | 439.1, | -183.2, | -55.1, | 4 | 6.1, | 389.9, | 401.9, | -152.7, | -49.5, |
| 5 | 6.1, | 432.1, | 355.5, | -120.7, | -42.4, | 6 | 6.1, | 461.2, | 306.2, | -92.9, | -34.1, |
| 7 | 6.1, | 476.3, | 247.7, | -62.3, | -24.6, | 8 | 6.1, | 477.0, | 181.6, | -29.8, | -14.5, |
| 9 | 6.1, | 468.3, | 120.4, | 1.3, | -4.1, | 10 | 6.1, | 472.9, | 199.0, | -38.3, | 9.8, |
| 11 | 6.1, | 463.0, | 271.5, | -76.7, | 23.5, | 12 | 6.1, | 439.1, | 335.8, | -112.8, | 36.4, |
| 13 | 6.1, | 401.9, | 389.9, | -145.4, | 48.2, | 14 | 6.1, | 355.5, | 432.1, | -173.6, | 57.1, |
| 15 | 6.1, | 306.2, | 461.2, | -196.6, | 60.2, | 16 | 6.1, | 247.7, | 476.3, | -213.5, | 61.5, |
| 17 | 6.1, | 181.6, | 477.0, | -224.0, | 61.0, | 18 | 6.1, | 120.4, | 468.3, | -230.0, | 61.5, |
| 19 | 6.1, | 199.0, | 472.9, | -246.2, | 61.2, | 20 | 6.1, | 271.5, | 463.0, | -255.0, | 59.1, |
| 21 | 6.1, | 335.8, | 439.1, | -256.0, | 55.1, | 22 | 6.1, | 389.9, | 401.9, | -249.2, | 49.5, |
| 23 | 6.1, | 432.1, | 355.5, | -234.9, | 42.4, | 24 | 6.1, | 461.2, | 306.2, | -213.4, | 34.1, |
| 25 | 6.1, | 476.3, | 247.7, | -185.4, | 24.6, | 26 | 6.1, | 477.0, | 181.6, | -151.8, | 14.5, |
| 27 | 6.1, | 468.3, | 120.4, | -121.7, | 4.1, | 28 | 6.1, | 472.9, | 199.0, | -160.7, | -9.8, |
| 29 | 6.1, | 463.0, | 271.5, | -194.8, | -23.5, | 30 | 6.1, | 439.1, | 335.8, | -223.1, | -36.4, |
| 31 | 6.1, | 401.9, | 389.9, | -244.5, | -48.2, | 32 | 6.1, | 355.5, | 432.1, | -258.5, | -57.1, |
| 33 | 6.1, | 306.2, | 461.2, | -264.7, | -60.2, | 34 | 6.1, | 247.7, | 476.3, | -262.8, | -61.5, |
| 35 | 6.1, | 181.6, | 477.0, | -252.9, | -61.0, | 36 | 6.1, | 120.4, | 468.3, | -238.3, | -61.5, |

SOURCE ID: STCK28

| IFV | BH | BW | BL | XADJ | YADJ | IFV | BH | BW | BL | XADJ | YADJ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1, | 199.0, | 472.9, | -128.1, | -43.8, | 2 | 6.1, | 271.5, | 463.0, | -114.1, | -24.9, |
| 3 | 6.1, | 335.8, | 439.1, | -96.6, | -5.1, | 4 | 6.1, | 389.9, | 401.9, | -76.1, | 14.7, |
| 5 | 6.1, | 432.1, | 355.5, | -56.4, | 34.1, | 6 | 6.1, | 461.2, | 306.2, | -42.9, | 52.5, |
| 7 | 6.1, | 476.3, | 247.7, | -28.1, | 69.3, | 8 | 6.1, | 477.0, | 181.6, | -12.5, | 84.0, |
| 9 | 6.1, | 468.3, | 120.4, | 1.3, | 95.9, | 10 | 6.1, | 472.9, | 199.0, | -55.7, | 108.3, |
| 11 | 6.1, | 463.0, | 271.5, | -110.9, | 117.4, | 12 | 6.1, | 439.1, | 335.8, | -162.8, | 123.0, |
| 13 | 6.1, | 401.9, | 389.9, | -209.7, | 124.8, | 14 | 6.1, | 355.5, | 432.1, | -250.2, | 121.4, |
| 15 | 6.1, | 306.2, | 461.2, | -283.2, | 110.2, | 16 | 6.1, | 247.7, | 476.3, | -307.5, | 95.8, |
| 17 | 6.1, | 181.6, | 477.0, | -322.5, | 78.3, | 18 | 6.1, | 120.4, | 468.3, | -330.0, | 61.5, |
| 19 | 6.1, | 199.0, | 472.9, | -344.7, | 43.8, | 20 | 6.1, | 271.5, | 463.0, | -349.0, | 24.9, |
| 21 | 6.1, | 335.8, | 439.1, | -342.6, | 5.1, | 22 | 6.1, | 389.9, | 401.9, | -325.8, | -14.7, |
| 23 | 6.1, | 432.1, | 355.5, | -299.1, | -34.1, | 24 | 6.1, | 461.2, | 306.2, | -263.4, | -52.5, |
| 25 | 6.1, | 476.3, | 247.7, | -219.6, | -69.3, | 26 | 6.1, | 477.0, | 181.6, | -169.1, | -84.0, |
| 27 | 6.1, | 468.3, | 120.4, | -121.7, | -95.9, | 28 | 6.1, | 472.9, | 199.0, | -143.3, | -108.3, |
| 29 | 6.1, | 463.0, | 271.5, | -160.6, | -117.4, | 30 | 6.1, | 439.1, | 335.8, | -173.1, | -123.0, |
| 31 | 6.1, | 401.9, | 389.9, | -180.2, | -124.8, | 32 | 6.1, | 355.5, | 432.1, | -181.9, | -121.4, |
| 33 | 6.1, | 306.2, | 461.2, | -178.1, | -110.2, | 34 | 6.1, | 247.7, | 476.3, | -168.8, | -95.7, |
| 35 | 6.1, | 181.6, | 477.0, | -154.5, | -78.3, | 36 | 6.1, | 120.4, | 468.3, | -138.3, | -61.5, |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( | 632121.2, | 4174952.4, | 158.0, | 158.0, | 0.0); | ( 632304.4, | 4174354.5, | 158.0, | 158.0, | 0.0); |
| ( | 632192.2, | 4174956.3, | 158.0, | 158.0, | 0.0); | ( 632420.6, | 4175510.1, | 158.0, | 158.0, | 0.0); |
| ( | 632419.0, | 4175552.9, | 158.0, | 158.0, | 0.0); | ( 631187.0, | 4175727.0, | 158.0, | 158.0, | 0.0); |
| ( | 631166.0, | 4175729.0, | 158.0, | 158.0, | 0.0); | ( 631121.0, | 4175719.0, | 158.0, | 158.0, | 0.0); |
| ( | 631035.0, | 4174830.0, | 158.0, | 158.0, | 0.0); | ( 631106.0, | 4174825.0, | 158.0, | 158.0, | 0.0); |
| ( | 631937.0, | 4174528.0, | 158.0, | 158.0, | 0.0); | ( 631322.0, | 4174522.0, | 158.0, | 158.0, | 0.0); |
| ( | 629800.6, | 4173850.4, | 158.0, | 158.0, | 0.0); | ( 630150.6, | 4173850.4, | 158.0, | 158.0, | 0.0); |
| ( | 630500.6, | 4173850.4, | 158.0, | 158.0, | 0.0); | ( 630850.6, | 4173850.4, | 158.0, | 158.0, | 0.0); |
| ( | 631200.6, | 4173850.4, | 158.0, | 158.0, | 0.0); | ( 631550.6, | 4173850.4, | 158.0, | 158.0, | 0.0); |
| ( | 631900.6, | 4173850.4, | 158.0, | 158.0, | 0.0); | ( 632250.6, | 4173850.4, | 158.0, | 158.0, | 0.0); |
| ( | 632600.6, | 4173850.4, | 158.0, | 158.0, | 0.0); | ( 632950.6, | 4173850.4, | 158.0, | 158.0, | 0.0); |
| ( | 633300.6, | 4173850.4, | 158.0, | 158.0, | 0.0); | ( 629800.6, | 4174200.4, | 158.0, | 158.0, | 0.0); |
| ( | 630150.6, | 4174200.4, | 158.0, | 158.0, | 0.0); | ( 630500.6, | 4174200.4, | 158.0, | 158.0, | 0.0); |
| ( | 630850.6, | 4174200.4, | 158.0, | 158.0, | 0.0); | ( 631200.6, | 4174200.4, | 158.0, | 158.0, | 0.0); |
| ( | 631550.6, | 4174200.4, | 158.0, | 158.0, | 0.0); | ( 631900.6, | 4174200.4, | 158.0, | 158.0, | 0.0); |
| ( | 632250.6, | 4174200.4, | 158.0, | 158.0, | 0.0); | ( 632600.6, | 4174200.4, | 158.0, | 158.0, | 0.0); |
| ( | 632950.6, | 4174200.4, | 158.0, | 158.0, | 0.0); | ( 633300.6, | 4174200.4, | 158.0, | 158.0, | 0.0); |
| ( | 629800.6, | 4174550.4, | 158.0, | 158.0, | 0.0); | ( 630150.6, | 4174550.4, | 158.0, | 158.0, | 0.0); |
| ( | 630500.6, | 4174550.4, | 158.0, | 158.0, | 0.0); | ( 630850.6, | 4174550.4, | 158.0, | 158.0, | 0.0); |
| ( | 631200.6, | 4174550.4, | 158.0, | 158.0, | 0.0); | ( 631550.6, | 4174550.4, | 158.0, | 158.0, | 0.0); |
| ( | 631900.6, | 4174550.4, | 158.0, | 158.0, | 0.0); | ( 632250.6, | 4174550.4, | 158.0, | 158.0, | 0.0); |
| ( | 632600.6, | 4174550.4, | 158.0, | 158.0, | 0.0); | ( 632950.6, | 4174550.4, | 158.0, | 158.0, | 0.0); |
| ( | 633300.6, | 4174550.4, | 158.0, | 158.0, | 0.0); | ( 629800.6, | 4174900.4, | 158.0, | 158.0, | 0.0); |
| ( | 630150.6, | 4174900.4, | 158.0, | 158.0, | 0.0); | ( 630500.6, | 4174900.4, | 158.0, | 158.0, | 0.0); |
| ( | 630850.6, | 4174900.4, | 158.0, | 158.0, | 0.0); | ( 631200.6, | 4174900.4, | 158.0, | 158.0, | 0.0); |
| ( | 631550.6, | 4174900.4, | 158.0, | 158.0, | 0.0); | ( 631900.6, | 4174900.4, | 158.0, | 158.0, | 0.0); |
| ( | 632250.6, | 4174900.4, | 158.0, | 158.0, | 0.0); | ( 632600.6, | 4174900.4, | 158.0, | 158.0, | 0.0); |
| ( | 632950.6, | 4174900.4, | 158.0, | 158.0, | 0.0); | ( 633300.6, | 4174900.4, | 158.0, | 158.0, | 0.0); |
| ( | 629800.6, | 4175250.4, | 158.0, | 158.0, | 0.0); | ( 630150.6, | 4175250.4, | 158.0, | 158.0, | 0.0); |
| ( | 630500.6, | 4175250.4, | 158.0, | 158.0, | 0.0); | ( 630850.6, | 4175250.4, | 158.0, | 158.0, | 0.0); |
| ( | 631200.6, | 4175250.4, | 158.0, | 158.0, | 0.0); | ( 631550.6, | 4175250.4, | 158.0, | 158.0, | 0.0); |
| ( | 631900.6, | 4175250.4, | 158.0, | 158.0, | 0.0); | ( 632250.6, | 4175250.4, | 158.0, | 158.0, | 0.0); |
| ( | 632600.6, | 4175250.4, | 158.0, | 158.0, | 0.0); | ( 632950.6, | 4175250.4, | 158.0, | 158.0, | 0.0); |
| ( | 633300.6, | 4175250.4, | 158.0, | 158.0, | 0.0); | ( 629800.6, | 4175600.4, | 158.0, | 158.0, | 0.0); |
| ( | 630150.6, | 4175600.4, | 158.0, | 158.0, | 0.0); | ( 630500.6, | 4175600.4, | 158.0, | 158.0, | 0.0); |
| ( | 630850.6, | 4175600.4, | 158.0, | 158.0, | 0.0); | ( 631200.6, | 4175600.4, | 158.0, | 158.0, | 0.0); |
| ( | 631550.6, | 4175600.4, | 158.0, | 158.0, | 0.0); | ( 631900.6, | 4175600.4, | 158.0, | 158.0, | 0.0); |
| ( | 632250.6, | 4175600.4, | 158.0, | 158.0, | 0.0); | ( 632600.6, | 4175600.4, | 158.0, | 158.0, | 0.0); |
| ( | 632950.6, | 4175600.4, | 158.0, | 158.0, | 0.0); | ( 633300.6, | 4175600.4, | 158.0, | 158.0, | 0.0); |
| ( | 629800.6, | 4175950.4, | 158.0, | 158.0, | 0.0); | ( 630150.6, | 4175950.4, | 158.0, | 158.0, | 0.0); |
| ( | 630500.6, | 4175950.4, | 158.0, | 158.0, | 0.0); | ( 630850.6, | 4175950.4, | 158.0, | 158.0, | 0.0); |
| ( | 631200.6, | 4175950.4, | 158.0, | 158.0, | 0.0); | ( 631550.6, | 4175950.4, | 158.0, | 158.0, | 0.0); |
| ( | 631900.6, | 4175950.4, | 158.0, | 158.0, | 0.0); | ( 632250.6, | 4175950.4, | 158.0, | 158.0, | 0.0); |
| ( | 632600.6, | 4175950.4, | 158.0, | 158.0, | 0.0); | ( 632950.6, | 4175950.4, | 158.0, | 158.0, | 0.0); |
| ( | 633300.6, | 4175950.4, | 158.0, | 158.0, | 0.0); | ( 629800.6, | 4176300.4, | 158.0, | 158.0, | 0.0); |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( | 630150.6, | 4176300.4, | 158.0, | 158.0, | 0.0); | ( | 630500.6, | 4176300.4, | 158.0, | 158.0, | 0.0); |
| ( | 630850.6, | 4176300.4, | 158.0, | 158.0, | 0.0); | ( | 631200.6, | 4176300.4, | 158.0, | 158.0, | 0.0); |
| ( | 631550.6, | 4176300.4, | 158.0, | 158.0, | 0.0); | ( | 631900.6, | 4176300.4, | 158.0, | 158.0, | 0.0); |
| ( | 632250.6, | 4176300.4, | 158.0, | 158.0, | 0.0); | ( | 632600.6, | 4176300.4, | 158.0, | 158.0, | 0.0); |
| ( | 632950.6, | 4176300.4, | 158.0, | 158.0, | 0.0); | ( | 633300.6, | 4176300.4, | 158.0, | 158.0, | 0.0); |
| ( | 629800.6, | 4176650.4, | 158.0, | 158.0, | 0.0); | ( | 630150.6, | 4176650.4, | 158.0, | 158.0, | 0.0); |
| ( | 630500.6, | 4176650.4, | 158.0, | 158.0, | 0.0); | ( | 630850.6, | 4176650.4, | 158.0, | 158.0, | 0.0); |
| ( | 631200.6, | 4176650.4, | 158.0, | 158.0, | 0.0); | ( | 631550.6, | 4176650.4, | 158.0, | 158.0, | 0.0); |
| ( | 631900.6, | 4176650.4, | 158.0, | 158.0, | 0.0); | ( | 632250.6, | 4176650.4, | 158.0, | 158.0, | 0.0); |
| ( | 632600.6, | 4176650.4, | 158.0, | 158.0, | 0.0); | ( | 632950.6, | 4176650.4, | 158.0, | 158.0, | 0.0); |
| ( | 633300.6, | 4176650.4, | 158.0, | 158.0, | 0.0); | ( | 629800.6, | 4177000.4, | 158.0, | 158.0, | 0.0); |
| ( | 630150.6, | 4177000.4, | 158.0, | 158.0, | 0.0); | ( | 630500.6, | 4177000.4, | 158.0, | 158.0, | 0.0); |
| ( | 630850.6, | 4177000.4, | 158.0, | 158.0, | 0.0); | ( | 631200.6, | 4177000.4, | 158.0, | 158.0, | 0.0); |
| ( | 631550.6, | 4177000.4, | 158.0, | 158.0, | 0.0); | ( | 631900.6, | 4177000.4, | 158.0, | 158.0, | 0.0); |
| ( | 632250.6, | 4177000.4, | 158.0, | 158.0, | 0.0); | ( | 632600.6, | 4177000.4, | 158.0, | 158.0, | 0.0); |
| ( | 632950.6, | 4177000.4, | 158.0, | 158.0, | 0.0); | ( | 633300.6, | 4177000.4, | 158.0, | 158.0, | 0.0); |
| ( | 629800.6, | 4177350.4, | 158.0, | 158.0, | 0.0); | ( | 630150.6, | 4177350.4, | 158.0, | 158.0, | 0.0); |
| ( | 630500.6, | 4177350.4, | 158.0, | 158.0, | 0.0); | ( | 630850.6, | 4177350.4, | 158.0, | 158.0, | 0.0); |
| ( | 631200.6, | 4177350.4, | 158.0, | 158.0, | 0.0); | ( | 631550.6, | 4177350.4, | 158.0, | 158.0, | 0.0); |
| ( | 631900.6, | 4177350.4, | 158.0, | 158.0, | 0.0); | ( | 632250.6, | 4177350.4, | 158.0, | 158.0, | 0.0); |
| ( | 632600.6, | 4177350.4, | 158.0, | 158.0, | 0.0); | ( | 632950.6, | 4177350.4, | 158.0, | 158.0, | 0.0); |
| ( | 633300.6, | 4177350.4, | 158.0, | 158.0, | 0.0); | ( | 631670.7, | 4175493.6, | 158.0, | 158.0, | 0.0); |
| ( | 631669.8, | 4175641.4, | 158.0, | 158.0, | 0.0); | ( | 631665.3, | 4175796.4, | 158.0, | 158.0, | 0.0); |
| ( | 631417.2, | 4175826.8, | 158.0, | 158.0, | 0.0); | ( | 631417.2, | 4175673.7, | 158.0, | 158.0, | 0.0); |
| ( | 631422.6, | 4175484.6, | 158.0, | 158.0, | 0.0); | ( | 631268.4, | 4175983.7, | 158.0, | 158.0, | 0.0); |
| ( | 631275.7, | 4175524.0, | 158.0, | 158.0, | 0.0); | ( | 631345.7, | 4175419.5, | 158.0, | 158.0, | 0.0); |
| ( | 631384.7, | 4175441.3, | 158.0, | 158.0, | 0.0); | ( | 631491.9, | 4175442.2, | 158.0, | 158.0, | 0.0); |
| ( | 631491.9, | 4175414.9, | 158.0, | 158.0, | 0.0); | ( | 631385.6, | 4175413.1, | 158.0, | 158.0, | 0.0); |
| ( | 631358.4, | 4175395.9, | 158.0, | 158.0, | 0.0); | ( | 631409.2, | 4175336.8, | 158.0, | 158.0, | 0.0); |
| ( | 631567.4, | 4175236.0, | 158.0, | 158.0, | 0.0); | ( | 631756.3, | 4175028.8, | 158.0, | 158.0, | 0.0); |
| ( | 631807.2, | 4175003.4, | 158.0, | 158.0, | 0.0); | ( | 631867.2, | 4174987.9, | 158.0, | 158.0, | 0.0); |
| ( | 631849.9, | 4175988.3, | 158.0, | 158.0, | 0.0); | ( | 631268.7, | 4175963.8, | 158.0, | 158.0, | 0.0); |
| ( | 631269.1, | 4175943.8, | 158.0, | 158.0, | 0.0); | ( | 631269.4, | 4175923.8, | 158.0, | 158.0, | 0.0); |
| ( | 631269.7, | 4175903.8, | 158.0, | 158.0, | 0.0); | ( | 631270.0, | 4175883.8, | 158.0, | 158.0, | 0.0); |
| ( | 631270.3, | 4175863.8, | 158.0, | 158.0, | 0.0); | ( | 631270.6, | 4175843.8, | 158.0, | 158.0, | 0.0); |
| ( | 631271.0, | 4175823.8, | 158.0, | 158.0, | 0.0); | ( | 631271.3, | 4175803.8, | 158.0, | 158.0, | 0.0); |
| ( | 631271.6, | 4175783.8, | 158.0, | 158.0, | 0.0); | ( | 631271.9, | 4175763.9, | 158.0, | 158.0, | 0.0); |
| ( | 631272.2, | 4175743.9, | 158.0, | 158.0, | 0.0); | ( | 631272.5, | 4175723.9, | 158.0, | 158.0, | 0.0); |
| ( | 631272.9, | 4175703.9, | 158.0, | 158.0, | 0.0); | ( | 631273.2, | 4175683.9, | 158.0, | 158.0, | 0.0); |
| ( | 631273.5, | 4175663.9, | 158.0, | 158.0, | 0.0); | ( | 631273.8, | 4175643.9, | 158.0, | 158.0, | 0.0); |
| ( | 631274.1, | 4175623.9, | 158.0, | 158.0, | 0.0); | ( | 631274.4, | 4175603.9, | 158.0, | 158.0, | 0.0); |
| ( | 631274.7, | 4175584.0, | 158.0, | 158.0, | 0.0); | ( | 631275.1, | 4175564.0, | 158.0, | 158.0, | 0.0); |
| ( | 631275.4, | 4175544.0, | 158.0, | 158.0, | 0.0); | ( | 631285.7, | 4175509.1, | 158.0, | 158.0, | 0.0); |
| ( | 631295.7, | 4175494.1, | 158.0, | 158.0, | 0.0); | ( | 631305.7, | 4175479.2, | 158.0, | 158.0, | 0.0); |
| ( | 631315.7, | 4175464.3, | 158.0, | 158.0, | 0.0); | ( | 631325.7, | 4175449.3, | 158.0, | 158.0, | 0.0); |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 631335.7, 4175434.4, | 158.0, | 158.0, | 0.0); | ( 631358.7, 4175426.8, | 158.0, | 158.0, | 0.0); |
| ( 631371.7, 4175434.0, | 158.0, | 158.0, | 0.0); | ( 631402.6, 4175441.4, | 158.0, | 158.0, | 0.0); |
| ( 631420.5, 4175441.6, | 158.0, | 158.0, | 0.0); | ( 631438.3, 4175441.8, | 158.0, | 158.0, | 0.0); |
| ( 631456.2, 4175441.9, | 158.0, | 158.0, | 0.0); | ( 631474.1, 4175442.1, | 158.0, | 158.0, | 0.0); |
| ( 631491.9, 4175428.6, | 158.0, | 158.0, | 0.0); | ( 631474.2, 4175414.6, | 158.0, | 158.0, | 0.0); |
| ( 631456.5, 4175414.3, | 158.0, | 158.0, | 0.0); | ( 631438.8, 4175414.0, | 158.0, | 158.0, | 0.0); |
| ( 631421.1, 4175413.7, | 158.0, | 158.0, | 0.0); | ( 631403.4, 4175413.4, | 158.0, | 158.0, | 0.0); |
| ( 631372.0, 4175404.5, | 158.0, | 158.0, | 0.0); | ( 631371.1, 4175381.1, | 158.0, | 158.0, | 0.0); |
| ( 631383.8, 4175366.3, | 158.0, | 158.0, | 0.0); | ( 631396.5, 4175351.6, | 158.0, | 158.0, | 0.0); |
| ( 631425.1, 4175326.7, | 158.0, | 158.0, | 0.0); | ( 631440.9, 4175316.6, | 158.0, | 158.0, | 0.0); |
| ( 631456.7, 4175306.6, | 158.0, | 158.0, | 0.0); | ( 631472.5, 4175296.5, | 158.0, | 158.0, | 0.0); |
| ( 631488.3, 4175286.4, | 158.0, | 158.0, | 0.0); | ( 631504.1, 4175276.3, | 158.0, | 158.0, | 0.0); |
| ( 631519.9, 4175266.2, | 158.0, | 158.0, | 0.0); | ( 631535.7, 4175256.1, | 158.0, | 158.0, | 0.0); |
| ( 631551.5, 4175246.0, | 158.0, | 158.0, | 0.0); | ( 631580.0, 4175222.1, | 158.0, | 158.0, | 0.0); |
| ( 631592.6, 4175208.3, | 158.0, | 158.0, | 0.0); | ( 631605.2, 4175194.5, | 158.0, | 158.0, | 0.0); |
| ( 631617.7, 4175180.7, | 158.0, | 158.0, | 0.0); | ( 631630.3, 4175166.9, | 158.0, | 158.0, | 0.0); |
| ( 631642.9, 4175153.1, | 158.0, | 158.0, | 0.0); | ( 631655.5, 4175139.3, | 158.0, | 158.0, | 0.0); |
| ( 631668.1, 4175125.5, | 158.0, | 158.0, | 0.0); | ( 631680.7, 4175111.7, | 158.0, | 158.0, | 0.0); |
| ( 631693.3, 4175097.8, | 158.0, | 158.0, | 0.0); | ( 631705.9, 4175084.0, | 158.0, | 158.0, | 0.0); |
| ( 631718.5, 4175070.2, | 158.0, | 158.0, | 0.0); | ( 631731.1, 4175056.4, | 158.0, | 158.0, | 0.0); |
| ( 631743.7, 4175042.6, | 158.0, | 158.0, | 0.0); | ( 631773.3, 4175020.3, | 158.0, | 158.0, | 0.0); |
| ( 631790.3, 4175011.8, | 158.0, | 158.0, | 0.0); | ( 631822.2, 4174999.5, | 158.0, | 158.0, | 0.0); |
| ( 631837.2, 4174995.6, | 158.0, | 158.0, | 0.0); | ( 631852.2, 4174991.8, | 158.0, | 158.0, | 0.0); |
| ( 631866.8, 4175007.5, | 158.0, | 158.0, | 0.0); | ( 631866.5, 4175027.1, | 158.0, | 158.0, | 0.0); |
| ( 631866.2, 4175046.8, | 158.0, | 158.0, | 0.0); | ( 631865.8, 4175066.4, | 158.0, | 158.0, | 0.0); |
| ( 631865.5, 4175086.0, | 158.0, | 158.0, | 0.0); | ( 631865.2, 4175105.6, | 158.0, | 158.0, | 0.0); |
| ( 631864.8, 4175125.2, | 158.0, | 158.0, | 0.0); | ( 631864.5, 4175144.8, | 158.0, | 158.0, | 0.0); |
| ( 631864.1, 4175164.4, | 158.0, | 158.0, | 0.0); | ( 631863.8, 4175184.1, | 158.0, | 158.0, | 0.0); |
| ( 631863.5, 4175203.7, | 158.0, | 158.0, | 0.0); | ( 631863.1, 4175223.3, | 158.0, | 158.0, | 0.0); |
| ( 631862.8, 4175242.9, | 158.0, | 158.0, | 0.0); | ( 631862.4, 4175262.5, | 158.0, | 158.0, | 0.0); |
| ( 631862.1, 4175282.1, | 158.0, | 158.0, | 0.0); | ( 631861.8, 4175301.8, | 158.0, | 158.0, | 0.0); |
| ( 631861.4, 4175321.4, | 158.0, | 158.0, | 0.0); | ( 631861.1, 4175341.0, | 158.0, | 158.0, | 0.0); |
| ( 631860.8, 4175360.6, | 158.0, | 158.0, | 0.0); | ( 631860.4, 4175380.2, | 158.0, | 158.0, | 0.0); |
| ( 631860.1, 4175399.8, | 158.0, | 158.0, | 0.0); | ( 631859.7, 4175419.4, | 158.0, | 158.0, | 0.0); |
| ( 631859.4, 4175439.1, | 158.0, | 158.0, | 0.0); | ( 631859.1, 4175458.7, | 158.0, | 158.0, | 0.0); |
| ( 631858.7, 4175478.3, | 158.0, | 158.0, | 0.0); | ( 631858.4, 4175497.9, | 158.0, | 158.0, | 0.0); |
| ( 631858.0, 4175517.5, | 158.0, | 158.0, | 0.0); | ( 631857.7, 4175537.1, | 158.0, | 158.0, | 0.0); |
| ( 631857.4, 4175556.8, | 158.0, | 158.0, | 0.0); | ( 631857.0, 4175576.4, | 158.0, | 158.0, | 0.0); |
| ( 631856.7, 4175596.0, | 158.0, | 158.0, | 0.0); | ( 631856.4, 4175615.6, | 158.0, | 158.0, | 0.0); |
| ( 631856.0, 4175635.2, | 158.0, | 158.0, | 0.0); | ( 631855.7, 4175654.8, | 158.0, | 158.0, | 0.0); |
| ( 631855.3, 4175674.4, | 158.0, | 158.0, | 0.0); | ( 631855.0, 4175694.0, | 158.0, | 158.0, | 0.0); |
| ( 631854.7, 4175713.7, | 158.0, | 158.0, | 0.0); | ( 631854.3, 4175733.3, | 158.0, | 158.0, | 0.0); |
| ( 631854.0, 4175752.9, | 158.0, | 158.0, | 0.0); | ( 631853.6, 4175772.5, | 158.0, | 158.0, | 0.0); |
| ( 631853.3, 4175792.1, | 158.0, | 158.0, | 0.0); | ( 631853.0, 4175811.7, | 158.0, | 158.0, | 0.0); |
| ( 631852.6, 4175831.4, | 158.0, | 158.0, | 0.0); | ( 631852.3, 4175851.0, | 158.0, | 158.0, | 0.0); |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

( 631852.0, 4175870.6, 158.0, 158.0, 0.0); ( 631851.6, 4175890.2, 158.0, 158.0, 0.0);
( 631851.3, 4175909.8, 158.0, 158.0, 0.0); ( 631850.9, 4175929.4, 158.0, 158.0, 0.0);
( 631850.6, 4175949.0, 158.0, 158.0, 0.0); ( 631850.3, 4175968.7, 158.0, 158.0, 0.0);
( 631830.5, 4175988.1, 158.0, 158.0, 0.0); ( 631811.2, 4175988.0, 158.0, 158.0, 0.0);
( 631791.8, 4175987.8, 158.0, 158.0, 0.0); ( 631772.4, 4175987.7, 158.0, 158.0, 0.0);
( 631753.0, 4175987.5, 158.0, 158.0, 0.0); ( 631733.6, 4175987.4, 158.0, 158.0, 0.0);
( 631714.2, 4175987.2, 158.0, 158.0, 0.0); ( 631694.9, 4175987.1, 158.0, 158.0, 0.0);
( 631675.5, 4175986.9, 158.0, 158.0, 0.0); ( 631656.1, 4175986.8, 158.0, 158.0, 0.0);
( 631636.7, 4175986.6, 158.0, 158.0, 0.0); ( 631617.3, 4175986.5, 158.0, 158.0, 0.0);
( 631597.9, 4175986.3, 158.0, 158.0, 0.0); ( 631578.6, 4175986.2, 158.0, 158.0, 0.0);
( 631559.2, 4175986.0, 158.0, 158.0, 0.0); ( 631539.8, 4175985.9, 158.0, 158.0, 0.0);
( 631520.4, 4175985.7, 158.0, 158.0, 0.0); ( 631501.0, 4175985.6, 158.0, 158.0, 0.0);
( 631481.6, 4175985.4, 158.0, 158.0, 0.0); ( 631462.2, 4175985.2, 158.0, 158.0, 0.0);
( 631442.9, 4175985.1, 158.0, 158.0, 0.0); ( 631423.5, 4175984.9, 158.0, 158.0, 0.0);
( 631404.1, 4175984.8, 158.0, 158.0, 0.0); ( 631384.7, 4175984.6, 158.0, 158.0, 0.0);
( 631365.3, 4175984.5, 158.0, 158.0, 0.0); ( 631346.0, 4175984.3, 158.0, 158.0, 0.0);
( 631326.6, 4175984.2, 158.0, 158.0, 0.0); ( 631307.2, 4175984.0, 158.0, 158.0, 0.0);
( 631287.8, 4175983.9, 158.0, 158.0, 0.0);



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *

LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

| SOURCE ID | - - RECEPTOR LOCATION - - XR (METERS) | YR (METERS) | DISTANCE (METERS) |
|---|---|---|---|
| L0000868 | 631462.2 | 4175985.2 | -0.19 |
| L0000869 | 631462.2 | 4175985.2 | -3.37 |
| L0002239 | 631442.9 | 4175985.1 | 0.96 |
| L0002250 | 631481.6 | 4175985.4 | 0.98 |
| L0002255 | 631501.0 | 4175985.6 | 0.76 |
| L0002260 | 631520.4 | 4175985.7 | 0.82 |
| L0002266 | 631539.8 | 4175985.9 | 0.91 |
| L0002271 | 631559.2 | 4175986.0 | 0.61 |
| L0002276 | 631578.6 | 4175986.2 | 0.58 |
| L0002281 | 631597.9 | 4175986.3 | 0.83 |
| L0002282 | 631597.9 | 4175986.3 | 0.88 |
| L0002287 | 631617.3 | 4175986.5 | 0.49 |
| L0002292 | 631636.7 | 4175986.6 | 0.35 |
| L0002297 | 631656.1 | 4175986.8 | 0.52 |
| L0002298 | 631656.1 | 4175986.8 | 0.89 |
| L0002302 | 631675.5 | 4175986.9 | 0.95 |
| L0002303 | 631675.5 | 4175986.9 | 0.40 |
| L0002308 | 631694.9 | 4175987.1 | 0.17 |
| L0002313 | 631714.2 | 4175987.2 | 0.24 |
| L0002314 | 631714.2 | 4175987.2 | 0.94 |
| L0002318 | 631733.6 | 4175987.4 | 0.61 |

| | | | |
|---|---|---|---|
| L0002319 | 631733.6 | 4175987.4 | 0.35 |
| L0002324 | 631753.0 | 4175987.5 | 0.02 |
| L0002329 | 631772.4 | 4175987.7 | -0.01 |
| L0002334 | 631791.8 | 4175987.8 | 0.27 |
| L0002335 | 631791.8 | 4175987.8 | 0.35 |
| L0002339 | 631811.2 | 4175988.0 | 0.82 |
| L0002340 | 631811.2 | 4175988.0 | -0.10 |
| L0002345 | 631830.5 | 4175988.1 | -0.24 |
| STCK8 | 631550.6 | 4175600.4 | 0.00 |
| STCK22 | 631550.6 | 4175600.4 | 0.00 |



*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1 

```
 04 01 01   1 01  -30.2  0.306 -9.000 -9.000 -999.  406.   102.9  0.09   0.77   1.00   4.10  151.   14.0  282.0    2.0
 04 01 01   1 02  -35.7  0.362 -9.000 -9.000 -999.  523.   144.2  0.11   0.77   1.00   4.60  148.   14.0  282.0    2.0
 04 01 01   1 03  -44.6  0.453 -9.000 -9.000 -999.  731.   225.4  0.11   0.77   1.00   5.70  144.   14.0  281.8    2.0
 04 01 01   1 04  -48.8  0.494 -9.000 -9.000 -999.  833.   268.6  0.11   0.77   1.00   6.20  143.   14.0  281.6    2.0
 04 01 01   1 05  -52.8  0.536 -9.000 -9.000 -999.  940.   315.8  0.11   0.77   1.00   6.70  143.   14.0  281.5    2.0
 04 01 01   1 06  -57.0  0.578 -9.000 -9.000 -999. 1052.   367.0  0.11   0.77   1.00   7.20  142.   14.0  281.4    2.0
 04 01 01   1 07  -61.2  0.619 -9.000 -9.000 -999. 1168.   422.1  0.11   0.77   1.00   7.70  135.   14.0  281.2    2.0
 04 01 01   1 08  -64.0  0.658 -9.000 -9.000 -999. 1279.   476.0  0.11   0.77   0.73   8.20  143.   14.0  281.2    2.0
 04 01 01   1 09   7.0  0.717  0.238  0.005   68. 1454.  -4692.4  0.11   0.77   0.39   8.70  137.   14.0  281.5    2.0
 04 01 01   1 10  43.3  0.655  0.675  0.005  251. 1280.   -574.5  0.09   0.77   0.27   8.20  151.   14.0  282.1    2.0
 04 01 01   1 11  70.4  0.549  0.930  0.005  405.  989.   -207.5  0.09   0.77   0.23   6.70  164.   14.0  283.1    2.0
 04 01 01   1 12  90.7  0.480  1.217  0.005  703.  804.   -107.8  0.09   0.77   0.21   5.70  166.   14.0  284.1    2.0
 04 01 01   1 13  92.9  0.395  1.327  0.005  891.  602.    -58.8  0.08   0.77   0.21   4.60  183.   14.0  284.9    2.0
 04 01 01   1 14  81.1  0.321  1.332  0.005 1031.  440.    -36.0  0.08   0.77   0.22   3.60  189.   14.0  285.2    2.0
 04 01 01   1 15  47.5  0.160  1.139  0.005 1104.  174.     -7.6  0.08   0.77   0.26   1.50  192.   14.0  284.5    2.0
 04 01 01   1 16  19.1  0.076  0.847  0.005 1130.   56.     -2.0  0.12   0.77   0.34   0.50   54.   14.0  283.5    2.0
 04 01 01   1 17  -5.0  0.110 -9.000 -9.000 -999.   88.     23.5  0.10   0.77   0.59   1.50  341.   14.0  283.1    2.0
 04 01 01   1 18  -5.6  0.111 -9.000 -9.000 -999.   89.     21.5  0.11   0.77   1.00   1.50  307.   14.0  282.2    2.0
 04 01 01   1 19 -17.3  0.197 -9.000 -9.000 -999.  209.     42.5  0.10   0.77   1.00   2.60  284.   14.0  281.2    2.0
 04 01 01   1 20 -27.2  0.273 -9.000 -9.000 -999.  342.     81.8  0.10   0.77   1.00   3.60  267.   14.0  280.4    2.0
 04 01 01   1 21 -31.2  0.312 -9.000 -9.000 -999.  419.    107.3  0.10   0.77   1.00   4.10  260.   14.0  279.8    2.0
 04 01 01   1 22 -35.2  0.352 -9.000 -9.000 -999.  501.    136.4  0.10   0.77   1.00   4.60  262.   14.0  279.4    2.0
 04 01 01   1 23 -35.3  0.352 -9.000 -9.000 -999.  501.    136.4  0.10   0.77   1.00   4.60  250.   14.0  279.2    2.0
 04 01 01   1 24 -31.3  0.312 -9.000 -9.000 -999.  420.    107.3  0.10   0.77   1.00   4.10  240.   14.0  279.0    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 04 01 01 01   14.0 1  151.    4.10   282.1   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
   *** AERMOD - VERSION  19191 ***   *** C:\Users\Smith\Dropbox\My PC (DESKTOP-
977GSBU)\Documents\HRA\Tracy C ***       06/06/22
 *** AERMET - VERSION  18081 ***   ***                                                    ***       12:14:02
                                                                      PAGE  89
 *** MODELOPTs:    NonDFAULT  CONC  FLAT  RURAL  ADJ_U*

                    *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP:
SLINE1   ***
                       INCLUDING SOURCE(S):    L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
            L0000006    , L0000007    , L0000008    , L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
            L0000014    , L0000015    , L0000016    , L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
            L0000022    , L0000023    , L0000024    , L0000025    , L0000026    , L0000027    , L0000028    , . . .     ,

                              *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                            ** CONC OF OTHER    IN MICROGRAMS/M**3                  **

     X-COORD (M)   Y-COORD (M)       CONC                X-COORD (M)   Y-COORD (M)       CONC
 ------------------------------------------------------------------------------------------
       632121.21   4174952.36       1.39325              632304.44   4174354.52       0.31539
       632192.15   4174956.32       1.28526              632420.62   4175510.15       2.05800
       632418.97   4175552.92       2.03605              631187.00   4175727.00       3.94159
       631166.00   4175729.00       3.28035              631121.00   4175719.00       2.33954
       631035.00   4174830.00       0.33145              631106.00   4174825.00       0.35837
```

| | | | | | |
|---|---|---|---|---|---|
| 631937.00 | 4174528.00 | 0.39586 | 631322.00 | 4174522.00 | 0.26116 |
| 629800.63 | 4173850.44 | 0.06001 | 630150.63 | 4173850.44 | 0.07088 |
| 630500.63 | 4173850.44 | 0.08452 | 630850.63 | 4173850.44 | 0.09986 |
| 631200.63 | 4173850.44 | 0.11125 | 631550.63 | 4173850.44 | 0.12195 |
| 631900.63 | 4173850.44 | 0.13666 | 632250.63 | 4173850.44 | 0.15108 |
| 632600.63 | 4173850.44 | 0.15974 | 632950.63 | 4173850.44 | 0.15632 |
| 633300.63 | 4173850.44 | 0.13844 | 629800.63 | 4174200.44 | 0.07081 |
| 630150.63 | 4174200.44 | 0.08625 | 630500.63 | 4174200.44 | 0.10702 |
| 630850.63 | 4174200.44 | 0.13416 | 631200.63 | 4174200.44 | 0.15921 |
| 631550.63 | 4174200.44 | 0.18525 | 631900.63 | 4174200.44 | 0.21323 |
| 632250.63 | 4174200.44 | 0.24229 | 632600.63 | 4174200.44 | 0.24429 |
| 632950.63 | 4174200.44 | 0.21185 | 633300.63 | 4174200.44 | 0.18230 |
| 629800.63 | 4174550.44 | 0.08493 | 630150.63 | 4174550.44 | 0.10698 |
| 630500.63 | 4174550.44 | 0.14000 | 630850.63 | 4174550.44 | 0.18986 |
| 631200.63 | 4174550.44 | 0.25150 | 631550.63 | 4174550.44 | 0.32721 |
| 631900.63 | 4174550.44 | 0.40649 | 632250.63 | 4174550.44 | 0.45515 |
| 632600.63 | 4174550.44 | 0.38134 | 632950.63 | 4174550.44 | 0.31464 |
| 633300.63 | 4174550.44 | 0.27182 | 629800.63 | 4174900.44 | 0.10007 |
| 630150.63 | 4174900.44 | 0.13293 | 630500.63 | 4174900.44 | 0.18751 |
| 630850.63 | 4174900.44 | 0.28682 | 631200.63 | 4174900.44 | 0.46418 |
| 631550.63 | 4174900.44 | 0.77520 | 631900.63 | 4174900.44 | 1.24668 |
| 632250.63 | 4174900.44 | 1.00637 | 632600.63 | 4174900.44 | 0.72454 |
| 632950.63 | 4174900.44 | 0.55692 | 633300.63 | 4174900.44 | 0.44635 |
| 629800.63 | 4175250.44 | 0.11219 | 630150.63 | 4175250.44 | 0.15806 |
| 630500.63 | 4175250.44 | 0.24526 | 630850.63 | 4175250.44 | 0.44989 |
| 631200.63 | 4175250.44 | 1.11767 | 631550.63 | 4175250.44 | 4.77480 |
| 631900.63 | 4175250.44 | 16.74990 | 632250.63 | 4175250.44 | 2.73274 |
| 632600.63 | 4175250.44 | 1.40036 | 632950.63 | 4175250.44 | 0.90664 |
| 633300.63 | 4175250.44 | 0.65133 | 629800.63 | 4175600.44 | 0.11790 |
| 630150.63 | 4175600.44 | 0.17175 | 630500.63 | 4175600.44 | 0.28657 |
| 630850.63 | 4175600.44 | 0.63330 | 631200.63 | 4175600.44 | 3.95819 |
| 631550.63 | 4175600.44 | 19.35078 | 631900.63 | 4175600.44 | 13.25862 |
| 632250.63 | 4175600.44 | 2.78264 | 632600.63 | 4175600.44 | 1.49916 |
| 632950.63 | 4175600.44 | 0.97212 | 633300.63 | 4175600.44 | 0.69100 |
| 629800.63 | 4175950.44 | 0.12085 | 630150.63 | 4175950.44 | 0.18105 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE1 ***

INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.31403 | 630850.63 | 4175950.44 | 0.71868 |
| 631200.63 | 4175950.44 | 2.84676 | 631550.63 | 4175950.44 | 7.60561 |

| | | | | | |
|---|---|---|---|---|---|
| 631900.63 | 4175950.44 | 8.86710 | 632250.63 | 4175950.44 | 1.76984 |
| 632600.63 | 4175950.44 | 1.03501 | 632950.63 | 4175950.44 | 0.71473 |
| 633300.63 | 4175950.44 | 0.53627 | 629800.63 | 4176300.44 | 0.12801 |
| 630150.63 | 4176300.44 | 0.19147 | 630500.63 | 4176300.44 | 0.32337 |
| 630850.63 | 4176300.44 | 0.59754 | 631200.63 | 4176300.44 | 1.00294 |
| 631550.63 | 4176300.44 | 1.17251 | 631900.63 | 4176300.44 | 1.02399 |
| 632250.63 | 4176300.44 | 0.73811 | 632600.63 | 4176300.44 | 0.55291 |
| 632950.63 | 4176300.44 | 0.43153 | 633300.63 | 4176300.44 | 0.35001 |
| 629800.63 | 4176650.44 | 0.13115 | 630150.63 | 4176650.44 | 0.19230 |
| 630500.63 | 4176650.44 | 0.29075 | 630850.63 | 4176650.44 | 0.41608 |
| 631200.63 | 4176650.44 | 0.53237 | 631550.63 | 4176650.44 | 0.57152 |
| 631900.63 | 4176650.44 | 0.51937 | 632250.63 | 4176650.44 | 0.43423 |
| 632600.63 | 4176650.44 | 0.35525 | 632950.63 | 4176650.44 | 0.28883 |
| 633300.63 | 4176650.44 | 0.24184 | 629800.63 | 4177000.44 | 0.13052 |
| 630150.63 | 4177000.44 | 0.17871 | 630500.63 | 4177000.44 | 0.23530 |
| 630850.63 | 4177000.44 | 0.29181 | 631200.63 | 4177000.44 | 0.33661 |
| 631550.63 | 4177000.44 | 0.35080 | 631900.63 | 4177000.44 | 0.32308 |
| 632250.63 | 4177000.44 | 0.29250 | 632600.63 | 4177000.44 | 0.25340 |
| 632950.63 | 4177000.44 | 0.21865 | 633300.63 | 4177000.44 | 0.18441 |
| 629800.63 | 4177350.44 | 0.12363 | 630150.63 | 4177350.44 | 0.15434 |
| 630500.63 | 4177350.44 | 0.18618 | 630850.63 | 4177350.44 | 0.21535 |
| 631200.63 | 4177350.44 | 0.23449 | 631550.63 | 4177350.44 | 0.24055 |
| 631900.63 | 4177350.44 | 0.22821 | 632250.63 | 4177350.44 | 0.20889 |
| 632600.63 | 4177350.44 | 0.18942 | 632950.63 | 4177350.44 | 0.17102 |
| 633300.63 | 4177350.44 | 0.15075 | 631670.70 | 4175493.59 | 9.76986 |
| 631669.80 | 4175641.41 | 7.95975 | 631665.32 | 4175796.39 | 6.86901 |
| 631417.17 | 4175826.85 | 12.16802 | 631417.17 | 4175673.66 | 14.78691 |
| 631422.55 | 4175484.63 | 38.54342 | 631268.42 | 4175983.74 | 3.10484 |
| 631275.69 | 4175523.99 | 8.95085 | 631345.65 | 4175419.50 | 7.87470 |
| 631384.72 | 4175441.30 | 29.84381 | 631491.93 | 4175442.21 | 42.95218 |
| 631491.93 | 4175414.95 | 23.77737 | 631385.63 | 4175413.14 | 10.76123 |
| 631358.37 | 4175395.87 | 6.12233 | 631409.25 | 4175336.81 | 4.53576 |
| 631567.35 | 4175235.96 | 4.36769 | 631756.33 | 4175028.80 | 2.10626 |
| 631807.22 | 4175003.36 | 1.98285 | 631867.18 | 4174987.91 | 1.98978 |
| 631849.92 | 4175988.28 | 15.01803 | 631268.74 | 4175963.75 | 3.52742 |
| 631269.05 | 4175943.76 | 4.10519 | 631269.37 | 4175923.77 | 4.93307 |
| 631269.68 | 4175903.78 | 6.17785 | 631270.00 | 4175883.79 | 8.11950 |
| 631270.32 | 4175863.81 | 10.84393 | 631270.63 | 4175843.82 | 13.09443 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE1 ***

INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|

- - - -

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 44.22139 | 631861.77 | 4175301.75 | 44.60841 |
| 631861.43 | 4175321.37 | 44.35599 | 631861.09 | 4175340.98 | 43.08757 |
| 631860.75 | 4175360.60 | 41.48004 | 631860.41 | 4175380.21 | 40.30381 |
| 631860.07 | 4175399.83 | 39.58140 | 631859.73 | 4175419.44 | 39.13682 |
| 631859.40 | 4175439.06 | 38.83872 | 631859.06 | 4175458.67 | 38.64849 |
| 631858.72 | 4175478.29 | 38.51472 | 631858.38 | 4175497.90 | 38.40851 |
| 631858.04 | 4175517.52 | 38.32128 | 631857.70 | 4175537.13 | 38.24027 |
| 631857.37 | 4175556.75 | 38.15127 | 631857.03 | 4175576.36 | 38.08150 |
| 631856.69 | 4175595.98 | 38.01628 | 631856.35 | 4175615.59 | 37.95343 |
| 631856.01 | 4175635.21 | 37.89253 | 631855.67 | 4175654.82 | 37.83227 |
| 631855.33 | 4175674.44 | 37.77165 | 631855.00 | 4175694.05 | 37.69307 |
| 631854.66 | 4175713.67 | 37.62636 | 631854.32 | 4175733.28 | 37.55526 |
| 631853.98 | 4175752.90 | 37.47605 | 631853.64 | 4175772.51 | 37.38799 |
| 631853.30 | 4175792.13 | 37.28702 | 631852.97 | 4175811.74 | 37.15567 |
| 631852.63 | 4175831.36 | 37.01947 | 631852.29 | 4175850.97 | 36.86069 |
| 631851.95 | 4175870.59 | 36.66379 | 631851.61 | 4175890.20 | 36.41868 |
| 631851.27 | 4175909.82 | 36.08346 | 631850.94 | 4175929.43 | 35.85652 |
| 631850.60 | 4175949.05 | 35.52261 | 631850.26 | 4175968.66 | 33.68365 |
| 631830.54 | 4175988.13 | 11.41800 | 631811.15 | 4175987.98 | 6.68010 |
| 631791.77 | 4175987.83 | 5.09040 | 631772.39 | 4175987.67 | 4.35755 |
| 631753.00 | 4175987.52 | 3.96681 | 631733.62 | 4175987.37 | 3.75135 |
| 631714.24 | 4175987.22 | 3.64222 | 631694.85 | 4175987.07 | 3.60744 |
| 631675.47 | 4175986.92 | 3.63159 | 631656.09 | 4175986.77 | 3.70832 |
| 631636.70 | 4175986.62 | 3.83774 | 631617.32 | 4175986.46 | 4.02586 |
| 631597.94 | 4175986.31 | 4.28533 | 631578.55 | 4175986.16 | 4.64098 |
| 631559.17 | 4175986.01 | 5.13859 | 631539.79 | 4175985.86 | 5.86815 |
| 631520.40 | 4175985.71 | 7.02632 | 631501.02 | 4175985.56 | 9.15849 |
| 631481.64 | 4175985.40 | 14.37607 | 631462.25 | 4175985.25 | 14.11987 |
| 631442.87 | 4175985.10 | 9.76873 | 631423.49 | 4175984.95 | 6.15618 |
| 631404.10 | 4175984.80 | 4.83171 | 631384.72 | 4175984.65 | 4.20379 |
| 631365.34 | 4175984.50 | 3.85955 | 631345.95 | 4175984.35 | 3.64801 |
| 631326.57 | 4175984.19 | 3.49965 | 631307.19 | 4175984.04 | 3.37498 |
| 631287.80 | 4175983.89 | 3.24678 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE2 ***

INCLUDING SOURCE(S): L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 , L0000878 , L0000879 , L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 , L0000886 , L0000887 , L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 , L0000894 , L0000895 , L0000896 , L0000897 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.30375 | 632304.44 | 4174354.52 | 0.15398 |
| 632192.15 | 4174956.32 | 0.29569 | 632420.62 | 4175510.15 | 0.61362 |
| 632418.97 | 4175552.92 | 0.66085 | 631187.00 | 4175727.00 | 3.09226 |
| 631166.00 | 4175729.00 | 3.11958 | 631121.00 | 4175719.00 | 2.93623 |
| 631035.00 | 4174830.00 | 0.24935 | 631106.00 | 4174825.00 | 0.25405 |
| 631937.00 | 4174528.00 | 0.19257 | 631322.00 | 4174522.00 | 0.17684 |
| 629800.63 | 4173850.44 | 0.06457 | 630150.63 | 4173850.44 | 0.07103 |
| 630500.63 | 4173850.44 | 0.07596 | 630850.63 | 4173850.44 | 0.08152 |
| 631200.63 | 4173850.44 | 0.08769 | 631550.63 | 4173850.44 | 0.09445 |
| 631900.63 | 4173850.44 | 0.09947 | 632250.63 | 4173850.44 | 0.10165 |
| 632600.63 | 4173850.44 | 0.09995 | 632950.63 | 4173850.44 | 0.09364 |
| 633300.63 | 4173850.44 | 0.08497 | 629800.63 | 4174200.44 | 0.07960 |
| 630150.63 | 4174200.44 | 0.09067 | 630500.63 | 4174200.44 | 0.09981 |
| 630850.63 | 4174200.44 | 0.10979 | 631200.63 | 4174200.44 | 0.11941 |
| 631550.63 | 4174200.44 | 0.13023 | 631900.63 | 4174200.44 | 0.13683 |
| 632250.63 | 4174200.44 | 0.13580 | 632600.63 | 4174200.44 | 0.12740 |
| 632950.63 | 4174200.44 | 0.11459 | 633300.63 | 4174200.44 | 0.10285 |
| 629800.63 | 4174550.44 | 0.10067 | 630150.63 | 4174550.44 | 0.12090 |
| 630500.63 | 4174550.44 | 0.13892 | 630850.63 | 4174550.44 | 0.15877 |
| 631200.63 | 4174550.44 | 0.17680 | 631550.63 | 4174550.44 | 0.19459 |
| 631900.63 | 4174550.44 | 0.19805 | 632250.63 | 4174550.44 | 0.18656 |
| 632600.63 | 4174550.44 | 0.16607 | 632950.63 | 4174550.44 | 0.14631 |
| 633300.63 | 4174550.44 | 0.13334 | 629800.63 | 4174900.44 | 0.13206 |
| 630150.63 | 4174900.44 | 0.17103 | 630500.63 | 4174900.44 | 0.21123 |
| 630850.63 | 4174900.44 | 0.25724 | 631200.63 | 4174900.44 | 0.29786 |
| 631550.63 | 4174900.44 | 0.31940 | 631900.63 | 4174900.44 | 0.30579 |
| 632250.63 | 4174900.44 | 0.26934 | 632600.63 | 4174900.44 | 0.23040 |
| 632950.63 | 4174900.44 | 0.20537 | 633300.63 | 4174900.44 | 0.18747 |
| 629800.63 | 4175250.44 | 0.18177 | 630150.63 | 4175250.44 | 0.26567 |
| 630500.63 | 4175250.44 | 0.37422 | 630850.63 | 4175250.44 | 0.51241 |
| 631200.63 | 4175250.44 | 0.60216 | 631550.63 | 4175250.44 | 0.60490 |
| 631900.63 | 4175250.44 | 0.53113 | 632250.63 | 4175250.44 | 0.42996 |
| 632600.63 | 4175250.44 | 0.36581 | 632950.63 | 4175250.44 | 0.31854 |
| 633300.63 | 4175250.44 | 0.27842 | 629800.63 | 4175600.44 | 0.26006 |
| 630150.63 | 4175600.44 | 0.48226 | 630500.63 | 4175600.44 | 0.95342 |
| 630850.63 | 4175600.44 | 1.50801 | 631200.63 | 4175600.44 | 1.72729 |
| 631550.63 | 4175600.44 | 1.58365 | 631900.63 | 4175600.44 | 1.11626 |
| 632250.63 | 4175600.44 | 0.81837 | 632600.63 | 4175600.44 | 0.62203 |
| 632950.63 | 4175600.44 | 0.48515 | 633300.63 | 4175600.44 | 0.38878 |
| 629800.63 | 4175950.44 | 0.33425 | 630150.63 | 4175950.44 | 1.06188 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE2 ***

INCLUDING SOURCE(S): L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 , L0000878 , L0000879 , L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 , L0000886 , L0000887 , L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 , L0000894 , L0000895 , L0000896 , L0000897 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 18.44207 | 630850.63 | 4175950.44 | 23.31345 |
| 631200.63 | 4175950.44 | 25.13663 | 631550.63 | 4175950.44 | 9.90597 |
| 631900.63 | 4175950.44 | 2.45981 | 632250.63 | 4175950.44 | 1.29827 |
| 632600.63 | 4175950.44 | 0.84026 | 632950.63 | 4175950.44 | 0.60129 |
| 633300.63 | 4175950.44 | 0.45741 | 629800.63 | 4176300.44 | 0.36308 |
| 630150.63 | 4176300.44 | 1.03402 | 630500.63 | 4176300.44 | 2.35953 |
| 630850.63 | 4176300.44 | 3.03043 | 631200.63 | 4176300.44 | 2.99670 |
| 631550.63 | 4176300.44 | 1.98254 | 631900.63 | 4176300.44 | 1.22947 |
| 632250.63 | 4176300.44 | 0.85831 | 632600.63 | 4176300.44 | 0.63400 |
| 632950.63 | 4176300.44 | 0.48812 | 633300.63 | 4176300.44 | 0.38831 |
| 629800.63 | 4176650.44 | 0.36169 | 630150.63 | 4176650.44 | 0.63934 |
| 630500.63 | 4176650.44 | 0.94265 | 630850.63 | 4176650.44 | 1.09549 |
| 631200.63 | 4176650.44 | 1.03070 | 631550.63 | 4176650.44 | 0.81045 |
| 631900.63 | 4176650.44 | 0.60924 | 632250.63 | 4176650.44 | 0.46699 |
| 632600.63 | 4176650.44 | 0.37986 | 632950.63 | 4176650.44 | 0.31798 |
| 633300.63 | 4176650.44 | 0.27097 | 629800.63 | 4177000.44 | 0.30294 |
| 630150.63 | 4177000.44 | 0.42731 | 630500.63 | 4177000.44 | 0.53216 |
| 630850.63 | 4177000.44 | 0.57097 | 631200.63 | 4177000.44 | 0.54555 |
| 631550.63 | 4177000.44 | 0.46989 | 631900.63 | 4177000.44 | 0.38589 |
| 632250.63 | 4177000.44 | 0.31241 | 632600.63 | 4177000.44 | 0.25822 |
| 632950.63 | 4177000.44 | 0.22041 | 633300.63 | 4177000.44 | 0.19324 |
| 629800.63 | 4177350.44 | 0.24182 | 630150.63 | 4177350.44 | 0.30138 |
| 630500.63 | 4177350.44 | 0.34324 | 630850.63 | 4177350.44 | 0.35786 |
| 631200.63 | 4177350.44 | 0.34202 | 631550.63 | 4177350.44 | 0.31086 |
| 631900.63 | 4177350.44 | 0.27040 | 632250.63 | 4177350.44 | 0.23423 |
| 632600.63 | 4177350.44 | 0.19645 | 632950.63 | 4177350.44 | 0.16832 |
| 633300.63 | 4177350.44 | 0.14730 | 631670.70 | 4175493.59 | 1.04837 |
| 631669.80 | 4175641.41 | 1.63186 | 631665.32 | 4175796.39 | 2.86354 |
| 631417.17 | 4175826.85 | 5.34058 | 631417.17 | 4175673.66 | 2.27531 |
| 631422.55 | 4175484.63 | 1.12947 | 631268.42 | 4175983.74 | 93.28892 |
| 631275.69 | 4175523.99 | 1.30460 | 631345.65 | 4175419.50 | 0.93836 |
| 631384.72 | 4175441.30 | 0.99641 | 631491.93 | 4175442.21 | 0.98239 |
| 631491.93 | 4175414.95 | 0.91070 | 631385.63 | 4175413.14 | 0.91926 |
| 631358.37 | 4175395.87 | 0.87782 | 631409.25 | 4175336.81 | 0.75015 |
| 631567.35 | 4175235.96 | 0.58483 | 631756.33 | 4175028.80 | 0.38357 |
| 631807.22 | 4175003.36 | 0.36394 | 631867.18 | 4174987.91 | 0.34978 |
| 631849.92 | 4175988.28 | 2.81532 | 631268.74 | 4175963.75 | 36.11576 |
| 631269.05 | 4175943.76 | 21.89892 | 631269.37 | 4175923.77 | 15.52520 |
| 631269.68 | 4175903.78 | 11.86881 | 631270.00 | 4175883.79 | 9.48942 |
| 631270.32 | 4175863.81 | 7.81935 | 631270.63 | 4175843.82 | 6.58476 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE2 ***

INCLUDING SOURCE(S): L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 , L0000878 , L0000879 , L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 , L0000886 , L0000887 , L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 , L0000894 , L0000895 , L0000896 , L0000897 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 5.63811 | 631271.26 | 4175803.84 | 4.89138 |
| 631271.58 | 4175783.85 | 4.28905 | 631271.90 | 4175763.86 | 3.79444 |
| 631272.21 | 4175743.87 | 3.38229 | 631272.53 | 4175723.88 | 3.03465 |
| 631272.85 | 4175703.89 | 2.73839 | 631273.16 | 4175683.90 | 2.48371 |
| 631273.48 | 4175663.91 | 2.26310 | 631273.79 | 4175643.92 | 2.07072 |
| 631274.11 | 4175623.94 | 1.90205 | 631274.43 | 4175603.95 | 1.75321 |
| 631274.74 | 4175583.96 | 1.62130 | 631275.06 | 4175563.97 | 1.50386 |
| 631275.37 | 4175543.98 | 1.39886 | 631285.68 | 4175509.06 | 1.24002 |
| 631295.68 | 4175494.14 | 1.18020 | 631305.67 | 4175479.21 | 1.12463 |
| 631315.67 | 4175464.28 | 1.07299 | 631325.66 | 4175449.35 | 1.02493 |
| 631335.66 | 4175434.43 | 0.98017 | 631358.67 | 4175426.77 | 0.95737 |
| 631371.70 | 4175434.03 | 0.97670 | 631402.59 | 4175441.45 | 0.99495 |
| 631420.46 | 4175441.60 | 0.99319 | 631438.33 | 4175441.76 | 0.99112 |
| 631456.19 | 4175441.91 | 0.98864 | 631474.06 | 4175442.06 | 0.98575 |
| 631491.93 | 4175428.58 | 0.94551 | 631474.21 | 4175414.65 | 0.91302 |
| 631456.50 | 4175414.35 | 0.91493 | 631438.78 | 4175414.05 | 0.91647 |
| 631421.06 | 4175413.74 | 0.91767 | 631403.35 | 4175413.44 | 0.91860 |
| 631372.00 | 4175404.51 | 0.89831 | 631371.09 | 4175381.11 | 0.84288 |
| 631383.81 | 4175366.34 | 0.81005 | 631396.53 | 4175351.58 | 0.77921 |
| 631425.06 | 4175326.73 | 0.73098 | 631440.87 | 4175316.64 | 0.71249 |
| 631456.68 | 4175306.56 | 0.69466 | 631472.49 | 4175296.47 | 0.67742 |
| 631488.30 | 4175286.39 | 0.66077 | 631504.11 | 4175276.30 | 0.64463 |
| 631519.92 | 4175266.22 | 0.62900 | 631535.73 | 4175256.13 | 0.61383 |
| 631551.54 | 4175246.05 | 0.59912 | 631579.95 | 4175222.15 | 0.56690 |
| 631592.55 | 4175208.34 | 0.54978 | 631605.15 | 4175194.53 | 0.53342 |
| 631617.74 | 4175180.72 | 0.51778 | 631630.34 | 4175166.91 | 0.50283 |
| 631642.94 | 4175153.10 | 0.48851 | 631655.54 | 4175139.29 | 0.47481 |
| 631668.14 | 4175125.47 | 0.46167 | 631680.74 | 4175111.66 | 0.44909 |
| 631693.34 | 4175097.85 | 0.43703 | 631705.94 | 4175084.04 | 0.42545 |
| 631718.53 | 4175070.23 | 0.41434 | 631731.13 | 4175056.42 | 0.40368 |
| 631743.73 | 4175042.61 | 0.39343 | 631773.29 | 4175020.32 | 0.37689 |
| 631790.26 | 4175011.84 | 0.37035 | 631822.21 | 4174999.50 | 0.36038 |
| 631837.20 | 4174995.64 | 0.35684 | 631852.19 | 4174991.77 | 0.35330 |
| 631866.84 | 4175007.53 | 0.36027 | 631866.50 | 4175027.14 | 0.37125 |
| 631866.16 | 4175046.76 | 0.38275 | 631865.83 | 4175066.37 | 0.39480 |
| 631865.49 | 4175085.99 | 0.40743 | 631865.15 | 4175105.60 | 0.42068 |
| 631864.81 | 4175125.22 | 0.43460 | 631864.47 | 4175144.83 | 0.44922 |
| 631864.13 | 4175164.45 | 0.46459 | 631863.80 | 4175184.06 | 0.48075 |
| 631863.46 | 4175203.68 | 0.49778 | 631863.12 | 4175223.29 | 0.51571 |
| 631862.78 | 4175242.91 | 0.53461 | 631862.44 | 4175262.52 | 0.55455 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE2 ***

INCLUDING SOURCE(S): L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 , L0000878 , L0000879 , L0000880 , L0000881 , L0000882 ,

L0000883 , L0000884 , L0000885 , L0000886 , L0000887 , L0000888 , L0000889 , L0000890 ,
L0000891 , L0000892 , L0000893 , L0000894 , L0000895 , L0000896 , L0000897 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 0.57560 | 631861.77 | 4175301.75 | 0.59783 |
| 631861.43 | 4175321.37 | 0.62135 | 631861.09 | 4175340.98 | 0.64622 |
| 631860.75 | 4175360.60 | 0.67256 | 631860.41 | 4175380.21 | 0.70047 |
| 631860.07 | 4175399.83 | 0.73007 | 631859.73 | 4175419.44 | 0.76148 |
| 631859.40 | 4175439.06 | 0.79485 | 631859.06 | 4175458.67 | 0.83031 |
| 631858.72 | 4175478.29 | 0.86808 | 631858.38 | 4175497.90 | 0.90830 |
| 631858.04 | 4175517.52 | 0.95122 | 631857.70 | 4175537.13 | 0.99706 |
| 631857.37 | 4175556.75 | 1.04611 | 631857.03 | 4175576.36 | 1.09866 |
| 631856.69 | 4175595.98 | 1.15510 | 631856.35 | 4175615.59 | 1.21572 |
| 631856.01 | 4175635.21 | 1.28097 | 631855.67 | 4175654.82 | 1.35118 |
| 631855.33 | 4175674.44 | 1.42677 | 631855.00 | 4175694.05 | 1.50795 |
| 631854.66 | 4175713.67 | 1.59508 | 631854.32 | 4175733.28 | 1.68813 |
| 631853.98 | 4175752.90 | 1.78708 | 631853.64 | 4175772.51 | 1.89145 |
| 631853.30 | 4175792.13 | 2.00059 | 631852.97 | 4175811.74 | 2.11316 |
| 631852.63 | 4175831.36 | 2.22762 | 631852.29 | 4175850.97 | 2.34150 |
| 631851.95 | 4175870.59 | 2.45202 | 631851.61 | 4175890.20 | 2.55555 |
| 631851.27 | 4175909.82 | 2.64806 | 631850.94 | 4175929.43 | 2.72471 |
| 631850.60 | 4175949.05 | 2.78086 | 631850.26 | 4175968.66 | 2.81205 |
| 631830.54 | 4175988.13 | 2.96757 | 631811.15 | 4175987.98 | 3.13579 |
| 631791.77 | 4175987.83 | 3.32244 | 631772.39 | 4175987.67 | 3.53088 |
| 631753.00 | 4175987.52 | 3.76531 | 631733.62 | 4175987.37 | 4.03073 |
| 631714.24 | 4175987.22 | 4.33400 | 631694.85 | 4175987.07 | 4.68422 |
| 631675.47 | 4175986.92 | 5.09301 | 631656.09 | 4175986.77 | 5.57711 |
| 631636.70 | 4175986.62 | 6.16042 | 631617.32 | 4175986.46 | 6.87718 |
| 631597.94 | 4175986.31 | 7.78126 | 631578.55 | 4175986.16 | 8.96067 |
| 631559.17 | 4175986.01 | 10.56711 | 631539.79 | 4175985.86 | 12.89589 |
| 631520.40 | 4175985.71 | 16.59654 | 631501.02 | 4175985.56 | 23.39279 |
| 631481.64 | 4175985.40 | 39.50085 | 631462.25 | 4175985.25 | 87.24243 |
| 631442.87 | 4175985.10 | 106.37902 | 631423.49 | 4175984.95 | 107.65204 |
| 631404.10 | 4175984.80 | 106.54758 | 631384.72 | 4175984.65 | 104.83644 |
| 631365.34 | 4175984.50 | 102.93031 | 631345.95 | 4175984.35 | 100.96499 |
| 631326.57 | 4175984.19 | 98.92712 | 631307.19 | 4175984.04 | 97.00289 |
| 631287.80 | 4175983.89 | 95.12138 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE3 ***
INCLUDING SOURCE(S): L0001296 , L0001297 , L0001298 , L0001299 , L0001300 ,
L0001301 , L0001302 , L0001303 , L0001304 , L0001305 , L0001306 , L0001307 , L0001308 ,
L0001309 , L0001310 , L0001311 , L0001312 , L0001313 , L0001314 , L0001315 , L0001316 ,
L0001317 , L0001318 , L0001319 , L0001320 , L0001321 , L0001322 , L0001323 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.28293 | 632304.44 | 4174354.52 | 0.13500 |
| 632192.15 | 4174956.32 | 0.29496 | 632420.62 | 4175510.15 | 1.15590 |
| 632418.97 | 4175552.92 | 1.33466 | 631187.00 | 4175727.00 | 0.43006 |
| 631166.00 | 4175729.00 | 0.41102 | 631121.00 | 4175719.00 | 0.36736 |
| 631035.00 | 4174830.00 | 0.12507 | 631106.00 | 4174825.00 | 0.13090 |
| 631937.00 | 4174528.00 | 0.14601 | 631322.00 | 4174522.00 | 0.11325 |
| 629800.63 | 4173850.44 | 0.04070 | 630150.63 | 4173850.44 | 0.04621 |
| 630500.63 | 4173850.44 | 0.05272 | 630850.63 | 4173850.44 | 0.06024 |
| 631200.63 | 4173850.44 | 0.06715 | 631550.63 | 4173850.44 | 0.07269 |
| 631900.63 | 4173850.44 | 0.07856 | 632250.63 | 4173850.44 | 0.08431 |
| 632600.63 | 4173850.44 | 0.09009 | 632950.63 | 4173850.44 | 0.09637 |
| 633300.63 | 4173850.44 | 0.10018 | 629800.63 | 4174200.44 | 0.04621 |
| 630150.63 | 4174200.44 | 0.05328 | 630500.63 | 4174200.44 | 0.06211 |
| 630850.63 | 4174200.44 | 0.07294 | 631200.63 | 4174200.44 | 0.08432 |
| 631550.63 | 4174200.44 | 0.09390 | 631900.63 | 4174200.44 | 0.10432 |
| 632250.63 | 4174200.44 | 0.11403 | 632600.63 | 4174200.44 | 0.12339 |
| 632950.63 | 4174200.44 | 0.13273 | 633300.63 | 4174200.44 | 0.13534 |
| 629800.63 | 4174550.44 | 0.05303 | 630150.63 | 4174550.44 | 0.06227 |
| 630500.63 | 4174550.44 | 0.07451 | 630850.63 | 4174550.44 | 0.09045 |
| 631200.63 | 4174550.44 | 0.10967 | 631550.63 | 4174550.44 | 0.12768 |
| 631900.63 | 4174550.44 | 0.14761 | 632250.63 | 4174550.44 | 0.16666 |
| 632600.63 | 4174550.44 | 0.18343 | 632950.63 | 4174550.44 | 0.19446 |
| 633300.63 | 4174550.44 | 0.19055 | 629800.63 | 4174900.44 | 0.06183 |
| 630150.63 | 4174900.44 | 0.07394 | 630500.63 | 4174900.44 | 0.09106 |
| 630850.63 | 4174900.44 | 0.11587 | 631200.63 | 4174900.44 | 0.15005 |
| 631550.63 | 4174900.44 | 0.18714 | 631900.63 | 4174900.44 | 0.23114 |
| 632250.63 | 4174900.44 | 0.27520 | 632600.63 | 4174900.44 | 0.30325 |
| 632950.63 | 4174900.44 | 0.30785 | 633300.63 | 4174900.44 | 0.28803 |
| 629800.63 | 4175250.44 | 0.07063 | 630150.63 | 4175250.44 | 0.08837 |
| 630500.63 | 4175250.44 | 0.11407 | 630850.63 | 4175250.44 | 0.15412 |
| 631200.63 | 4175250.44 | 0.22097 | 631550.63 | 4175250.44 | 0.31287 |
| 631900.63 | 4175250.44 | 0.43588 | 632250.63 | 4175250.44 | 0.54778 |
| 632600.63 | 4175250.44 | 0.58412 | 632950.63 | 4175250.44 | 0.56525 |
| 633300.63 | 4175250.44 | 0.48877 | 629800.63 | 4175600.44 | 0.07518 |
| 630150.63 | 4175600.44 | 0.09818 | 630500.63 | 4175600.44 | 0.13696 |
| 630850.63 | 4175600.44 | 0.20787 | 631200.63 | 4175600.44 | 0.36201 |
| 631550.63 | 4175600.44 | 0.70687 | 631900.63 | 4175600.44 | 1.22863 |
| 632250.63 | 4175600.44 | 1.52180 | 632600.63 | 4175600.44 | 1.59558 |
| 632950.63 | 4175600.44 | 1.38779 | 633300.63 | 4175600.44 | 0.97996 |
| 629800.63 | 4175950.44 | 0.07913 | 630150.63 | 4175950.44 | 0.10525 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE3 ***

INCLUDING SOURCE(S): L0001296 , L0001297 , L0001298 , L0001299 , L0001300 , L0001301 , L0001302 , L0001303 , L0001304 , L0001305 , L0001306 , L0001307 , L0001308 , L0001309 , L0001310 , L0001311 , L0001312 , L0001313 , L0001314 , L0001315 , L0001316 ,

L0001317 , L0001318 , L0001319 , L0001320 , L0001321 , L0001322 , L0001323 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.15146 | 630850.63 | 4175950.44 | 0.25180 |
| 631200.63 | 4175950.44 | 0.60980 | 631550.63 | 4175950.44 | 13.06496 |
| 631900.63 | 4175950.44 | 18.78698 | 632250.63 | 4175950.44 | 19.23241 |
| 632600.63 | 4175950.44 | 18.71289 | 632950.63 | 4175950.44 | 6.10572 |
| 633300.63 | 4175950.44 | 1.97979 | 629800.63 | 4176300.44 | 0.07910 |
| 630150.63 | 4176300.44 | 0.10581 | 630500.63 | 4176300.44 | 0.15439 |
| 630850.63 | 4176300.44 | 0.26775 | 631200.63 | 4176300.44 | 0.66247 |
| 631550.63 | 4176300.44 | 1.76198 | 631900.63 | 4176300.44 | 2.54606 |
| 632250.63 | 4176300.44 | 2.87584 | 632600.63 | 4176300.44 | 2.68913 |
| 632950.63 | 4176300.44 | 1.71594 | 633300.63 | 4176300.44 | 1.09180 |
| 629800.63 | 4176650.44 | 0.08068 | 630150.63 | 4176650.44 | 0.11078 |
| 630500.63 | 4176650.44 | 0.16530 | 630850.63 | 4176650.44 | 0.27787 |
| 631200.63 | 4176650.44 | 0.49444 | 631550.63 | 4176650.44 | 0.77629 |
| 631900.63 | 4176650.44 | 0.98598 | 632250.63 | 4176650.44 | 1.05490 |
| 632600.63 | 4176650.44 | 0.94496 | 632950.63 | 4176650.44 | 0.73375 |
| 633300.63 | 4176650.44 | 0.55512 | 629800.63 | 4177000.44 | 0.08539 |
| 630150.63 | 4177000.44 | 0.11573 | 630500.63 | 4177000.44 | 0.16725 |
| 630850.63 | 4177000.44 | 0.24918 | 631200.63 | 4177000.44 | 0.35802 |
| 631550.63 | 4177000.44 | 0.47078 | 631900.63 | 4177000.44 | 0.54393 |
| 632250.63 | 4177000.44 | 0.55891 | 632600.63 | 4177000.44 | 0.51449 |
| 632950.63 | 4177000.44 | 0.43525 | 633300.63 | 4177000.44 | 0.35760 |
| 629800.63 | 4177350.44 | 0.08662 | 630150.63 | 4177350.44 | 0.11536 |
| 630500.63 | 4177350.44 | 0.15659 | 630850.63 | 4177350.44 | 0.20907 |
| 631200.63 | 4177350.44 | 0.26806 | 631550.63 | 4177350.44 | 0.31830 |
| 631900.63 | 4177350.44 | 0.34872 | 632250.63 | 4177350.44 | 0.34957 |
| 632600.63 | 4177350.44 | 0.32987 | 632950.63 | 4177350.44 | 0.29462 |
| 633300.63 | 4177350.44 | 0.25489 | 631670.70 | 4175493.59 | 0.62406 |
| 631669.80 | 4175641.41 | 1.04357 | 631665.32 | 4175796.39 | 2.42746 |
| 631417.17 | 4175826.85 | 1.18534 | 631417.17 | 4175673.66 | 0.67149 |
| 631422.55 | 4175484.63 | 0.42430 | 631268.42 | 4175983.74 | 0.84520 |
| 631275.69 | 4175523.99 | 0.36427 | 631345.65 | 4175419.50 | 0.33697 |
| 631384.72 | 4175441.30 | 0.36926 | 631491.93 | 4175442.21 | 0.42565 |
| 631491.93 | 4175414.95 | 0.40173 | 631385.63 | 4175413.14 | 0.35081 |
| 631358.37 | 4175395.87 | 0.32871 | 631409.25 | 4175336.81 | 0.31506 |
| 631567.35 | 4175235.96 | 0.30992 | 631756.33 | 4175028.80 | 0.25672 |
| 631807.22 | 4175003.36 | 0.25546 | 631867.18 | 4174987.91 | 0.25925 |
| 631849.92 | 4175988.28 | 80.45729 | 631268.74 | 4175963.75 | 0.83087 |
| 631269.05 | 4175943.76 | 0.81201 | 631269.37 | 4175923.77 | 0.78963 |
| 631269.68 | 4175903.78 | 0.76430 | 631270.00 | 4175883.79 | 0.73683 |
| 631270.32 | 4175863.81 | 0.70826 | 631270.63 | 4175843.82 | 0.67953 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE3 ***

INCLUDING SOURCE(S): L0001296 , L0001297 , L0001298 , L0001299 , L0001300 , L0001301 , L0001302 , L0001303 , L0001304 , L0001305 , L0001306 , L0001307 , L0001308 , L0001309 , L0001310 , L0001311 , L0001312 , L0001313 , L0001314 , L0001315 , L0001316 , L0001317 , L0001318 , L0001319 , L0001320 , L0001321 , L0001322 , L0001323 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 0.65140 | 631271.26 | 4175803.84 | 0.62423 |
| 631271.58 | 4175783.85 | 0.59828 | 631271.90 | 4175763.86 | 0.57362 |
| 631272.21 | 4175743.87 | 0.55024 | 631272.53 | 4175723.88 | 0.52816 |
| 631272.85 | 4175703.89 | 0.50730 | 631273.16 | 4175683.90 | 0.48761 |
| 631273.48 | 4175663.91 | 0.46903 | 631273.79 | 4175643.92 | 0.45147 |
| 631274.11 | 4175623.94 | 0.43490 | 631274.43 | 4175603.95 | 0.41923 |
| 631274.74 | 4175583.96 | 0.40438 | 631275.06 | 4175563.97 | 0.39031 |
| 631275.37 | 4175543.98 | 0.37695 | 631285.68 | 4175509.06 | 0.36086 |
| 631295.68 | 4175494.14 | 0.35728 | 631305.67 | 4175479.21 | 0.35351 |
| 631315.67 | 4175464.28 | 0.34958 | 631325.66 | 4175449.35 | 0.34549 |
| 631335.66 | 4175434.43 | 0.34129 | 631358.67 | 4175426.77 | 0.34726 |
| 631371.70 | 4175434.03 | 0.35801 | 631402.59 | 4175441.45 | 0.37824 |
| 631420.46 | 4175441.60 | 0.38735 | 631438.33 | 4175441.76 | 0.39662 |
| 631456.19 | 4175441.91 | 0.40606 | 631474.06 | 4175442.06 | 0.41572 |
| 631491.93 | 4175428.58 | 0.41339 | 631474.21 | 4175414.65 | 0.39277 |
| 631456.50 | 4175414.35 | 0.38405 | 631438.78 | 4175414.05 | 0.37552 |
| 631421.06 | 4175413.74 | 0.36715 | 631403.35 | 4175413.44 | 0.35892 |
| 631372.00 | 4175404.51 | 0.33949 | 631371.09 | 4175381.11 | 0.32547 |
| 631383.81 | 4175366.34 | 0.32209 | 631396.53 | 4175351.58 | 0.31862 |
| 631425.06 | 4175326.73 | 0.31500 | 631440.87 | 4175316.64 | 0.31478 |
| 631456.68 | 4175306.56 | 0.31445 | 631472.49 | 4175296.47 | 0.31402 |
| 631488.30 | 4175286.39 | 0.31349 | 631504.11 | 4175276.30 | 0.31289 |
| 631519.92 | 4175266.22 | 0.31223 | 631535.73 | 4175256.13 | 0.31151 |
| 631551.54 | 4175246.05 | 0.31074 | 631579.95 | 4175222.15 | 0.30613 |
| 631592.55 | 4175208.34 | 0.30237 | 631605.15 | 4175194.53 | 0.29865 |
| 631617.74 | 4175180.72 | 0.29497 | 631630.34 | 4175166.91 | 0.29132 |
| 631642.94 | 4175153.10 | 0.28770 | 631655.54 | 4175139.29 | 0.28413 |
| 631668.14 | 4175125.47 | 0.28058 | 631680.74 | 4175111.66 | 0.27707 |
| 631693.34 | 4175097.85 | 0.27359 | 631705.94 | 4175084.04 | 0.27015 |
| 631718.53 | 4175070.23 | 0.26674 | 631731.13 | 4175056.42 | 0.26337 |
| 631743.73 | 4175042.61 | 0.26003 | 631773.29 | 4175020.32 | 0.25635 |
| 631790.26 | 4175011.84 | 0.25593 | 631822.21 | 4174999.50 | 0.25646 |
| 631837.20 | 4174995.64 | 0.25742 | 631852.19 | 4174991.77 | 0.25835 |
| 631866.84 | 4175007.53 | 0.26753 | 631866.50 | 4175027.14 | 0.27626 |
| 631866.16 | 4175046.76 | 0.28547 | 631865.83 | 4175066.37 | 0.29519 |
| 631865.49 | 4175085.99 | 0.30548 | 631865.15 | 4175105.60 | 0.31637 |
| 631864.81 | 4175125.22 | 0.32792 | 631864.47 | 4175144.83 | 0.34018 |
| 631864.13 | 4175164.45 | 0.35323 | 631863.80 | 4175184.06 | 0.36712 |
| 631863.46 | 4175203.68 | 0.38194 | 631863.12 | 4175223.29 | 0.39777 |
| 631862.78 | 4175242.91 | 0.41472 | 631862.44 | 4175262.52 | 0.43289 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE3 ***

INCLUDING SOURCE(S): L0001296 , L0001297 , L0001298 , L0001299 , L0001300 , L0001301 , L0001302 , L0001303 , L0001304 , L0001305 , L0001306 , L0001307 , L0001308 , L0001309 , L0001310 , L0001311 , L0001312 , L0001313 , L0001314 , L0001315 , L0001316 , L0001317 , L0001318 , L0001319 , L0001320 , L0001321 , L0001322 , L0001323 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 0.45241 | 631861.77 | 4175301.75 | 0.47342 |
| 631861.43 | 4175321.37 | 0.49608 | 631861.09 | 4175340.98 | 0.52055 |
| 631860.75 | 4175360.60 | 0.54705 | 631860.41 | 4175380.21 | 0.57580 |
| 631860.07 | 4175399.83 | 0.60708 | 631859.73 | 4175419.44 | 0.64115 |
| 631859.40 | 4175439.06 | 0.67841 | 631859.06 | 4175458.67 | 0.71917 |
| 631858.72 | 4175478.29 | 0.76396 | 631858.38 | 4175497.90 | 0.81322 |
| 631858.04 | 4175517.52 | 0.86763 | 631857.70 | 4175537.13 | 0.92782 |
| 631857.37 | 4175556.75 | 0.99470 | 631857.03 | 4175576.36 | 1.06918 |
| 631856.69 | 4175595.98 | 1.15253 | 631856.35 | 4175615.59 | 1.24613 |
| 631856.01 | 4175635.21 | 1.35186 | 631855.67 | 4175654.82 | 1.47189 |
| 631855.33 | 4175674.44 | 1.60921 | 631855.00 | 4175694.05 | 1.76740 |
| 631854.66 | 4175713.67 | 1.95142 | 631854.32 | 4175733.28 | 2.16746 |
| 631853.98 | 4175752.90 | 2.42429 | 631853.64 | 4175772.51 | 2.73322 |
| 631853.30 | 4175792.13 | 3.11061 | 631852.97 | 4175811.74 | 3.57875 |
| 631852.63 | 4175831.36 | 4.17098 | 631852.29 | 4175850.97 | 4.93621 |
| 631851.95 | 4175870.59 | 5.95323 | 631851.61 | 4175890.20 | 7.35150 |
| 631851.27 | 4175909.82 | 9.37105 | 631850.94 | 4175929.43 | 12.50736 |
| 631850.60 | 4175949.05 | 18.02528 | 631850.26 | 4175968.66 | 30.41819 |
| 631830.54 | 4175988.13 | 79.90610 | 631811.15 | 4175987.98 | 79.34489 |
| 631791.77 | 4175987.83 | 78.77247 | 631772.39 | 4175987.67 | 78.12619 |
| 631753.00 | 4175987.52 | 77.51980 | 631733.62 | 4175987.37 | 76.88980 |
| 631714.24 | 4175987.22 | 76.23165 | 631694.85 | 4175987.07 | 75.53735 |
| 631675.47 | 4175986.92 | 74.79579 | 631656.09 | 4175986.77 | 73.99535 |
| 631636.70 | 4175986.62 | 73.11262 | 631617.32 | 4175986.46 | 72.06440 |
| 631597.94 | 4175986.31 | 70.91509 | 631578.55 | 4175986.16 | 69.53629 |
| 631559.17 | 4175986.01 | 67.79995 | 631539.79 | 4175985.86 | 65.46043 |
| 631520.40 | 4175985.71 | 61.98510 | 631501.02 | 4175985.56 | 56.02827 |
| 631481.64 | 4175985.40 | 43.41850 | 631462.25 | 4175985.25 | 18.48120 |
| 631442.87 | 4175985.10 | 6.94594 | 631423.49 | 4175984.95 | 3.94787 |
| 631404.10 | 4175984.80 | 2.72766 | 631384.72 | 4175984.65 | 2.07742 |
| 631365.34 | 4175984.50 | 1.67537 | 631345.95 | 4175984.35 | 1.40247 |
| 631326.57 | 4175984.19 | 1.20534 | 631307.19 | 4175984.04 | 1.05618 |
| 631287.80 | 4175983.89 | 0.93926 | | | |



*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE4 ***

INCLUDING SOURCE(S): L0001666 , L0001667 , L0001668 , L0001669 , L0001670 ,

L0001671 , L0001672 , L0001673 , L0001674 , L0001675 , L0001676 , L0001677 , L0001678 ,
L0001679 , L0001680 , L0001681 , L0001682 , L0001683 , L0001684 , L0001685 , L0001686 ,
L0001687 , L0001688 , L0001689 , L0001690 , L0001691 , L0001692 , L0001693 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.25389 | 632304.44 | 4174354.52 | 0.12743 |
| 632192.15 | 4174956.32 | 0.26647 | 632420.62 | 4175510.15 | 1.21484 |
| 632418.97 | 4175552.92 | 1.41780 | 631187.00 | 4175727.00 | 0.25335 |
| 631166.00 | 4175729.00 | 0.24532 | 631121.00 | 4175719.00 | 0.22777 |
| 631035.00 | 4174830.00 | 0.10682 | 631106.00 | 4174825.00 | 0.11179 |
| 631937.00 | 4174528.00 | 0.13576 | 631322.00 | 4174522.00 | 0.10295 |
| 629800.63 | 4173850.44 | 0.03780 | 630150.63 | 4173850.44 | 0.04279 |
| 630500.63 | 4173850.44 | 0.04876 | 630850.63 | 4173850.44 | 0.05579 |
| 631200.63 | 4173850.44 | 0.06372 | 631550.63 | 4173850.44 | 0.07083 |
| 631900.63 | 4173850.44 | 0.07545 | 632250.63 | 4173850.44 | 0.08017 |
| 632600.63 | 4173850.44 | 0.08691 | 632950.63 | 4173850.44 | 0.09403 |
| 633300.63 | 4173850.44 | 0.09896 | 629800.63 | 4174200.44 | 0.04270 |
| 630150.63 | 4174200.44 | 0.04868 | 630500.63 | 4174200.44 | 0.05651 |
| 630850.63 | 4174200.44 | 0.06620 | 631200.63 | 4174200.44 | 0.07804 |
| 631550.63 | 4174200.44 | 0.09004 | 631900.63 | 4174200.44 | 0.09897 |
| 632250.63 | 4174200.44 | 0.10787 | 632600.63 | 4174200.44 | 0.11814 |
| 632950.63 | 4174200.44 | 0.12948 | 633300.63 | 4174200.44 | 0.13674 |
| 629800.63 | 4174550.44 | 0.04850 | 630150.63 | 4174550.44 | 0.05631 |
| 630500.63 | 4174550.44 | 0.06638 | 630850.63 | 4174550.44 | 0.07998 |
| 631200.63 | 4174550.44 | 0.09783 | 631550.63 | 4174550.44 | 0.11919 |
| 631900.63 | 4174550.44 | 0.13718 | 632250.63 | 4174550.44 | 0.15580 |
| 632600.63 | 4174550.44 | 0.17434 | 632950.63 | 4174550.44 | 0.19414 |
| 633300.63 | 4174550.44 | 0.20041 | 629800.63 | 4174900.44 | 0.05589 |
| 630150.63 | 4174900.44 | 0.06574 | 630500.63 | 4174900.44 | 0.07938 |
| 630850.63 | 4174900.44 | 0.09873 | 631200.63 | 4174900.44 | 0.12680 |
| 631550.63 | 4174900.44 | 0.16610 | 631900.63 | 4174900.44 | 0.20673 |
| 632250.63 | 4174900.44 | 0.25137 | 632600.63 | 4174900.44 | 0.29396 |
| 632950.63 | 4174900.44 | 0.32401 | 633300.63 | 4174900.44 | 0.31149 |
| 629800.63 | 4175250.44 | 0.06190 | 630150.63 | 4175250.44 | 0.07667 |
| 630500.63 | 4175250.44 | 0.09634 | 630850.63 | 4175250.44 | 0.12502 |
| 631200.63 | 4175250.44 | 0.17101 | 631550.63 | 4175250.44 | 0.24963 |
| 631900.63 | 4175250.44 | 0.35800 | 632250.63 | 4175250.44 | 0.49660 |
| 632600.63 | 4175250.44 | 0.60906 | 632950.63 | 4175250.44 | 0.62054 |
| 633300.63 | 4175250.44 | 0.53656 | 629800.63 | 4175600.44 | 0.06490 |
| 630150.63 | 4175600.44 | 0.08162 | 630500.63 | 4175600.44 | 0.10793 |
| 630850.63 | 4175600.44 | 0.15306 | 631200.63 | 4175600.44 | 0.23653 |
| 631550.63 | 4175600.44 | 0.41910 | 631900.63 | 4175600.44 | 0.84185 |
| 632250.63 | 4175600.44 | 1.51240 | 632600.63 | 4175600.44 | 1.79706 |
| 632950.63 | 4175600.44 | 1.61442 | 633300.63 | 4175600.44 | 1.12171 |
| 629800.63 | 4175950.44 | 0.06754 | 630150.63 | 4175950.44 | 0.08630 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE4 ***

INCLUDING SOURCE(S): L0001666 , L0001667 , L0001668 , L0001669 , L0001670 , L0001671 , L0001672 , L0001673 , L0001674 , L0001675 , L0001676 , L0001677 , L0001678 , L0001679 , L0001680 , L0001681 , L0001682 , L0001683 , L0001684 , L0001685 , L0001686 , L0001687 , L0001688 , L0001689 , L0001690 , L0001691 , L0001692 , L0001693 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.11625 | 630850.63 | 4175950.44 | 0.16997 |
| 631200.63 | 4175950.44 | 0.28782 | 631550.63 | 4175950.44 | 0.69734 |
| 631900.63 | 4175950.44 | 15.73965 | 632250.63 | 4175950.44 | 25.91760 |
| 632600.63 | 4175950.44 | 25.61356 | 632950.63 | 4175950.44 | 8.01996 |
| 633300.63 | 4175950.44 | 2.43164 | 629800.63 | 4176300.44 | 0.06733 |
| 630150.63 | 4176300.44 | 0.08639 | 630500.63 | 4176300.44 | 0.11702 |
| 630850.63 | 4176300.44 | 0.17350 | 631200.63 | 4176300.44 | 0.30684 |
| 631550.63 | 4176300.44 | 0.77137 | 631900.63 | 4176300.44 | 2.20201 |
| 632250.63 | 4176300.44 | 3.25016 | 632600.63 | 4176300.44 | 3.24827 |
| 632950.63 | 4176300.44 | 2.04343 | 633300.63 | 4176300.44 | 1.26534 |
| 629800.63 | 4176650.44 | 0.06772 | 630150.63 | 4176650.44 | 0.08830 |
| 630500.63 | 4176650.44 | 0.12331 | 630850.63 | 4176650.44 | 0.18740 |
| 631200.63 | 4176650.44 | 0.32095 | 631550.63 | 4176650.44 | 0.58575 |
| 631900.63 | 4176650.44 | 0.93113 | 632250.63 | 4176650.44 | 1.13330 |
| 632600.63 | 4176650.44 | 1.07698 | 632950.63 | 4176650.44 | 0.83516 |
| 633300.63 | 4176650.44 | 0.62018 | 629800.63 | 4177000.44 | 0.07157 |
| 630150.63 | 4177000.44 | 0.09401 | 630500.63 | 4177000.44 | 0.12874 |
| 630850.63 | 4177000.44 | 0.18851 | 631200.63 | 4177000.44 | 0.28561 |
| 631550.63 | 4177000.44 | 0.41278 | 631900.63 | 4177000.44 | 0.53158 |
| 632250.63 | 4177000.44 | 0.58533 | 632600.63 | 4177000.44 | 0.55907 |
| 632950.63 | 4177000.44 | 0.48119 | 633300.63 | 4177000.44 | 0.39658 |
| 629800.63 | 4177350.44 | 0.07387 | 630150.63 | 4177350.44 | 0.09473 |
| 630500.63 | 4177350.44 | 0.12754 | 630850.63 | 4177350.44 | 0.17552 |
| 631200.63 | 4177350.44 | 0.23531 | 631550.63 | 4177350.44 | 0.29661 |
| 631900.63 | 4177350.44 | 0.34370 | 632250.63 | 4177350.44 | 0.36433 |
| 632600.63 | 4177350.44 | 0.34672 | 632950.63 | 4177350.44 | 0.31654 |
| 633300.63 | 4177350.44 | 0.27548 | 631670.70 | 4175493.59 | 0.42989 |
| 631669.80 | 4175641.41 | 0.58049 | 631665.32 | 4175796.39 | 0.82475 |
| 631417.17 | 4175826.85 | 0.42428 | 631417.17 | 4175673.66 | 0.36085 |
| 631422.55 | 4175484.63 | 0.28692 | 631268.42 | 4175983.74 | 0.33041 |
| 631275.69 | 4175523.99 | 0.24444 | 631345.65 | 4175419.50 | 0.23904 |
| 631384.72 | 4175441.30 | 0.25801 | 631491.93 | 4175442.21 | 0.29971 |
| 631491.93 | 4175414.95 | 0.28871 | 631385.63 | 4175413.14 | 0.24978 |
| 631358.37 | 4175395.87 | 0.23646 | 631409.25 | 4175336.81 | 0.23510 |
| 631567.35 | 4175235.96 | 0.24962 | 631756.33 | 4175028.80 | 0.22446 |
| 631807.22 | 4175003.36 | 0.22453 | 631867.18 | 4174987.91 | 0.22843 |
| 631849.92 | 4175988.28 | 68.33518 | 631268.74 | 4175963.75 | 0.32938 |
| 631269.05 | 4175943.76 | 0.32783 | 631269.37 | 4175923.77 | 0.32576 |
| 631269.68 | 4175903.78 | 0.32319 | 631270.00 | 4175883.79 | 0.32025 |
| 631270.32 | 4175863.81 | 0.31705 | 631270.63 | 4175843.82 | 0.31371 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE4 ***

INCLUDING SOURCE(S): L0001666 , L0001667 , L0001668 , L0001669 , L0001670 , L0001671 , L0001672 , L0001673 , L0001674 , L0001675 , L0001676 , L0001677 , L0001678 , L0001679 , L0001680 , L0001681 , L0001682 , L0001683 , L0001684 , L0001685 , L0001686 , L0001687 , L0001688 , L0001689 , L0001690 , L0001691 , L0001692 , L0001693 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 0.31031 | 631271.26 | 4175803.84 | 0.30684 |
| 631271.58 | 4175783.85 | 0.30328 | 631271.90 | 4175763.86 | 0.29958 |
| 631272.21 | 4175743.87 | 0.29568 | 631272.53 | 4175723.88 | 0.29159 |
| 631272.85 | 4175703.89 | 0.28731 | 631273.16 | 4175683.90 | 0.28286 |
| 631273.48 | 4175663.91 | 0.27828 | 631273.79 | 4175643.92 | 0.27359 |
| 631274.11 | 4175623.94 | 0.26883 | 631274.43 | 4175603.95 | 0.26400 |
| 631274.74 | 4175583.96 | 0.25913 | 631275.06 | 4175563.97 | 0.25424 |
| 631275.37 | 4175543.98 | 0.24934 | 631285.68 | 4175509.06 | 0.24396 |
| 631295.68 | 4175494.14 | 0.24336 | 631305.67 | 4175479.21 | 0.24265 |
| 631315.67 | 4175464.28 | 0.24185 | 631325.66 | 4175449.35 | 0.24097 |
| 631335.66 | 4175434.43 | 0.24004 | 631358.67 | 4175426.77 | 0.24510 |
| 631371.70 | 4175434.03 | 0.25141 | 631402.59 | 4175441.45 | 0.26434 |
| 631420.46 | 4175441.60 | 0.27091 | 631438.33 | 4175441.76 | 0.27772 |
| 631456.19 | 4175441.91 | 0.28479 | 631474.06 | 4175442.06 | 0.29212 |
| 631491.93 | 4175428.58 | 0.29414 | 631474.21 | 4175414.65 | 0.28164 |
| 631456.50 | 4175414.35 | 0.27482 | 631438.78 | 4175414.05 | 0.26823 |
| 631421.06 | 4175413.74 | 0.26186 | 631403.35 | 4175413.44 | 0.25572 |
| 631372.00 | 4175404.51 | 0.24297 | 631371.09 | 4175381.11 | 0.23621 |
| 631383.81 | 4175366.34 | 0.23590 | 631396.53 | 4175351.58 | 0.23554 |
| 631425.06 | 4175326.73 | 0.23679 | 631440.87 | 4175316.64 | 0.23843 |
| 631456.68 | 4175306.56 | 0.24003 | 631472.49 | 4175296.47 | 0.24158 |
| 631488.30 | 4175286.39 | 0.24308 | 631504.11 | 4175276.30 | 0.24452 |
| 631519.92 | 4175266.22 | 0.24590 | 631535.73 | 4175256.13 | 0.24722 |
| 631551.54 | 4175246.05 | 0.24846 | 631579.95 | 4175222.15 | 0.24855 |
| 631592.55 | 4175208.34 | 0.24740 | 631605.15 | 4175194.53 | 0.24614 |
| 631617.74 | 4175180.72 | 0.24478 | 631630.34 | 4175166.91 | 0.24333 |
| 631642.94 | 4175153.10 | 0.24178 | 631655.54 | 4175139.29 | 0.24013 |
| 631668.14 | 4175125.47 | 0.23840 | 631680.74 | 4175111.66 | 0.23659 |
| 631693.34 | 4175097.85 | 0.23471 | 631705.94 | 4175084.04 | 0.23277 |
| 631718.53 | 4175070.23 | 0.23076 | 631731.13 | 4175056.42 | 0.22870 |
| 631743.73 | 4175042.61 | 0.22660 | 631773.29 | 4175020.32 | 0.22456 |
| 631790.26 | 4175011.84 | 0.22459 | 631822.21 | 4174999.50 | 0.22555 |
| 631837.20 | 4174995.64 | 0.22654 | 631852.19 | 4174991.77 | 0.22749 |
| 631866.84 | 4175007.53 | 0.23480 | 631866.50 | 4175027.14 | 0.24147 |
| 631866.16 | 4175046.76 | 0.24844 | 631865.83 | 4175066.37 | 0.25574 |
| 631865.49 | 4175085.99 | 0.26340 | 631865.15 | 4175105.60 | 0.27143 |
| 631864.81 | 4175125.22 | 0.27986 | 631864.47 | 4175144.83 | 0.28873 |
| 631864.13 | 4175164.45 | 0.29806 | 631863.80 | 4175184.06 | 0.30788 |
| 631863.46 | 4175203.68 | 0.31825 | 631863.12 | 4175223.29 | 0.32918 |
| 631862.78 | 4175242.91 | 0.34075 | 631862.44 | 4175262.52 | 0.35299 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE4 ***

INCLUDING SOURCE(S): L0001666 , L0001667 , L0001668 , L0001669 , L0001670 , L0001671 , L0001672 , L0001673 , L0001674 , L0001675 , L0001676 , L0001677 , L0001678 , L0001679 , L0001680 , L0001681 , L0001682 , L0001683 , L0001684 , L0001685 , L0001686 , L0001687 , L0001688 , L0001689 , L0001690 , L0001691 , L0001692 , L0001693 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 0.36597 | 631861.77 | 4175301.75 | 0.37975 |
| 631861.43 | 4175321.37 | 0.39439 | 631861.09 | 4175340.98 | 0.40998 |
| 631860.75 | 4175360.60 | 0.42661 | 631860.41 | 4175380.21 | 0.44436 |
| 631860.07 | 4175399.83 | 0.46337 | 631859.73 | 4175419.44 | 0.48374 |
| 631859.40 | 4175439.06 | 0.50564 | 631859.06 | 4175458.67 | 0.52921 |
| 631858.72 | 4175478.29 | 0.55466 | 631858.38 | 4175497.90 | 0.58219 |
| 631858.04 | 4175517.52 | 0.61210 | 631857.70 | 4175537.13 | 0.64464 |
| 631857.37 | 4175556.75 | 0.68023 | 631857.03 | 4175576.36 | 0.71922 |
| 631856.69 | 4175595.98 | 0.76218 | 631856.35 | 4175615.59 | 0.80965 |
| 631856.01 | 4175635.21 | 0.86242 | 631855.67 | 4175654.82 | 0.92131 |
| 631855.33 | 4175674.44 | 0.98751 | 631855.00 | 4175694.05 | 1.06238 |
| 631854.66 | 4175713.67 | 1.14776 | 631854.32 | 4175733.28 | 1.24596 |
| 631853.98 | 4175752.90 | 1.36027 | 631853.64 | 4175772.51 | 1.49493 |
| 631853.30 | 4175792.13 | 1.65617 | 631852.97 | 4175811.74 | 1.85272 |
| 631852.63 | 4175831.36 | 2.09781 | 631852.29 | 4175850.97 | 2.41184 |
| 631851.95 | 4175870.59 | 2.82915 | 631851.61 | 4175890.20 | 3.40944 |
| 631851.27 | 4175909.82 | 4.26993 | 631850.94 | 4175929.43 | 5.66821 |
| 631850.60 | 4175949.05 | 8.31317 | 631850.26 | 4175968.66 | 15.28804 |
| 631830.54 | 4175988.13 | 14.51995 | 631811.15 | 4175987.98 | 6.71086 |
| 631791.77 | 4175987.83 | 4.28692 | 631772.39 | 4175987.67 | 3.12834 |
| 631753.00 | 4175987.52 | 2.45309 | 631733.62 | 4175987.37 | 2.01231 |
| 631714.24 | 4175987.22 | 1.70214 | 631694.85 | 4175987.07 | 1.47200 |
| 631675.47 | 4175986.92 | 1.29463 | 631656.09 | 4175986.77 | 1.15370 |
| 631636.70 | 4175986.62 | 1.03897 | 631617.32 | 4175986.46 | 0.94388 |
| 631597.94 | 4175986.31 | 0.86375 | 631578.55 | 4175986.16 | 0.79530 |
| 631559.17 | 4175986.01 | 0.73621 | 631539.79 | 4175985.86 | 0.68467 |
| 631520.40 | 4175985.71 | 0.63932 | 631501.02 | 4175985.56 | 0.59915 |
| 631481.64 | 4175985.40 | 0.56332 | 631462.25 | 4175985.25 | 0.53115 |
| 631442.87 | 4175985.10 | 0.50214 | 631423.49 | 4175984.95 | 0.47585 |
| 631404.10 | 4175984.80 | 0.45191 | 631384.72 | 4175984.65 | 0.43004 |
| 631365.34 | 4175984.50 | 0.40998 | 631345.95 | 4175984.35 | 0.39150 |
| 631326.57 | 4175984.19 | 0.37446 | 631307.19 | 4175984.04 | 0.35869 |
| 631287.80 | 4175983.89 | 0.34404 | | | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE5 ***

INCLUDING SOURCE(S): L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 , L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 , L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 , L0001956 , L0001957 , L0001958 , L0001959 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.32006 | 632304.44 | 4174354.52 | 0.15499 |
| 632192.15 | 4174956.32 | 0.31665 | 632420.62 | 4175510.15 | 0.72216 |
| 632418.97 | 4175552.92 | 0.78848 | 631187.00 | 4175727.00 | 2.62319 |
| 631166.00 | 4175729.00 | 2.63512 | 631121.00 | 4175719.00 | 2.46801 |
| 631035.00 | 4174830.00 | 0.23294 | 631106.00 | 4174825.00 | 0.23853 |
| 631937.00 | 4174528.00 | 0.18894 | 631322.00 | 4174522.00 | 0.16922 |
| 629800.63 | 4173850.44 | 0.06077 | 630150.63 | 4173850.44 | 0.06737 |
| 630500.63 | 4173850.44 | 0.07310 | 630850.63 | 4173850.44 | 0.07953 |
| 631200.63 | 4173850.44 | 0.08529 | 631550.63 | 4173850.44 | 0.09080 |
| 631900.63 | 4173850.44 | 0.09687 | 632250.63 | 4173850.44 | 0.10055 |
| 632600.63 | 4173850.44 | 0.09999 | 632950.63 | 4173850.44 | 0.09621 |
| 633300.63 | 4173850.44 | 0.08990 | 629800.63 | 4174200.44 | 0.07394 |
| 630150.63 | 4174200.44 | 0.08481 | 630500.63 | 4174200.44 | 0.09463 |
| 630850.63 | 4174200.44 | 0.10567 | 631200.63 | 4174200.44 | 0.11555 |
| 631550.63 | 4174200.44 | 0.12463 | 631900.63 | 4174200.44 | 0.13312 |
| 632250.63 | 4174200.44 | 0.13509 | 632600.63 | 4174200.44 | 0.13042 |
| 632950.63 | 4174200.44 | 0.12179 | 633300.63 | 4174200.44 | 0.11059 |
| 629800.63 | 4174550.44 | 0.09231 | 630150.63 | 4174550.44 | 0.11095 |
| 630500.63 | 4174550.44 | 0.12916 | 630850.63 | 4174550.44 | 0.14982 |
| 631200.63 | 4174550.44 | 0.16931 | 631550.63 | 4174550.44 | 0.18509 |
| 631900.63 | 4174550.44 | 0.19364 | 632250.63 | 4174550.44 | 0.18979 |
| 632600.63 | 4174550.44 | 0.17735 | 632950.63 | 4174550.44 | 0.15952 |
| 633300.63 | 4174550.44 | 0.14218 | 629800.63 | 4174900.44 | 0.11932 |
| 630150.63 | 4174900.44 | 0.15363 | 630500.63 | 4174900.44 | 0.19099 |
| 630850.63 | 4174900.44 | 0.23604 | 631200.63 | 4174900.44 | 0.27953 |
| 631550.63 | 4174900.44 | 0.30307 | 631900.63 | 4174900.44 | 0.30556 |
| 632250.63 | 4174900.44 | 0.28856 | 632600.63 | 4174900.44 | 0.25669 |
| 632950.63 | 4174900.44 | 0.22244 | 633300.63 | 4174900.44 | 0.19914 |
| 629800.63 | 4175250.44 | 0.16126 | 630150.63 | 4175250.44 | 0.23233 |
| 630500.63 | 4175250.44 | 0.32681 | 630850.63 | 4175250.44 | 0.45099 |
| 631200.63 | 4175250.44 | 0.54794 | 631550.63 | 4175250.44 | 0.58017 |
| 631900.63 | 4175250.44 | 0.56424 | 632250.63 | 4175250.44 | 0.49807 |
| 632600.63 | 4175250.44 | 0.40903 | 632950.63 | 4175250.44 | 0.34839 |
| 633300.63 | 4175250.44 | 0.30300 | 629800.63 | 4175600.44 | 0.22324 |
| 630150.63 | 4175600.44 | 0.40679 | 630500.63 | 4175600.44 | 0.80157 |
| 630850.63 | 4175600.44 | 1.26243 | 631200.63 | 4175600.44 | 1.50439 |
| 631550.63 | 4175600.44 | 1.57870 | 631900.63 | 4175600.44 | 1.41694 |
| 632250.63 | 4175600.44 | 1.01738 | 632600.63 | 4175600.44 | 0.74830 |
| 632950.63 | 4175600.44 | 0.57240 | 633300.63 | 4175600.44 | 0.44950 |
| 629800.63 | 4175950.44 | 0.28001 | 630150.63 | 4175950.44 | 0.86067 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE5 ***

INCLUDING SOURCE(S): L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 , L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 , L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 , L0001956 , L0001957 , L0001958 , L0001959 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 19.27688 | 630850.63 | 4175950.44 | 21.31820 |
| 631200.63 | 4175950.44 | 21.15457 | 631550.63 | 4175950.44 | 20.44571 |
| 631900.63 | 4175950.44 | 9.54749 | 632250.63 | 4175950.44 | 2.16490 |
| 632600.63 | 4175950.44 | 1.15458 | 632950.63 | 4175950.44 | 0.75768 |
| 633300.63 | 4175950.44 | 0.54864 | 629800.63 | 4176300.44 | 0.30188 |
| 630150.63 | 4176300.44 | 0.80607 | 630500.63 | 4176300.44 | 1.76388 |
| 630850.63 | 4176300.44 | 2.32857 | 631200.63 | 4176300.44 | 2.58848 |
| 631550.63 | 4176300.44 | 2.50946 | 631900.63 | 4176300.44 | 1.73012 |
| 632250.63 | 4176300.44 | 1.09073 | 632600.63 | 4176300.44 | 0.77095 |
| 632950.63 | 4176300.44 | 0.57582 | 633300.63 | 4176300.44 | 0.44765 |
| 629800.63 | 4176650.44 | 0.29965 | 630150.63 | 4176650.44 | 0.51648 |
| 630500.63 | 4176650.44 | 0.76358 | 630850.63 | 4176650.44 | 0.93590 |
| 631200.63 | 4176650.44 | 0.99573 | 631550.63 | 4176650.44 | 0.91195 |
| 631900.63 | 4176650.44 | 0.72748 | 632250.63 | 4176650.44 | 0.55527 |
| 632600.63 | 4176650.44 | 0.43073 | 632950.63 | 4176650.44 | 0.35284 |
| 633300.63 | 4176650.44 | 0.29731 | 629800.63 | 4177000.44 | 0.25649 |
| 630150.63 | 4177000.44 | 0.36067 | 630500.63 | 4177000.44 | 0.46133 |
| 630850.63 | 4177000.44 | 0.52436 | 631200.63 | 4177000.44 | 0.53989 |
| 631550.63 | 4177000.44 | 0.50228 | 631900.63 | 4177000.44 | 0.42903 |
| 632250.63 | 4177000.44 | 0.35358 | 632600.63 | 4177000.44 | 0.29093 |
| 632950.63 | 4177000.44 | 0.24264 | 633300.63 | 4177000.44 | 0.20780 |
| 629800.63 | 4177350.44 | 0.21032 | 630150.63 | 4177350.44 | 0.26654 |
| 630500.63 | 4177350.44 | 0.31298 | 630850.63 | 4177350.44 | 0.33961 |
| 631200.63 | 4177350.44 | 0.34177 | 631550.63 | 4177350.44 | 0.32399 |
| 631900.63 | 4177350.44 | 0.29087 | 632250.63 | 4177350.44 | 0.25177 |
| 632600.63 | 4177350.44 | 0.21749 | 632950.63 | 4177350.44 | 0.18458 |
| 633300.63 | 4177350.44 | 0.15998 | 631670.70 | 4175493.59 | 1.08451 |
| 631669.80 | 4175641.41 | 1.81655 | 631665.32 | 4175796.39 | 3.88177 |
| 631417.17 | 4175826.85 | 4.91755 | 631417.17 | 4175673.66 | 2.12041 |
| 631422.55 | 4175484.63 | 1.06040 | 631268.42 | 4175983.74 | 91.40807 |
| 631275.69 | 4175523.99 | 1.17106 | 631345.65 | 4175419.50 | 0.86607 |
| 631384.72 | 4175441.30 | 0.92730 | 631491.93 | 4175442.21 | 0.93948 |
| 631491.93 | 4175414.95 | 0.86989 | 631385.63 | 4175413.14 | 0.85654 |
| 631358.37 | 4175395.87 | 0.81355 | 631409.25 | 4175336.81 | 0.70357 |
| 631567.35 | 4175235.96 | 0.56210 | 631756.33 | 4175028.80 | 0.37648 |
| 631807.22 | 4175003.36 | 0.36028 | 631867.18 | 4174987.91 | 0.35034 |
| 631849.92 | 4175988.28 | 46.80487 | 631268.74 | 4175963.75 | 30.79546 |
| 631269.05 | 4175943.76 | 18.16554 | 631269.37 | 4175923.77 | 12.81660 |

| | | | | | |
|---|---|---|---|---|---|
| 631269.68 | 4175903.78 | 9.81878 | 631270.00 | 4175883.79 | 7.88737 |
| 631270.32 | 4175863.81 | 6.53604 | 631270.63 | 4175843.82 | 5.53664 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE5 ***

INCLUDING SOURCE(S): L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 , L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 , L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 , L0001956 , L0001957 , L0001958 , L0001959 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 4.76850 | 631271.26 | 4175803.84 | 4.16040 |
| 631271.58 | 4175783.85 | 3.66783 | 631271.90 | 4175763.86 | 3.26151 |
| 631272.21 | 4175743.87 | 2.92135 | 631272.53 | 4175723.88 | 2.63309 |
| 631272.85 | 4175703.89 | 2.38632 | 631273.16 | 4175683.90 | 2.17322 |
| 631273.48 | 4175663.91 | 1.98782 | 631273.79 | 4175643.92 | 1.82546 |
| 631274.11 | 4175623.94 | 1.68253 | 631274.43 | 4175603.95 | 1.55591 |
| 631274.74 | 4175583.96 | 1.44327 | 631275.06 | 4175563.97 | 1.34264 |
| 631275.37 | 4175543.98 | 1.25236 | 631285.68 | 4175509.06 | 1.11814 |
| 631295.68 | 4175494.14 | 1.06887 | 631305.67 | 4175479.21 | 1.02284 |
| 631315.67 | 4175464.28 | 0.97980 | 631325.66 | 4175449.35 | 0.93947 |
| 631335.66 | 4175434.43 | 0.90165 | 631358.67 | 4175426.77 | 0.88596 |
| 631371.70 | 4175434.03 | 0.90635 | 631402.59 | 4175441.45 | 0.93001 |
| 631420.46 | 4175441.60 | 0.93245 | 631438.33 | 4175441.76 | 0.93465 |
| 631456.19 | 4175441.91 | 0.93654 | 631474.06 | 4175442.06 | 0.93815 |
| 631491.93 | 4175428.58 | 0.90366 | 631474.21 | 4175414.65 | 0.86828 |
| 631456.50 | 4175414.35 | 0.86642 | 631438.78 | 4175414.05 | 0.86432 |
| 631421.06 | 4175413.74 | 0.86195 | 631403.35 | 4175413.44 | 0.85936 |
| 631372.00 | 4175404.51 | 0.83472 | 631371.09 | 4175381.11 | 0.78378 |
| 631383.81 | 4175366.34 | 0.75559 | 631396.53 | 4175351.58 | 0.72890 |
| 631425.06 | 4175326.73 | 0.68759 | 631440.87 | 4175316.64 | 0.67205 |
| 631456.68 | 4175306.56 | 0.65696 | 631472.49 | 4175296.47 | 0.64227 |
| 631488.30 | 4175286.39 | 0.62799 | 631504.11 | 4175276.30 | 0.61408 |
| 631519.92 | 4175266.22 | 0.60055 | 631535.73 | 4175256.13 | 0.58737 |
| 631551.54 | 4175246.05 | 0.57457 | 631579.95 | 4175222.15 | 0.54562 |
| 631592.55 | 4175208.34 | 0.52986 | 631605.15 | 4175194.53 | 0.51479 |
| 631617.74 | 4175180.72 | 0.50038 | 631630.34 | 4175166.91 | 0.48658 |
| 631642.94 | 4175153.10 | 0.47338 | 631655.54 | 4175139.29 | 0.46073 |
| 631668.14 | 4175125.47 | 0.44861 | 631680.74 | 4175111.66 | 0.43700 |
| 631693.34 | 4175097.85 | 0.42587 | 631705.94 | 4175084.04 | 0.41518 |
| 631718.53 | 4175070.23 | 0.40492 | 631731.13 | 4175056.42 | 0.39506 |
| 631743.73 | 4175042.61 | 0.38559 | 631773.29 | 4175020.32 | 0.37097 |
| 631790.26 | 4175011.84 | 0.36557 | 631822.21 | 4174999.50 | 0.35780 |
| 631837.20 | 4174995.64 | 0.35532 | 631852.19 | 4174991.77 | 0.35283 |
| 631866.84 | 4175007.53 | 0.36167 | 631866.50 | 4175027.14 | 0.37359 |
| 631866.16 | 4175046.76 | 0.38614 | 631865.83 | 4175066.37 | 0.39936 |

| | | | | | |
|---|---|---|---|---|---|
| 631865.49 | 4175085.99 | 0.41331 | 631865.15 | 4175105.60 | 0.42805 |
| 631864.81 | 4175125.22 | 0.44363 | 631864.47 | 4175144.83 | 0.46011 |
| 631864.13 | 4175164.45 | 0.47758 | 631863.80 | 4175184.06 | 0.49610 |
| 631863.46 | 4175203.68 | 0.51578 | 631863.12 | 4175223.29 | 0.53670 |
| 631862.78 | 4175242.91 | 0.55897 | 631862.44 | 4175262.52 | 0.58270 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE5 ***

INCLUDING SOURCE(S): L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 , L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 , L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 , L0001956 , L0001957 , L0001958 , L0001959 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 0.60805 | 631861.77 | 4175301.75 | 0.63513 |
| 631861.43 | 4175321.37 | 0.66413 | 631861.09 | 4175340.98 | 0.69521 |
| 631860.75 | 4175360.60 | 0.72860 | 631860.41 | 4175380.21 | 0.76450 |
| 631860.07 | 4175399.83 | 0.80319 | 631859.73 | 4175419.44 | 0.84492 |
| 631859.40 | 4175439.06 | 0.89005 | 631859.06 | 4175458.67 | 0.93890 |
| 631858.72 | 4175478.29 | 0.99194 | 631858.38 | 4175497.90 | 1.04959 |
| 631858.04 | 4175517.52 | 1.11245 | 631857.70 | 4175537.13 | 1.18108 |
| 631857.37 | 4175556.75 | 1.25630 | 631857.03 | 4175576.36 | 1.33890 |
| 631856.69 | 4175595.98 | 1.42999 | 631856.35 | 4175615.59 | 1.53072 |
| 631856.01 | 4175635.21 | 1.64266 | 631855.67 | 4175654.82 | 1.76752 |
| 631855.33 | 4175674.44 | 1.90766 | 631855.00 | 4175694.05 | 2.06568 |
| 631854.66 | 4175713.67 | 2.24528 | 631854.32 | 4175733.28 | 2.45077 |
| 631853.98 | 4175752.90 | 2.68820 | 631853.64 | 4175772.51 | 2.96514 |
| 631853.30 | 4175792.13 | 3.29252 | 631852.97 | 4175811.74 | 3.68483 |
| 631852.63 | 4175831.36 | 4.16413 | 631852.29 | 4175850.97 | 4.76238 |
| 631851.95 | 4175870.59 | 5.53153 | 631851.61 | 4175890.20 | 6.55717 |
| 631851.27 | 4175909.82 | 8.00012 | 631850.94 | 4175929.43 | 10.19890 |
| 631850.60 | 4175949.05 | 14.04375 | 631850.26 | 4175968.66 | 22.66475 |
| 631830.54 | 4175988.13 | 85.95669 | 631811.15 | 4175987.98 | 79.06883 |
| 631791.77 | 4175987.83 | 83.11126 | 631772.39 | 4175987.67 | 93.04582 |
| 631753.00 | 4175987.52 | 95.22375 | 631733.62 | 4175987.37 | 82.77294 |
| 631714.24 | 4175987.22 | 85.32635 | 631694.85 | 4175987.07 | 93.58945 |
| 631675.47 | 4175986.92 | 81.53392 | 631656.09 | 4175986.77 | 83.68001 |
| 631636.70 | 4175986.62 | 91.77683 | 631617.32 | 4175986.46 | 93.09967 |
| 631597.94 | 4175986.31 | 81.95446 | 631578.55 | 4175986.16 | 89.92956 |
| 631559.17 | 4175986.01 | 91.09736 | 631539.79 | 4175985.86 | 92.25792 |
| 631520.40 | 4175985.71 | 88.25239 | 631501.02 | 4175985.56 | 89.20100 |
| 631481.64 | 4175985.40 | 90.15222 | 631462.25 | 4175985.25 | 97.14841 |
| 631442.87 | 4175985.10 | 87.34293 | 631423.49 | 4175984.95 | 95.88661 |
| 631404.10 | 4175984.80 | 95.37476 | 631384.72 | 4175984.65 | 94.77535 |
| 631365.34 | 4175984.50 | 94.17501 | 631345.95 | 4175984.35 | 93.66128 |
| 631326.57 | 4175984.19 | 93.01820 | 631307.19 | 4175984.04 | 92.44444 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK1 ***

INCLUDING SOURCE(S): STCK1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.57811 | 632304.44 | 4174354.52 | 0.19413 |
| 632192.15 | 4174956.32 | 0.62639 | 632420.62 | 4175510.15 | 2.53324 |
| 632418.97 | 4175552.92 | 2.87821 | 631187.00 | 4175727.00 | 0.64333 |
| 631166.00 | 4175729.00 | 0.60778 | 631121.00 | 4175719.00 | 0.53464 |
| 631035.00 | 4174830.00 | 0.17231 | 631106.00 | 4174825.00 | 0.18283 |
| 631937.00 | 4174528.00 | 0.20021 | 631322.00 | 4174522.00 | 0.15341 |
| 629800.63 | 4173850.44 | 0.04391 | 630150.63 | 4173850.44 | 0.05009 |
| 630500.63 | 4173850.44 | 0.05846 | 630850.63 | 4173850.44 | 0.06889 |
| 631200.63 | 4173850.44 | 0.07695 | 631550.63 | 4173850.44 | 0.07671 |
| 631900.63 | 4173850.44 | 0.08552 | 632250.63 | 4173850.44 | 0.10329 |
| 632600.63 | 4173850.44 | 0.11142 | 632950.63 | 4173850.44 | 0.11972 |
| 633300.63 | 4173850.44 | 0.12302 | 629800.63 | 4174200.44 | 0.05134 |
| 630150.63 | 4174200.44 | 0.05915 | 630500.63 | 4174200.44 | 0.07051 |
| 630850.63 | 4174200.44 | 0.08689 | 631200.63 | 4174200.44 | 0.10450 |
| 631550.63 | 4174200.44 | 0.10769 | 631900.63 | 4174200.44 | 0.12348 |
| 632250.63 | 4174200.44 | 0.15369 | 632600.63 | 4174200.44 | 0.16836 |
| 632950.63 | 4174200.44 | 0.17669 | 633300.63 | 4174200.44 | 0.16424 |
| 629800.63 | 4174550.44 | 0.06093 | 630150.63 | 4174550.44 | 0.07203 |
| 630500.63 | 4174550.44 | 0.08792 | 630850.63 | 4174550.44 | 0.11328 |
| 631200.63 | 4174550.44 | 0.14840 | 631550.63 | 4174550.44 | 0.16511 |
| 631900.63 | 4174550.44 | 0.19850 | 632250.63 | 4174550.44 | 0.26265 |
| 632600.63 | 4174550.44 | 0.29211 | 632950.63 | 4174550.44 | 0.26590 |
| 633300.63 | 4174550.44 | 0.22321 | 629800.63 | 4174900.44 | 0.07157 |
| 630150.63 | 4174900.44 | 0.08886 | 630500.63 | 4174900.44 | 0.11444 |
| 630850.63 | 4174900.44 | 0.15471 | 631200.63 | 4174900.44 | 0.21786 |
| 631550.63 | 4174900.44 | 0.27939 | 631900.63 | 4174900.44 | 0.36987 |
| 632250.63 | 4174900.44 | 0.56316 | 632600.63 | 4174900.44 | 0.54610 |
| 632950.63 | 4174900.44 | 0.41082 | 633300.63 | 4174900.44 | 0.34031 |
| 629800.63 | 4175250.44 | 0.08034 | 630150.63 | 4175250.44 | 0.10476 |
| 630500.63 | 4175250.44 | 0.14636 | 630850.63 | 4175250.44 | 0.22276 |
| 631200.63 | 4175250.44 | 0.34643 | 631550.63 | 4175250.44 | 0.57988 |
| 631900.63 | 4175250.44 | 1.01355 | 632250.63 | 4175250.44 | 1.53013 |
| 632600.63 | 4175250.44 | 1.03884 | 632950.63 | 4175250.44 | 0.73428 |
| 633300.63 | 4175250.44 | 0.56818 | 629800.63 | 4175600.44 | 0.08775 |
| 630150.63 | 4175600.44 | 0.11710 | 630500.63 | 4175600.44 | 0.16887 |
| 630850.63 | 4175600.44 | 0.28278 | 631200.63 | 4175600.44 | 0.58841 |
| 631550.63 | 4175600.44 | 2.70895 | 631900.63 | 4175600.44 | 2.35683 |
| 632250.63 | 4175600.44 | 4.62177 | 632600.63 | 4175600.44 | 2.21289 |
| 632950.63 | 4175600.44 | 1.25088 | 633300.63 | 4175600.44 | 0.84154 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK1 ***

INCLUDING SOURCE(S): STCK1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.18252 | 630850.63 | 4175950.44 | 0.32105 |
| 631200.63 | 4175950.44 | 0.78426 | 631550.63 | 4175950.44 | 3.66602 |
| 631900.63 | 4175950.44 | 5.58982 | 632250.63 | 4175950.44 | 4.23421 |
| 632600.63 | 4175950.44 | 2.13015 | 632950.63 | 4175950.44 | 1.26093 |
| 633300.63 | 4175950.44 | 0.85055 | 629800.63 | 4176300.44 | 0.09499 |
| 630150.63 | 4176300.44 | 0.13310 | 630500.63 | 4176300.44 | 0.21111 |
| 630850.63 | 4176300.44 | 0.40152 | 631200.63 | 4176300.44 | 0.87883 |
| 631550.63 | 4176300.44 | 1.42902 | 631900.63 | 4176300.44 | 1.48044 |
| 632250.63 | 4176300.44 | 1.29652 | 632600.63 | 4176300.44 | 0.97508 |
| 632950.63 | 4176300.44 | 0.74653 | 633300.63 | 4176300.44 | 0.58140 |
| 629800.63 | 4176650.44 | 0.10520 | 630150.63 | 4176650.44 | 0.15113 |
| 630500.63 | 4176650.44 | 0.23401 | 630850.63 | 4176650.44 | 0.39547 |
| 631200.63 | 4176650.44 | 0.62007 | 631550.63 | 4176650.44 | 0.75880 |
| 631900.63 | 4176650.44 | 0.76753 | 632250.63 | 4176650.44 | 0.71298 |
| 632600.63 | 4176650.44 | 0.58125 | 632950.63 | 4176650.44 | 0.45250 |
| 633300.63 | 4176650.44 | 0.37506 | 629800.63 | 4177000.44 | 0.11272 |
| 630150.63 | 4177000.44 | 0.15447 | 630500.63 | 4177000.44 | 0.22225 |
| 630850.63 | 4177000.44 | 0.31639 | 631200.63 | 4177000.44 | 0.40442 |
| 631550.63 | 4177000.44 | 0.47335 | 631900.63 | 4177000.44 | 0.46402 |
| 632250.63 | 4177000.44 | 0.42254 | 632600.63 | 4177000.44 | 0.39302 |
| 632950.63 | 4177000.44 | 0.32486 | 633300.63 | 4177000.44 | 0.27165 |
| 629800.63 | 4177350.44 | 0.11170 | 630150.63 | 4177350.44 | 0.14674 |
| 630500.63 | 4177350.44 | 0.19133 | 630850.63 | 4177350.44 | 0.23936 |
| 631200.63 | 4177350.44 | 0.28317 | 631550.63 | 4177350.44 | 0.31558 |
| 631900.63 | 4177350.44 | 0.30951 | 632250.63 | 4177350.44 | 0.29209 |
| 632600.63 | 4177350.44 | 0.26682 | 632950.63 | 4177350.44 | 0.24604 |
| 633300.63 | 4177350.44 | 0.21326 | 631670.70 | 4175493.59 | 1.57845 |
| 631669.80 | 4175641.41 | 5.19767 | 631665.32 | 4175796.39 | 1.51735 |
| 631417.17 | 4175826.85 | 1.53406 | 631417.17 | 4175673.66 | 1.38579 |
| 631422.55 | 4175484.63 | 0.90267 | 631268.42 | 4175983.74 | 1.01273 |
| 631275.69 | 4175523.99 | 0.64295 | 631345.65 | 4175419.50 | 0.59865 |
| 631384.72 | 4175441.30 | 0.73510 | 631491.93 | 4175442.21 | 1.14090 |
| 631491.93 | 4175414.95 | 0.97694 | 631385.63 | 4175413.14 | 0.64325 |
| 631358.37 | 4175395.87 | 0.57578 | 631409.25 | 4175336.81 | 0.58146 |
| 631567.35 | 4175235.96 | 0.57188 | 631756.33 | 4175028.80 | 0.37817 |
| 631807.22 | 4175003.36 | 0.38679 | 631867.18 | 4174987.91 | 0.41960 |
| 631849.92 | 4175988.28 | 4.68707 | 631268.74 | 4175963.75 | 0.99658 |
| 631269.05 | 4175943.76 | 0.97988 | 631269.37 | 4175923.77 | 0.96319 |
| 631269.68 | 4175903.78 | 0.94685 | 631270.00 | 4175883.79 | 0.93161 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK1 ***

INCLUDING SOURCE(S): STCK1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 0.89625 | 631271.26 | 4175803.84 | 0.89155 |
| 631271.58 | 4175783.85 | 0.88762 | 631271.90 | 4175763.86 | 0.87388 |
| 631272.21 | 4175743.87 | 0.86043 | 631272.53 | 4175723.88 | 0.83652 |
| 631272.85 | 4175703.89 | 0.80836 | 631273.16 | 4175683.90 | 0.78512 |
| 631273.48 | 4175663.91 | 0.77515 | 631273.79 | 4175643.92 | 0.76662 |
| 631274.11 | 4175623.94 | 0.75651 | 631274.43 | 4175603.95 | 0.72059 |
| 631274.74 | 4175583.96 | 0.68176 | 631275.06 | 4175563.97 | 0.66818 |
| 631275.37 | 4175543.98 | 0.66099 | 631285.68 | 4175509.06 | 0.63233 |
| 631295.68 | 4175494.14 | 0.61932 | 631305.67 | 4175479.21 | 0.61163 |
| 631315.67 | 4175464.28 | 0.60123 | 631325.66 | 4175449.35 | 0.60042 |
| 631335.66 | 4175434.43 | 0.59541 | 631358.67 | 4175426.77 | 0.60619 |
| 631371.70 | 4175434.03 | 0.67999 | 631402.59 | 4175441.45 | 0.73299 |
| 631420.46 | 4175441.60 | 0.82288 | 631438.33 | 4175441.76 | 0.87631 |
| 631456.19 | 4175441.91 | 0.94833 | 631474.06 | 4175442.06 | 1.04637 |
| 631491.93 | 4175428.58 | 1.06391 | 631474.21 | 4175414.65 | 0.94359 |
| 631456.50 | 4175414.35 | 0.84434 | 631438.78 | 4175414.05 | 0.75420 |
| 631421.06 | 4175413.74 | 0.73486 | 631403.35 | 4175413.44 | 0.74959 |
| 631372.00 | 4175404.51 | 0.60849 | 631371.09 | 4175381.11 | 0.57419 |
| 631383.81 | 4175366.34 | 0.57126 | 631396.53 | 4175351.58 | 0.57525 |
| 631425.06 | 4175326.73 | 0.58557 | 631440.87 | 4175316.64 | 0.59000 |
| 631456.68 | 4175306.56 | 0.59288 | 631472.49 | 4175296.47 | 0.59117 |
| 631488.30 | 4175286.39 | 0.58197 | 631504.11 | 4175276.30 | 0.57746 |
| 631519.92 | 4175266.22 | 0.57688 | 631535.73 | 4175256.13 | 0.57407 |
| 631551.54 | 4175246.05 | 0.57325 | 631579.95 | 4175222.15 | 0.56312 |
| 631592.55 | 4175208.34 | 0.54854 | 631605.15 | 4175194.53 | 0.53483 |
| 631617.74 | 4175180.72 | 0.51502 | 631630.34 | 4175166.91 | 0.49673 |
| 631642.94 | 4175153.10 | 0.48196 | 631655.54 | 4175139.29 | 0.46531 |
| 631668.14 | 4175125.47 | 0.45161 | 631680.74 | 4175111.66 | 0.43832 |
| 631693.34 | 4175097.85 | 0.42588 | 631705.94 | 4175084.04 | 0.41183 |
| 631718.53 | 4175070.23 | 0.40121 | 631731.13 | 4175056.42 | 0.39229 |
| 631743.73 | 4175042.61 | 0.38470 | 631773.29 | 4175020.32 | 0.37967 |
| 631790.26 | 4175011.84 | 0.38247 | 631822.21 | 4174999.50 | 0.39397 |
| 631837.20 | 4174995.64 | 0.40010 | 631852.19 | 4174991.77 | 0.40961 |
| 631866.84 | 4175007.53 | 0.43931 | 631866.50 | 4175027.14 | 0.46080 |
| 631866.16 | 4175046.76 | 0.48409 | 631865.83 | 4175066.37 | 0.50943 |
| 631865.49 | 4175085.99 | 0.53680 | 631865.15 | 4175105.60 | 0.56638 |
| 631864.81 | 4175125.22 | 0.59848 | 631864.47 | 4175144.83 | 0.63454 |
| 631864.13 | 4175164.45 | 0.67325 | 631863.80 | 4175184.06 | 0.71585 |
| 631863.46 | 4175203.68 | 0.76372 | 631863.12 | 4175223.29 | 0.81560 |

631862.78 4175242.91 0.87735 631862.44 4175262.52 0.96047



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK1 ***

INCLUDING SOURCE(S): STCK1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 1.10487 | 631861.77 | 4175301.75 | 1.30648 |
| 631861.43 | 4175321.37 | 1.22813 | 631861.09 | 4175340.98 | 0.99725 |
| 631860.75 | 4175360.60 | 0.87742 | 631860.41 | 4175380.21 | 0.90286 |
| 631860.07 | 4175399.83 | 0.98924 | 631859.73 | 4175419.44 | 1.02512 |
| 631859.40 | 4175439.06 | 1.13657 | 631859.06 | 4175458.67 | 1.18357 |
| 631858.72 | 4175478.29 | 1.37137 | 631858.38 | 4175497.90 | 1.54480 |
| 631858.04 | 4175517.52 | 1.60436 | 631857.70 | 4175537.13 | 1.77306 |
| 631857.37 | 4175556.75 | 1.82870 | 631857.03 | 4175576.36 | 1.88335 |
| 631856.69 | 4175595.98 | 1.93674 | 631856.35 | 4175615.59 | 2.17831 |
| 631856.01 | 4175635.21 | 2.69634 | 631855.67 | 4175654.82 | 3.19623 |
| 631855.33 | 4175674.44 | 3.58934 | 631855.00 | 4175694.05 | 4.47835 |
| 631854.66 | 4175713.67 | 4.55790 | 631854.32 | 4175733.28 | 5.72435 |
| 631853.98 | 4175752.90 | 4.74129 | 631853.64 | 4175772.51 | 8.12587 |
| 631853.30 | 4175792.13 | 29.20670 | 631852.97 | 4175811.74 | 38.47248 |
| 631852.63 | 4175831.36 | 23.96028 | 631852.29 | 4175850.97 | 18.04640 |
| 631851.95 | 4175870.59 | 14.96747 | 631851.61 | 4175890.20 | 11.48198 |
| 631851.27 | 4175909.82 | 9.80118 | 631850.94 | 4175929.43 | 7.84236 |
| 631850.60 | 4175949.05 | 6.19877 | 631850.26 | 4175968.66 | 5.33614 |
| 631830.54 | 4175988.13 | 4.89535 | 631811.15 | 4175987.98 | 5.20065 |
| 631791.77 | 4175987.83 | 5.50676 | 631772.39 | 4175987.67 | 5.65153 |
| 631753.00 | 4175987.52 | 5.45106 | 631733.62 | 4175987.37 | 4.69668 |
| 631714.24 | 4175987.22 | 3.63313 | 631694.85 | 4175987.07 | 3.39334 |
| 631675.47 | 4175986.92 | 2.49975 | 631656.09 | 4175986.77 | 1.87974 |
| 631636.70 | 4175986.62 | 2.27407 | 631617.32 | 4175986.46 | 3.04246 |
| 631597.94 | 4175986.31 | 3.44157 | 631578.55 | 4175986.16 | 3.78188 |
| 631559.17 | 4175986.01 | 3.61304 | 631539.79 | 4175985.86 | 3.24456 |
| 631520.40 | 4175985.71 | 2.92991 | 631501.02 | 4175985.56 | 2.66178 |
| 631481.64 | 4175985.40 | 2.42162 | 631462.25 | 4175985.25 | 2.20849 |
| 631442.87 | 4175985.10 | 2.02419 | 631423.49 | 4175984.95 | 1.85983 |
| 631404.10 | 4175984.80 | 1.71058 | 631384.72 | 4175984.65 | 1.57546 |
| 631365.34 | 4175984.50 | 1.45521 | 631345.95 | 4175984.35 | 1.34669 |
| 631326.57 | 4175984.19 | 1.25145 | 631307.19 | 4175984.04 | 1.16415 |
| 631287.80 | 4175983.89 | 1.08519 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK10 ***

INCLUDING SOURCE(S): STCK10 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.70617 | 632304.44 | 4174354.52 | 0.40660 |
| 632192.15 | 4174956.32 | 1.59951 | 632420.62 | 4175510.15 | 2.20577 |
| 632418.97 | 4175552.92 | 2.09199 | 631187.00 | 4175727.00 | 1.74345 |
| 631166.00 | 4175729.00 | 1.63024 | 631121.00 | 4175719.00 | 1.40926 |
| 631035.00 | 4174830.00 | 0.36548 | 631106.00 | 4174825.00 | 0.40652 |
| 631937.00 | 4174528.00 | 0.53785 | 631322.00 | 4174522.00 | 0.29113 |
| 629800.63 | 4173850.44 | 0.05755 | 630150.63 | 4173850.44 | 0.06730 |
| 630500.63 | 4173850.44 | 0.08137 | 630850.63 | 4173850.44 | 0.09995 |
| 631200.63 | 4173850.44 | 0.11068 | 631550.63 | 4173850.44 | 0.11700 |
| 631900.63 | 4173850.44 | 0.14854 | 632250.63 | 4173850.44 | 0.16906 |
| 632600.63 | 4173850.44 | 0.18426 | 632950.63 | 4173850.44 | 0.17727 |
| 633300.63 | 4173850.44 | 0.15738 | 629800.63 | 4174200.44 | 0.06955 |
| 630150.63 | 4174200.44 | 0.08328 | 630500.63 | 4174200.44 | 0.10370 |
| 630850.63 | 4174200.44 | 0.13617 | 631200.63 | 4174200.44 | 0.16903 |
| 631550.63 | 4174200.44 | 0.18520 | 631900.63 | 4174200.44 | 0.25303 |
| 632250.63 | 4174200.44 | 0.29866 | 632600.63 | 4174200.44 | 0.29288 |
| 632950.63 | 4174200.44 | 0.24704 | 633300.63 | 4174200.44 | 0.21704 |
| 629800.63 | 4174550.44 | 0.08396 | 630150.63 | 4174550.44 | 0.10604 |
| 630500.63 | 4174550.44 | 0.13905 | 630850.63 | 4174550.44 | 0.19616 |
| 631200.63 | 4174550.44 | 0.28756 | 631550.63 | 4174550.44 | 0.35164 |
| 631900.63 | 4174550.44 | 0.55425 | 632250.63 | 4174550.44 | 0.61521 |
| 632600.63 | 4174550.44 | 0.47956 | 632950.63 | 4174550.44 | 0.38696 |
| 633300.63 | 4174550.44 | 0.33386 | 629800.63 | 4174900.44 | 0.09644 |
| 630150.63 | 4174900.44 | 0.13044 | 630500.63 | 4174900.44 | 0.19023 |
| 630850.63 | 4174900.44 | 0.30406 | 631200.63 | 4174900.44 | 0.55635 |
| 631550.63 | 4174900.44 | 0.92301 | 631900.63 | 4174900.44 | 1.73571 |
| 632250.63 | 4174900.44 | 1.30790 | 632600.63 | 4174900.44 | 0.91818 |
| 632950.63 | 4174900.44 | 0.66965 | 633300.63 | 4174900.44 | 0.52224 |
| 629800.63 | 4175250.44 | 0.10651 | 630150.63 | 4175250.44 | 0.14922 |
| 630500.63 | 4175250.44 | 0.23245 | 630850.63 | 4175250.44 | 0.44056 |
| 631200.63 | 4175250.44 | 1.21370 | 631550.63 | 4175250.44 | 6.68726 |
| 631900.63 | 4175250.44 | 6.98481 | 632250.63 | 4175250.44 | 3.44481 |
| 632600.63 | 4175250.44 | 1.59647 | 632950.63 | 4175250.44 | 0.98755 |
| 633300.63 | 4175250.44 | 0.69649 | 629800.63 | 4175600.44 | 0.11099 |
| 630150.63 | 4175600.44 | 0.15923 | 630500.63 | 4175600.44 | 0.26115 |
| 630850.63 | 4175600.44 | 0.56042 | 631200.63 | 4175600.44 | 1.86219 |
| 631550.63 | 4175600.44 | 3.10218 | 631900.63 | 4175600.44 | 3.16582 |
| 632250.63 | 4175600.44 | 2.56019 | 632600.63 | 4175600.44 | 1.42628 |
| 632950.63 | 4175600.44 | 0.92300 | 633300.63 | 4175600.44 | 0.66482 |
| 629800.63 | 4175950.44 | 0.11915 | 630150.63 | 4175950.44 | 0.18093 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK10 ***

INCLUDING SOURCE(S): STCK10 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.32182 | 630850.63 | 4175950.44 | 0.66840 |
| 631200.63 | 4175950.44 | 1.23549 | 631550.63 | 4175950.44 | 1.24842 |
| 631900.63 | 4175950.44 | 1.05763 | 632250.63 | 4175950.44 | 0.90650 |
| 632600.63 | 4175950.44 | 0.76842 | 632950.63 | 4175950.44 | 0.59560 |
| 633300.63 | 4175950.44 | 0.47330 | 629800.63 | 4176300.44 | 0.13422 |
| 630150.63 | 4176300.44 | 0.20060 | 630500.63 | 4176300.44 | 0.32949 |
| 630850.63 | 4176300.44 | 0.54145 | 631200.63 | 4176300.44 | 0.66886 |
| 631550.63 | 4176300.44 | 0.66052 | 631900.63 | 4176300.44 | 0.58072 |
| 632250.63 | 4176300.44 | 0.57405 | 632600.63 | 4176300.44 | 0.47522 |
| 632950.63 | 4176300.44 | 0.37898 | 633300.63 | 4176300.44 | 0.32344 |
| 629800.63 | 4176650.44 | 0.13778 | 630150.63 | 4176650.44 | 0.19475 |
| 630500.63 | 4176650.44 | 0.28081 | 630850.63 | 4176650.44 | 0.37235 |
| 631200.63 | 4176650.44 | 0.44240 | 631550.63 | 4176650.44 | 0.43735 |
| 631900.63 | 4176650.44 | 0.41564 | 632250.63 | 4176650.44 | 0.38560 |
| 632600.63 | 4176650.44 | 0.33700 | 632950.63 | 4176650.44 | 0.28254 |
| 633300.63 | 4176650.44 | 0.23634 | 629800.63 | 4177000.44 | 0.13251 |
| 630150.63 | 4177000.44 | 0.17290 | 630500.63 | 4177000.44 | 0.21970 |
| 630850.63 | 4177000.44 | 0.26328 | 631200.63 | 4177000.44 | 0.30956 |
| 631550.63 | 4177000.44 | 0.30311 | 631900.63 | 4177000.44 | 0.29628 |
| 632250.63 | 4177000.44 | 0.25942 | 632600.63 | 4177000.44 | 0.25253 |
| 632950.63 | 4177000.44 | 0.21772 | 633300.63 | 4177000.44 | 0.19072 |
| 629800.63 | 4177350.44 | 0.12113 | 630150.63 | 4177350.44 | 0.14641 |
| 630500.63 | 4177350.44 | 0.17236 | 630850.63 | 4177350.44 | 0.19770 |
| 631200.63 | 4177350.44 | 0.22330 | 631550.63 | 4177350.44 | 0.21884 |
| 631900.63 | 4177350.44 | 0.21651 | 632250.63 | 4177350.44 | 0.19458 |
| 632600.63 | 4177350.44 | 0.18501 | 632950.63 | 4177350.44 | 0.17561 |
| 633300.63 | 4177350.44 | 0.15541 | 631670.70 | 4175493.59 | 6.66059 |
| 631669.80 | 4175641.41 | 4.17793 | 631665.32 | 4175796.39 | 1.77718 |
| 631417.17 | 4175826.85 | 0.98252 | 631417.17 | 4175673.66 | 1.42957 |
| 631422.55 | 4175484.63 | 2.86383 | 631268.42 | 4175983.74 | 1.17442 |
| 631275.69 | 4175523.99 | 2.63561 | 631345.65 | 4175419.50 | 3.68206 |
| 631384.72 | 4175441.30 | 3.51613 | 631491.93 | 4175442.21 | 6.77830 |
| 631491.93 | 4175414.95 | 10.78339 | 631385.63 | 4175413.14 | 4.13378 |
| 631358.37 | 4175395.87 | 3.72541 | 631409.25 | 4175336.81 | 5.30747 |
| 631567.35 | 4175235.96 | 6.31028 | 631756.33 | 4175028.80 | 2.75465 |
| 631807.22 | 4175003.36 | 2.55493 | 631867.18 | 4174987.91 | 2.41357 |
| 631849.92 | 4175988.28 | 0.95725 | 631268.74 | 4175963.75 | 1.22814 |
| 631269.05 | 4175943.76 | 1.28606 | 631269.37 | 4175923.77 | 1.34856 |
| 631269.68 | 4175903.78 | 1.41471 | 631270.00 | 4175883.79 | 1.48413 |
| 631270.32 | 4175863.81 | 1.55742 | 631270.63 | 4175843.82 | 1.63692 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK10 ***

INCLUDING SOURCE(S): STCK10 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.73092 | 631271.26 | 4175803.84 | 1.84322 |
| 631271.58 | 4175783.85 | 1.95870 | 631271.90 | 4175763.86 | 1.91566 |
| 631272.21 | 4175743.87 | 2.18127 | 631272.53 | 4175723.88 | 2.32956 |
| 631272.85 | 4175703.89 | 2.45507 | 631273.16 | 4175683.90 | 1.78407 |
| 631273.48 | 4175663.91 | 1.96920 | 631273.79 | 4175643.92 | 2.24282 |
| 631274.11 | 4175623.94 | 2.49141 | 631274.43 | 4175603.95 | 2.67298 |
| 631274.74 | 4175583.96 | 1.99796 | 631275.06 | 4175563.97 | 2.25243 |
| 631275.37 | 4175543.98 | 2.45495 | 631285.68 | 4175509.06 | 2.77629 |
| 631295.68 | 4175494.14 | 2.86728 | 631305.67 | 4175479.21 | 2.48858 |
| 631315.67 | 4175464.28 | 2.77868 | 631325.66 | 4175449.35 | 3.06888 |
| 631335.66 | 4175434.43 | 3.38028 | 631358.67 | 4175426.77 | 3.94379 |
| 631371.70 | 4175434.03 | 3.78510 | 631402.59 | 4175441.45 | 3.95350 |
| 631420.46 | 4175441.60 | 4.37407 | 631438.33 | 4175441.76 | 5.23646 |
| 631456.19 | 4175441.91 | 5.94666 | 631474.06 | 4175442.06 | 5.25362 |
| 631491.93 | 4175428.58 | 8.52935 | 631474.21 | 4175414.65 | 8.23032 |
| 631456.50 | 4175414.35 | 8.46165 | 631438.78 | 4175414.05 | 6.77068 |
| 631421.06 | 4175413.74 | 5.65239 | 631403.35 | 4175413.44 | 4.75654 |
| 631372.00 | 4175404.51 | 3.90562 | 631371.09 | 4175381.11 | 3.96555 |
| 631383.81 | 4175366.34 | 4.43814 | 631396.53 | 4175351.58 | 4.90226 |
| 631425.06 | 4175326.73 | 5.97305 | 631440.87 | 4175316.64 | 6.69869 |
| 631456.68 | 4175306.56 | 7.22863 | 631472.49 | 4175296.47 | 7.51622 |
| 631488.30 | 4175286.39 | 7.77259 | 631504.11 | 4175276.30 | 7.49109 |
| 631519.92 | 4175266.22 | 6.98545 | 631535.73 | 4175256.13 | 6.69980 |
| 631551.54 | 4175246.05 | 6.41488 | 631579.95 | 4175222.15 | 5.88532 |
| 631592.55 | 4175208.34 | 5.54153 | 631605.15 | 4175194.53 | 5.19577 |
| 631617.74 | 4175180.72 | 4.90552 | 631630.34 | 4175166.91 | 4.64782 |
| 631642.94 | 4175153.10 | 4.44437 | 631655.54 | 4175139.29 | 4.24773 |
| 631668.14 | 4175125.47 | 4.03968 | 631680.74 | 4175111.66 | 3.83077 |
| 631693.34 | 4175097.85 | 3.62692 | 631705.94 | 4175084.04 | 3.43213 |
| 631718.53 | 4175070.23 | 3.24715 | 631731.13 | 4175056.42 | 3.07260 |
| 631743.73 | 4175042.61 | 2.90819 | 631773.29 | 4175020.32 | 2.69412 |
| 631790.26 | 4175011.84 | 2.62718 | 631822.21 | 4174999.50 | 2.52831 |
| 631837.20 | 4174995.64 | 2.49530 | 631852.19 | 4174991.77 | 2.45651 |
| 631866.84 | 4175007.53 | 2.60410 | 631866.50 | 4175027.14 | 2.80674 |
| 631866.16 | 4175046.76 | 3.02255 | 631865.83 | 4175066.37 | 3.25121 |
| 631865.49 | 4175085.99 | 3.49288 | 631865.15 | 4175105.60 | 3.74942 |
| 631864.81 | 4175125.22 | 4.02376 | 631864.47 | 4175144.83 | 4.32198 |
| 631864.13 | 4175164.45 | 4.65476 | 631863.80 | 4175184.06 | 5.04255 |
| 631863.46 | 4175203.68 | 5.51582 | 631863.12 | 4175223.29 | 6.11641 |
| 631862.78 | 4175242.91 | 6.89965 | 631862.44 | 4175262.52 | 7.93018 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK10 ***

INCLUDING SOURCE(S): STCK10 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 9.24993 | 631861.77 | 4175301.75 | 10.82440 |
| 631861.43 | 4175321.37 | 12.51444 | 631861.09 | 4175340.98 | 14.16411 |
| 631860.75 | 4175360.60 | 15.54194 | 631860.41 | 4175380.21 | 16.48178 |
| 631860.07 | 4175399.83 | 16.94317 | 631859.73 | 4175419.44 | 17.16308 |
| 631859.40 | 4175439.06 | 16.01653 | 631859.06 | 4175458.67 | 13.62577 |
| 631858.72 | 4175478.29 | 10.35256 | 631858.38 | 4175497.90 | 7.37328 |
| 631858.04 | 4175517.52 | 5.10288 | 631857.70 | 4175537.13 | 3.85699 |
| 631857.37 | 4175556.75 | 3.16103 | 631857.03 | 4175576.36 | 2.84460 |
| 631856.69 | 4175595.98 | 2.70925 | 631856.35 | 4175615.59 | 2.67657 |
| 631856.01 | 4175635.21 | 2.69305 | 631855.67 | 4175654.82 | 2.71206 |
| 631855.33 | 4175674.44 | 2.70949 | 631855.00 | 4175694.05 | 2.68646 |
| 631854.66 | 4175713.67 | 2.64658 | 631854.32 | 4175733.28 | 2.60026 |
| 631853.98 | 4175752.90 | 2.53094 | 631853.64 | 4175772.51 | 2.45166 |
| 631853.30 | 4175792.13 | 2.36648 | 631852.97 | 4175811.74 | 2.27977 |
| 631852.63 | 4175831.36 | 2.17618 | 631852.29 | 4175850.97 | 2.11137 |
| 631851.95 | 4175870.59 | 2.01177 | 631851.61 | 4175890.20 | 1.83595 |
| 631851.27 | 4175909.82 | 1.57764 | 631850.94 | 4175929.43 | 1.19109 |
| 631850.60 | 4175949.05 | 1.07702 | 631850.26 | 4175968.66 | 1.01162 |
| 631830.54 | 4175988.13 | 0.95643 | 631811.15 | 4175987.98 | 0.96135 |
| 631791.77 | 4175987.83 | 0.97133 | 631772.39 | 4175987.67 | 0.98856 |
| 631753.00 | 4175987.52 | 1.00871 | 631733.62 | 4175987.37 | 1.03636 |
| 631714.24 | 4175987.22 | 1.06498 | 631694.85 | 4175987.07 | 1.14602 |
| 631675.47 | 4175986.92 | 1.27291 | 631656.09 | 4175986.77 | 1.27043 |
| 631636.70 | 4175986.62 | 1.29739 | 631617.32 | 4175986.46 | 1.33273 |
| 631597.94 | 4175986.31 | 1.31430 | 631578.55 | 4175986.16 | 1.25260 |
| 631559.17 | 4175986.01 | 1.18923 | 631539.79 | 4175985.86 | 1.15770 |
| 631520.40 | 4175985.71 | 1.14316 | 631501.02 | 4175985.56 | 1.13848 |
| 631481.64 | 4175985.40 | 1.15777 | 631462.25 | 4175985.25 | 1.17415 |
| 631442.87 | 4175985.10 | 1.18821 | 631423.49 | 4175984.95 | 1.19709 |
| 631404.10 | 4175984.80 | 1.20015 | 631384.72 | 4175984.65 | 1.19515 |
| 631365.34 | 4175984.50 | 1.18904 | 631345.95 | 4175984.35 | 1.18384 |
| 631326.57 | 4175984.19 | 1.17903 | 631307.19 | 4175984.04 | 1.17692 |
| 631287.80 | 4175983.89 | 1.17624 | | | |



*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK11 ***

INCLUDING SOURCE(S): STCK11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.72101 | 632304.44 | 4174354.52 | 0.22891 |
| 632192.15 | 4174956.32 | 0.68629 | 632420.62 | 4175510.15 | 1.71327 |
| 632418.97 | 4175552.92 | 1.81563 | 631187.00 | 4175727.00 | 2.66629 |
| 631166.00 | 4175729.00 | 2.36261 | 631121.00 | 4175719.00 | 1.77572 |
| 631035.00 | 4174830.00 | 0.24424 | 631106.00 | 4174825.00 | 0.25959 |
| 631937.00 | 4174528.00 | 0.26885 | 631322.00 | 4174522.00 | 0.17342 |
| 629800.63 | 4173850.44 | 0.05118 | 630150.63 | 4173850.44 | 0.05946 |
| 630500.63 | 4173850.44 | 0.07007 | 630850.63 | 4173850.44 | 0.08022 |
| 631200.63 | 4173850.44 | 0.08212 | 631550.63 | 4173850.44 | 0.08895 |
| 631900.63 | 4173850.44 | 0.10817 | 632250.63 | 4173850.44 | 0.11925 |
| 632600.63 | 4173850.44 | 0.13006 | 632950.63 | 4173850.44 | 0.13380 |
| 633300.63 | 4173850.44 | 0.12476 | 629800.63 | 4174200.44 | 0.06080 |
| 630150.63 | 4174200.44 | 0.07147 | 630500.63 | 4174200.44 | 0.08664 |
| 630850.63 | 4174200.44 | 0.10588 | 631200.63 | 4174200.44 | 0.11485 |
| 631550.63 | 4174200.44 | 0.12720 | 631900.63 | 4174200.44 | 0.15965 |
| 632250.63 | 4174200.44 | 0.18029 | 632600.63 | 4174200.44 | 0.19291 |
| 632950.63 | 4174200.44 | 0.17953 | 633300.63 | 4174200.44 | 0.15980 |
| 629800.63 | 4174550.44 | 0.07403 | 630150.63 | 4174550.44 | 0.08915 |
| 630500.63 | 4174550.44 | 0.11131 | 630850.63 | 4174550.44 | 0.14630 |
| 631200.63 | 4174550.44 | 0.17792 | 631550.63 | 4174550.44 | 0.20756 |
| 631900.63 | 4174550.44 | 0.27563 | 632250.63 | 4174550.44 | 0.31162 |
| 632600.63 | 4174550.44 | 0.28856 | 632950.63 | 4174550.44 | 0.24872 |
| 633300.63 | 4174550.44 | 0.22435 | 629800.63 | 4174900.44 | 0.08997 |
| 630150.63 | 4174900.44 | 0.11477 | 630500.63 | 4174900.44 | 0.15128 |
| 630850.63 | 4174900.44 | 0.21745 | 631200.63 | 4174900.44 | 0.32052 |
| 631550.63 | 4174900.44 | 0.43190 | 631900.63 | 4174900.44 | 0.63856 |
| 632250.63 | 4174900.44 | 0.58651 | 632600.63 | 4174900.44 | 0.45830 |
| 632950.63 | 4174900.44 | 0.39553 | 633300.63 | 4174900.44 | 0.34597 |
| 629800.63 | 4175250.44 | 0.10361 | 630150.63 | 4175250.44 | 0.14225 |
| 630500.63 | 4175250.44 | 0.21141 | 630850.63 | 4175250.44 | 0.36003 |
| 631200.63 | 4175250.44 | 0.70502 | 631550.63 | 4175250.44 | 1.36322 |
| 631900.63 | 4175250.44 | 2.03723 | 632250.63 | 4175250.44 | 1.22912 |
| 632600.63 | 4175250.44 | 0.88018 | 632950.63 | 4175250.44 | 0.67278 |
| 633300.63 | 4175250.44 | 0.52538 | 629800.63 | 4175600.44 | 0.11430 |
| 630150.63 | 4175600.44 | 0.16333 | 630500.63 | 4175600.44 | 0.26131 |
| 630850.63 | 4175600.44 | 0.53630 | 631200.63 | 4175600.44 | 2.20724 |
| 631550.63 | 4175600.44 | 25.97704 | 631900.63 | 4175600.44 | 7.63354 |
| 632250.63 | 4175600.44 | 2.59905 | 632600.63 | 4175600.44 | 1.43940 |
| 632950.63 | 4175600.44 | 0.93560 | 633300.63 | 4175600.44 | 0.66583 |
| 629800.63 | 4175950.44 | 0.11929 | 630150.63 | 4175950.44 | 0.17479 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK11 ***

INCLUDING SOURCE(S): STCK11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.29557 | 630850.63 | 4175950.44 | 0.72843 |
| 631200.63 | 4175950.44 | 2.98003 | 631550.63 | 4175950.44 | 3.30170 |
| 631900.63 | 4175950.44 | 2.85038 | 632250.63 | 4175950.44 | 1.80952 |
| 632600.63 | 4175950.44 | 1.17377 | 632950.63 | 4175950.44 | 0.82027 |
| 633300.63 | 4175950.44 | 0.60629 | 629800.63 | 4176300.44 | 0.13049 |
| 630150.63 | 4176300.44 | 0.20160 | 630500.63 | 4176300.44 | 0.35623 |
| 630850.63 | 4176300.44 | 0.76724 | 631200.63 | 4176300.44 | 1.25130 |
| 631550.63 | 4176300.44 | 1.21731 | 631900.63 | 4176300.44 | 1.07423 |
| 632250.63 | 4176300.44 | 0.81893 | 632600.63 | 4176300.44 | 0.64207 |
| 632950.63 | 4176300.44 | 0.52536 | 633300.63 | 4176300.44 | 0.42995 |
| 629800.63 | 4176650.44 | 0.14521 | 630150.63 | 4176650.44 | 0.21400 |
| 630500.63 | 4176650.44 | 0.33754 | 630850.63 | 4176650.44 | 0.52067 |
| 631200.63 | 4176650.44 | 0.67070 | 631550.63 | 4176650.44 | 0.66781 |
| 631900.63 | 4176650.44 | 0.57405 | 632250.63 | 4176650.44 | 0.50732 |
| 632600.63 | 4176650.44 | 0.41145 | 632950.63 | 4176650.44 | 0.34197 |
| 633300.63 | 4176650.44 | 0.29757 | 629800.63 | 4177000.44 | 0.14561 |
| 630150.63 | 4177000.44 | 0.20095 | 630500.63 | 4177000.44 | 0.27209 |
| 630850.63 | 4177000.44 | 0.34701 | 631200.63 | 4177000.44 | 0.41641 |
| 631550.63 | 4177000.44 | 0.40964 | 631900.63 | 4177000.44 | 0.37006 |
| 632250.63 | 4177000.44 | 0.34153 | 632600.63 | 4177000.44 | 0.29934 |
| 632950.63 | 4177000.44 | 0.25759 | 633300.63 | 4177000.44 | 0.22061 |
| 629800.63 | 4177350.44 | 0.13751 | 630150.63 | 4177350.44 | 0.17426 |
| 630500.63 | 4177350.44 | 0.21252 | 630850.63 | 4177350.44 | 0.24896 |
| 631200.63 | 4177350.44 | 0.28224 | 631550.63 | 4177350.44 | 0.27881 |
| 631900.63 | 4177350.44 | 0.26323 | 632250.63 | 4177350.44 | 0.23626 |
| 632600.63 | 4177350.44 | 0.22935 | 632950.63 | 4177350.44 | 0.20245 |
| 633300.63 | 4177350.44 | 0.17979 | 631670.70 | 4175493.59 | 7.97556 |
| 631669.80 | 4175641.41 | 27.01346 | 631665.32 | 4175796.39 | 10.16858 |
| 631417.17 | 4175826.85 | 11.91044 | 631417.17 | 4175673.66 | 45.79931 |
| 631422.55 | 4175484.63 | 2.51052 | 631268.42 | 4175983.74 | 3.36221 |
| 631275.69 | 4175523.99 | 2.32345 | 631345.65 | 4175419.50 | 1.88226 |
| 631384.72 | 4175441.30 | 3.60878 | 631491.93 | 4175442.21 | 4.32336 |
| 631491.93 | 4175414.95 | 2.64215 | 631385.63 | 4175413.14 | 2.12946 |
| 631358.37 | 4175395.87 | 1.73370 | 631409.25 | 4175336.81 | 1.44130 |
| 631567.35 | 4175235.96 | 1.34402 | 631756.33 | 4175028.80 | 0.86442 |
| 631807.22 | 4175003.36 | 0.83244 | 631867.18 | 4174987.91 | 0.82447 |
| 631849.92 | 4175988.28 | 2.46914 | 631268.74 | 4175963.75 | 3.62080 |
| 631269.05 | 4175943.76 | 3.89204 | 631269.37 | 4175923.77 | 4.19378 |
| 631269.68 | 4175903.78 | 4.76178 | 631270.00 | 4175883.79 | 5.37673 |
| 631270.32 | 4175863.81 | 6.61178 | 631270.63 | 4175843.82 | 6.44783 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK11 ***

INCLUDING SOURCE(S): STCK11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 7.90494 | 631271.26 | 4175803.84 | 7.28573 |
| 631271.58 | 4175783.85 | 6.87337 | 631271.90 | 4175763.86 | 7.28859 |
| 631272.21 | 4175743.87 | 6.78860 | 631272.53 | 4175723.88 | 6.05872 |
| 631272.85 | 4175703.89 | 5.58392 | 631273.16 | 4175683.90 | 5.17343 |
| 631273.48 | 4175663.91 | 4.85802 | 631273.79 | 4175643.92 | 4.24422 |
| 631274.11 | 4175623.94 | 4.10377 | 631274.43 | 4175603.95 | 3.78186 |
| 631274.74 | 4175583.96 | 3.26159 | 631275.06 | 4175563.97 | 2.96717 |
| 631275.37 | 4175543.98 | 2.64200 | 631285.68 | 4175509.06 | 2.27942 |
| 631295.68 | 4175494.14 | 2.27078 | 631305.67 | 4175479.21 | 2.28954 |
| 631315.67 | 4175464.28 | 2.37290 | 631325.66 | 4175449.35 | 2.12205 |
| 631335.66 | 4175434.43 | 1.95706 | 631358.67 | 4175426.77 | 2.08269 |
| 631371.70 | 4175434.03 | 2.44593 | 631402.59 | 4175441.45 | 4.04218 |
| 631420.46 | 4175441.60 | 4.05979 | 631438.33 | 4175441.76 | 3.92370 |
| 631456.19 | 4175441.91 | 3.83395 | 631474.06 | 4175442.06 | 4.09246 |
| 631491.93 | 4175428.58 | 2.99678 | 631474.21 | 4175414.65 | 2.60782 |
| 631456.50 | 4175414.35 | 2.62361 | 631438.78 | 4175414.05 | 2.60007 |
| 631421.06 | 4175413.74 | 2.44949 | 631403.35 | 4175413.44 | 2.29744 |
| 631372.00 | 4175404.51 | 1.88251 | 631371.09 | 4175381.11 | 1.66364 |
| 631383.81 | 4175366.34 | 1.59334 | 631396.53 | 4175351.58 | 1.51398 |
| 631425.06 | 4175326.73 | 1.40710 | 631440.87 | 4175316.64 | 1.37637 |
| 631456.68 | 4175306.56 | 1.35382 | 631472.49 | 4175296.47 | 1.34275 |
| 631488.30 | 4175286.39 | 1.32741 | 631504.11 | 4175276.30 | 1.32361 |
| 631519.92 | 4175266.22 | 1.32616 | 631535.73 | 4175256.13 | 1.33314 |
| 631551.54 | 4175246.05 | 1.34090 | 631579.95 | 4175222.15 | 1.31072 |
| 631592.55 | 4175208.34 | 1.27737 | 631605.15 | 4175194.53 | 1.24440 |
| 631617.74 | 4175180.72 | 1.21146 | 631630.34 | 4175166.91 | 1.17960 |
| 631642.94 | 4175153.10 | 1.14728 | 631655.54 | 4175139.29 | 1.11442 |
| 631668.14 | 4175125.47 | 1.08177 | 631680.74 | 4175111.66 | 1.04974 |
| 631693.34 | 4175097.85 | 1.01804 | 631705.94 | 4175084.04 | 0.98659 |
| 631718.53 | 4175070.23 | 0.95552 | 631731.13 | 4175056.42 | 0.92482 |
| 631743.73 | 4175042.61 | 0.89471 | 631773.29 | 4175020.32 | 0.85439 |
| 631790.26 | 4175011.84 | 0.84397 | 631822.21 | 4174999.50 | 0.83168 |
| 631837.20 | 4174995.64 | 0.83029 | 631852.19 | 4174991.77 | 0.82787 |
| 631866.84 | 4175007.53 | 0.88037 | 631866.50 | 4175027.14 | 0.94077 |
| 631866.16 | 4175046.76 | 1.00716 | 631865.83 | 4175066.37 | 1.07867 |
| 631865.49 | 4175085.99 | 1.15732 | 631865.15 | 4175105.60 | 1.24288 |
| 631864.81 | 4175125.22 | 1.33571 | 631864.47 | 4175144.83 | 1.43613 |
| 631864.13 | 4175164.45 | 1.54470 | 631863.80 | 4175184.06 | 1.66036 |
| 631863.46 | 4175203.68 | 1.78469 | 631863.12 | 4175223.29 | 1.91999 |
| 631862.78 | 4175242.91 | 2.06375 | 631862.44 | 4175262.52 | 2.21689 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK11 ***

INCLUDING SOURCE(S): STCK11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.38119 | 631861.77 | 4175301.75 | 2.55669 |
| 631861.43 | 4175321.37 | 2.74429 | 631861.09 | 4175340.98 | 2.94612 |
| 631860.75 | 4175360.60 | 3.16507 | 631860.41 | 4175380.21 | 3.40284 |
| 631860.07 | 4175399.83 | 3.66739 | 631859.73 | 4175419.44 | 3.96167 |
| 631859.40 | 4175439.06 | 4.29174 | 631859.06 | 4175458.67 | 4.66769 |
| 631858.72 | 4175478.29 | 5.09867 | 631858.38 | 4175497.90 | 5.59413 |
| 631858.04 | 4175517.52 | 6.16155 | 631857.70 | 4175537.13 | 6.79788 |
| 631857.37 | 4175556.75 | 7.50021 | 631857.03 | 4175576.36 | 8.25239 |
| 631856.69 | 4175595.98 | 9.01552 | 631856.35 | 4175615.59 | 9.72051 |
| 631856.01 | 4175635.21 | 10.28048 | 631855.67 | 4175654.82 | 10.62011 |
| 631855.33 | 4175674.44 | 10.71469 | 631855.00 | 4175694.05 | 10.58721 |
| 631854.66 | 4175713.67 | 10.27816 | 631854.32 | 4175733.28 | 9.80946 |
| 631853.98 | 4175752.90 | 9.18674 | 631853.64 | 4175772.51 | 8.42872 |
| 631853.30 | 4175792.13 | 7.58471 | 631852.97 | 4175811.74 | 6.73250 |
| 631852.63 | 4175831.36 | 5.93939 | 631852.29 | 4175850.97 | 5.23488 |
| 631851.95 | 4175870.59 | 4.61770 | 631851.61 | 4175890.20 | 4.08369 |
| 631851.27 | 4175909.82 | 3.62934 | 631850.94 | 4175929.43 | 3.25033 |
| 631850.60 | 4175949.05 | 2.93754 | 631850.26 | 4175968.66 | 2.68093 |
| 631830.54 | 4175988.13 | 2.49171 | 631811.15 | 4175987.98 | 2.51161 |
| 631791.77 | 4175987.83 | 2.53187 | 631772.39 | 4175987.67 | 2.54989 |
| 631753.00 | 4175987.52 | 2.56580 | 631733.62 | 4175987.37 | 2.57765 |
| 631714.24 | 4175987.22 | 2.58822 | 631694.85 | 4175987.07 | 2.59461 |
| 631675.47 | 4175986.92 | 2.60104 | 631656.09 | 4175986.77 | 2.60194 |
| 631636.70 | 4175986.62 | 2.59544 | 631617.32 | 4175986.46 | 2.59101 |
| 631597.94 | 4175986.31 | 2.61468 | 631578.55 | 4175986.16 | 2.65917 |
| 631559.17 | 4175986.01 | 2.71451 | 631539.79 | 4175985.86 | 2.79965 |
| 631520.40 | 4175985.71 | 2.89725 | 631501.02 | 4175985.56 | 3.00544 |
| 631481.64 | 4175985.40 | 3.21335 | 631462.25 | 4175985.25 | 3.55579 |
| 631442.87 | 4175985.10 | 3.82323 | 631423.49 | 4175984.95 | 3.89273 |
| 631404.10 | 4175984.80 | 3.93225 | 631384.72 | 4175984.65 | 3.73260 |
| 631365.34 | 4175984.50 | 3.64439 | 631345.95 | 4175984.35 | 3.58907 |
| 631326.57 | 4175984.19 | 3.55576 | 631307.19 | 4175984.04 | 3.52136 |
| 631287.80 | 4175983.89 | 3.45880 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK12 ***

INCLUDING SOURCE(S): STCK12 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.87885 | 632304.44 | 4174354.52 | 0.26646 |
| 632192.15 | 4174956.32 | 0.82216 | 632420.62 | 4175510.15 | 1.90976 |
| 632418.97 | 4175552.92 | 1.95665 | 631187.00 | 4175727.00 | 3.14477 |
| 631166.00 | 4175729.00 | 2.73883 | 631121.00 | 4175719.00 | 1.99045 |

| | | | | | |
|---|---|---|---|---|---|
| 631035.00 | 4174830.00 | 0.27834 | 631106.00 | 4174825.00 | 0.30004 |
| 631937.00 | 4174528.00 | 0.32269 | 631322.00 | 4174522.00 | 0.19994 |
| 629800.63 | 4173850.44 | 0.05360 | 630150.63 | 4173850.44 | 0.06248 |
| 630500.63 | 4173850.44 | 0.07421 | 630850.63 | 4173850.44 | 0.08645 |
| 631200.63 | 4173850.44 | 0.08959 | 631550.63 | 4173850.44 | 0.09750 |
| 631900.63 | 4173850.44 | 0.11947 | 632250.63 | 4173850.44 | 0.13254 |
| 632600.63 | 4173850.44 | 0.14493 | 632950.63 | 4173850.44 | 0.14572 |
| 633300.63 | 4173850.44 | 0.13323 | 629800.63 | 4174200.44 | 0.06418 |
| 630150.63 | 4174200.44 | 0.07579 | 630500.63 | 4174200.44 | 0.09250 |
| 630850.63 | 4174200.44 | 0.11502 | 631200.63 | 4174200.44 | 0.12799 |
| 631550.63 | 4174200.44 | 0.14301 | 631900.63 | 4174200.44 | 0.18185 |
| 632250.63 | 4174200.44 | 0.20736 | 632600.63 | 4174200.44 | 0.21657 |
| 632950.63 | 4174200.44 | 0.19541 | 633300.63 | 4174200.44 | 0.17400 |
| 629800.63 | 4174550.44 | 0.07847 | 630150.63 | 4174550.44 | 0.09563 |
| 630500.63 | 4174550.44 | 0.12039 | 630850.63 | 4174550.44 | 0.16069 |
| 631200.63 | 4174550.44 | 0.20409 | 631550.63 | 4174550.44 | 0.24373 |
| 631900.63 | 4174550.44 | 0.33187 | 632250.63 | 4174550.44 | 0.36903 |
| 632600.63 | 4174550.44 | 0.32384 | 632950.63 | 4174550.44 | 0.27942 |
| 633300.63 | 4174550.44 | 0.25221 | 629800.63 | 4174900.44 | 0.09433 |
| 630150.63 | 4174900.44 | 0.12306 | 630500.63 | 4174900.44 | 0.16633 |
| 630850.63 | 4174900.44 | 0.24379 | 631200.63 | 4174900.44 | 0.38279 |
| 631550.63 | 4174900.44 | 0.55524 | 631900.63 | 4174900.44 | 0.84430 |
| 632250.63 | 4174900.44 | 0.69382 | 632600.63 | 4174900.44 | 0.54281 |
| 632950.63 | 4174900.44 | 0.46154 | 633300.63 | 4174900.44 | 0.39339 |
| 629800.63 | 4175250.44 | 0.10703 | 630150.63 | 4175250.44 | 0.14878 |
| 630500.63 | 4175250.44 | 0.22724 | 630850.63 | 4175250.44 | 0.41068 |
| 631200.63 | 4175250.44 | 0.91949 | 631550.63 | 4175250.44 | 2.25152 |
| 631900.63 | 4175250.44 | 2.74840 | 632250.63 | 4175250.44 | 1.57128 |
| 632600.63 | 4175250.44 | 1.05772 | 632950.63 | 4175250.44 | 0.76428 |
| 633300.63 | 4175250.44 | 0.57668 | 629800.63 | 4175600.44 | 0.11581 |
| 630150.63 | 4175600.44 | 0.16686 | 630500.63 | 4175600.44 | 0.27057 |
| 630850.63 | 4175600.44 | 0.56786 | 631200.63 | 4175600.44 | 2.79506 |
| 631550.63 | 4175600.44 | 135.87124 | 631900.63 | 4175600.44 | 8.22097 |
| 632250.63 | 4175600.44 | 2.70478 | 632600.63 | 4175600.44 | 1.47501 |
| 632950.63 | 4175600.44 | 0.94969 | 633300.63 | 4175600.44 | 0.67250 |
| 629800.63 | 4175950.44 | 0.12132 | 630150.63 | 4175950.44 | 0.18021 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK12 ***

INCLUDING SOURCE(S): STCK12 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.31640 | 630850.63 | 4175950.44 | 0.80314 |
| 631200.63 | 4175950.44 | 2.47601 | 631550.63 | 4175950.44 | 2.19667 |
| 631900.63 | 4175950.44 | 1.83121 | 632250.63 | 4175950.44 | 1.40274 |
| 632600.63 | 4175950.44 | 0.99338 | 632950.63 | 4175950.44 | 0.73110 |

| | | | | | |
|---|---|---|---|---|---|
| 633300.63 | 4175950.44 | 0.55757 | 629800.63 | 4176300.44 | 0.13560 |
| 630150.63 | 4176300.44 | 0.20892 | 630500.63 | 4176300.44 | 0.36127 |
| 630850.63 | 4176300.44 | 0.72567 | 631200.63 | 4176300.44 | 1.04249 |
| 631550.63 | 4176300.44 | 1.00600 | 631900.63 | 4176300.44 | 0.87242 |
| 632250.63 | 4176300.44 | 0.70078 | 632600.63 | 4176300.44 | 0.54958 |
| 632950.63 | 4176300.44 | 0.46045 | 633300.63 | 4176300.44 | 0.38630 |
| 629800.63 | 4176650.44 | 0.14662 | 630150.63 | 4176650.44 | 0.21248 |
| 630500.63 | 4176650.44 | 0.32354 | 630850.63 | 4176650.44 | 0.47241 |
| 631200.63 | 4176650.44 | 0.59536 | 631550.63 | 4176650.44 | 0.58311 |
| 631900.63 | 4176650.44 | 0.50118 | 632250.63 | 4176650.44 | 0.45410 |
| 632600.63 | 4176650.44 | 0.37395 | 632950.63 | 4176650.44 | 0.31143 |
| 633300.63 | 4176650.44 | 0.26980 | 629800.63 | 4177000.44 | 0.14405 |
| 630150.63 | 4177000.44 | 0.19425 | 630500.63 | 4177000.44 | 0.25469 |
| 630850.63 | 4177000.44 | 0.31647 | 631200.63 | 4177000.44 | 0.37569 |
| 631550.63 | 4177000.44 | 0.36775 | 631900.63 | 4177000.44 | 0.33592 |
| 632250.63 | 4177000.44 | 0.30595 | 632600.63 | 4177000.44 | 0.27692 |
| 632950.63 | 4177000.44 | 0.24001 | 633300.63 | 4177000.44 | 0.20712 |
| 629800.63 | 4177350.44 | 0.13392 | 630150.63 | 4177350.44 | 0.16606 |
| 630500.63 | 4177350.44 | 0.19876 | 630850.63 | 4177350.44 | 0.23074 |
| 631200.63 | 4177350.44 | 0.25801 | 631550.63 | 4177350.44 | 0.25473 |
| 631900.63 | 4177350.44 | 0.24242 | 632250.63 | 4177350.44 | 0.21651 |
| 632600.63 | 4177350.44 | 0.21238 | 632950.63 | 4177350.44 | 0.19040 |
| 633300.63 | 4177350.44 | 0.16990 | 631670.70 | 4175493.59 | 15.31483 |
| 631669.80 | 4175641.41 | 24.26039 | 631665.32 | 4175796.39 | 4.01429 |
| 631417.17 | 4175826.85 | 5.52356 | 631417.17 | 4175673.66 | 31.30458 |
| 631422.55 | 4175484.63 | 4.07366 | 631268.42 | 4175983.74 | 2.39878 |
| 631275.69 | 4175523.99 | 3.66097 | 631345.65 | 4175419.50 | 3.11244 |
| 631384.72 | 4175441.30 | 5.87652 | 631491.93 | 4175442.21 | 11.69526 |
| 631491.93 | 4175414.95 | 5.39674 | 631385.63 | 4175413.14 | 3.70784 |
| 631358.37 | 4175395.87 | 2.85708 | 631409.25 | 4175336.81 | 2.36209 |
| 631567.35 | 4175235.96 | 2.20768 | 631756.33 | 4175028.80 | 1.22845 |
| 631807.22 | 4175003.36 | 1.16064 | 631867.18 | 4174987.91 | 1.12703 |
| 631849.92 | 4175988.28 | 1.67128 | 631268.74 | 4175963.75 | 2.58222 |
| 631269.05 | 4175943.76 | 2.81253 | 631269.37 | 4175923.77 | 3.22852 |
| 631269.68 | 4175903.78 | 4.78394 | 631270.00 | 4175883.79 | 6.02797 |
| 631270.32 | 4175863.81 | 5.93508 | 631270.63 | 4175843.82 | 6.42716 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK12 ***

INCLUDING SOURCE(S): STCK12 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 6.93601 | 631271.26 | 4175803.84 | 7.44706 |
| 631271.58 | 4175783.85 | 7.89747 | 631271.90 | 4175763.86 | 8.08379 |
| 631272.21 | 4175743.87 | 8.41545 | 631272.53 | 4175723.88 | 8.52033 |
| 631272.85 | 4175703.89 | 8.23877 | 631273.16 | 4175683.90 | 7.45368 |

| | | | | | |
|---|---|---|---|---|---|
| 631273.48 | 4175663.91 | 7.01121 | 631273.79 | 4175643.92 | 6.17474 |
| 631274.11 | 4175623.94 | 5.80671 | 631274.43 | 4175603.95 | 5.70824 |
| 631274.74 | 4175583.96 | 5.21277 | 631275.06 | 4175563.97 | 4.55007 |
| 631275.37 | 4175543.98 | 4.02236 | 631285.68 | 4175509.06 | 3.59751 |
| 631295.68 | 4175494.14 | 3.49278 | 631305.67 | 4175479.21 | 3.64202 |
| 631315.67 | 4175464.28 | 3.65209 | 631325.66 | 4175449.35 | 3.43272 |
| 631335.66 | 4175434.43 | 3.24113 | 631358.67 | 4175426.77 | 3.53006 |
| 631371.70 | 4175434.03 | 4.30099 | 631402.59 | 4175441.45 | 6.62329 |
| 631420.46 | 4175441.60 | 6.76845 | 631438.33 | 4175441.76 | 6.93238 |
| 631456.19 | 4175441.91 | 7.18093 | 631474.06 | 4175442.06 | 9.14426 |
| 631491.93 | 4175428.58 | 6.34705 | 631474.21 | 4175414.65 | 5.07905 |
| 631456.50 | 4175414.35 | 4.97513 | 631438.78 | 4175414.05 | 4.76947 |
| 631421.06 | 4175413.74 | 4.43888 | 631403.35 | 4175413.44 | 4.02663 |
| 631372.00 | 4175404.51 | 3.19189 | 631371.09 | 4175381.11 | 2.74988 |
| 631383.81 | 4175366.34 | 2.62221 | 631396.53 | 4175351.58 | 2.48756 |
| 631425.06 | 4175326.73 | 2.29727 | 631440.87 | 4175316.64 | 2.24123 |
| 631456.68 | 4175306.56 | 2.20120 | 631472.49 | 4175296.47 | 2.17638 |
| 631488.30 | 4175286.39 | 2.16149 | 631504.11 | 4175276.30 | 2.15556 |
| 631519.92 | 4175266.22 | 2.17558 | 631535.73 | 4175256.13 | 2.19264 |
| 631551.54 | 4175246.05 | 2.20399 | 631579.95 | 4175222.15 | 2.13665 |
| 631592.55 | 4175208.34 | 2.06322 | 631605.15 | 4175194.53 | 1.99180 |
| 631617.74 | 4175180.72 | 1.91853 | 631630.34 | 4175166.91 | 1.84910 |
| 631642.94 | 4175153.10 | 1.77970 | 631655.54 | 4175139.29 | 1.71032 |
| 631668.14 | 4175125.47 | 1.64303 | 631680.74 | 4175111.66 | 1.57748 |
| 631693.34 | 4175097.85 | 1.51471 | 631705.94 | 4175084.04 | 1.45335 |
| 631718.53 | 4175070.23 | 1.39391 | 631731.13 | 4175056.42 | 1.33668 |
| 631743.73 | 4175042.61 | 1.28145 | 631773.29 | 4175020.32 | 1.20756 |
| 631790.26 | 4175011.84 | 1.18540 | 631822.21 | 4174999.50 | 1.15474 |
| 631837.20 | 4174995.64 | 1.14782 | 631852.19 | 4174991.77 | 1.13847 |
| 631866.84 | 4175007.53 | 1.20998 | 631866.50 | 4175027.14 | 1.29903 |
| 631866.16 | 4175046.76 | 1.39491 | 631865.83 | 4175066.37 | 1.49923 |
| 631865.49 | 4175085.99 | 1.61206 | 631865.15 | 4175105.60 | 1.73255 |
| 631864.81 | 4175125.22 | 1.86227 | 631864.47 | 4175144.83 | 2.00065 |
| 631864.13 | 4175164.45 | 2.14853 | 631863.80 | 4175184.06 | 2.30674 |
| 631863.46 | 4175203.68 | 2.47564 | 631863.12 | 4175223.29 | 2.65683 |
| 631862.78 | 4175242.91 | 2.85264 | 631862.44 | 4175262.52 | 3.06550 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK12 ***

INCLUDING SOURCE(S): STCK12 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 3.29903 | 631861.77 | 4175301.75 | 3.55748 |
| 631861.43 | 4175321.37 | 3.84700 | 631861.09 | 4175340.98 | 4.17347 |
| 631860.75 | 4175360.60 | 4.54640 | 631860.41 | 4175380.21 | 4.97508 |
| 631860.07 | 4175399.83 | 5.46786 | 631859.73 | 4175419.44 | 6.02916 |

| | | | | | |
|---|---|---|---|---|---|
| 631859.40 | 4175439.06 | 6.65738 | 631859.06 | 4175458.67 | 7.34284 |
| 631858.72 | 4175478.29 | 8.06784 | 631858.38 | 4175497.90 | 8.79746 |
| 631858.04 | 4175517.52 | 9.47385 | 631857.70 | 4175537.13 | 10.02039 |
| 631857.37 | 4175556.75 | 10.37106 | 631857.03 | 4175576.36 | 10.50218 |
| 631856.69 | 4175595.98 | 10.42959 | 631856.35 | 4175615.59 | 10.17480 |
| 631856.01 | 4175635.21 | 9.73888 | 631855.67 | 4175654.82 | 9.12237 |
| 631855.33 | 4175674.44 | 8.34655 | 631855.00 | 4175694.05 | 7.47235 |
| 631854.66 | 4175713.67 | 6.58265 | 631854.32 | 4175733.28 | 5.75550 |
| 631853.98 | 4175752.90 | 5.02528 | 631853.64 | 4175772.51 | 4.39830 |
| 631853.30 | 4175792.13 | 3.86633 | 631852.97 | 4175811.74 | 3.41962 |
| 631852.63 | 4175831.36 | 3.04979 | 631852.29 | 4175850.97 | 2.74783 |
| 631851.95 | 4175870.59 | 2.50242 | 631851.61 | 4175890.20 | 2.30037 |
| 631851.27 | 4175909.82 | 2.13498 | 631850.94 | 4175929.43 | 1.99405 |
| 631850.60 | 4175949.05 | 1.87246 | 631850.26 | 4175968.66 | 1.76472 |
| 631830.54 | 4175988.13 | 1.68306 | 631811.15 | 4175987.98 | 1.69417 |
| 631791.77 | 4175987.83 | 1.70652 | 631772.39 | 4175987.67 | 1.71660 |
| 631753.00 | 4175987.52 | 1.72229 | 631733.62 | 4175987.37 | 1.72276 |
| 631714.24 | 4175987.22 | 1.72213 | 631694.85 | 4175987.07 | 1.72101 |
| 631675.47 | 4175986.92 | 1.72095 | 631656.09 | 4175986.77 | 1.73090 |
| 631636.70 | 4175986.62 | 1.74542 | 631617.32 | 4175986.46 | 1.77577 |
| 631597.94 | 4175986.31 | 1.81359 | 631578.55 | 4175986.16 | 1.85886 |
| 631559.17 | 4175986.01 | 1.91254 | 631539.79 | 4175985.86 | 1.95944 |
| 631520.40 | 4175985.71 | 2.01406 | 631501.02 | 4175985.56 | 2.09252 |
| 631481.64 | 4175985.40 | 2.21736 | 631462.25 | 4175985.25 | 2.37371 |
| 631442.87 | 4175985.10 | 2.48602 | 631423.49 | 4175984.95 | 2.50916 |
| 631404.10 | 4175984.80 | 2.51421 | 631384.72 | 4175984.65 | 2.52431 |
| 631365.34 | 4175984.50 | 2.49972 | 631345.95 | 4175984.35 | 2.45989 |
| 631326.57 | 4175984.19 | 2.42955 | 631307.19 | 4175984.04 | 2.41989 |
| 631287.80 | 4175983.89 | 2.41233 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK13 ***

INCLUDING SOURCE(S): STCK13 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.67298 | 632304.44 | 4174354.52 | 0.23405 |
| 632192.15 | 4174956.32 | 0.63161 | 632420.62 | 4175510.15 | 1.44333 |
| 632418.97 | 4175552.92 | 1.51442 | 631187.00 | 4175727.00 | 6.14503 |
| 631166.00 | 4175729.00 | 5.00638 | 631121.00 | 4175719.00 | 3.21830 |
| 631035.00 | 4174830.00 | 0.26931 | 631106.00 | 4174825.00 | 0.27869 |
| 631937.00 | 4174528.00 | 0.28537 | 631322.00 | 4174522.00 | 0.18021 |
| 629800.63 | 4173850.44 | 0.05375 | 630150.63 | 4173850.44 | 0.06286 |
| 630500.63 | 4173850.44 | 0.07395 | 630850.63 | 4173850.44 | 0.08183 |
| 631200.63 | 4173850.44 | 0.08249 | 631550.63 | 4173850.44 | 0.09565 |
| 631900.63 | 4173850.44 | 0.11271 | 632250.63 | 4173850.44 | 0.12287 |
| 632600.63 | 4173850.44 | 0.13286 | 632950.63 | 4173850.44 | 0.13177 |

| | | | | | |
|---|---|---|---|---|---|
| 633300.63 | 4173850.44 | 0.12055 | 629800.63 | 4174200.44 | 0.06406 |
| 630150.63 | 4174200.44 | 0.07608 | 630500.63 | 4174200.44 | 0.09292 |
| 630850.63 | 4174200.44 | 0.11111 | 631200.63 | 4174200.44 | 0.11558 |
| 631550.63 | 4174200.44 | 0.13929 | 631900.63 | 4174200.44 | 0.16737 |
| 632250.63 | 4174200.44 | 0.18711 | 632600.63 | 4174200.44 | 0.19096 |
| 632950.63 | 4174200.44 | 0.17226 | 633300.63 | 4174200.44 | 0.15457 |
| 629800.63 | 4174550.44 | 0.07872 | 630150.63 | 4174550.44 | 0.09558 |
| 630500.63 | 4174550.44 | 0.12125 | 630850.63 | 4174550.44 | 0.15950 |
| 631200.63 | 4174550.44 | 0.18024 | 631550.63 | 4174550.44 | 0.23434 |
| 631900.63 | 4174550.44 | 0.29348 | 632250.63 | 4174550.44 | 0.31328 |
| 632600.63 | 4174550.44 | 0.27365 | 632950.63 | 4174550.44 | 0.23907 |
| 633300.63 | 4174550.44 | 0.21777 | 629800.63 | 4174900.44 | 0.09755 |
| 630150.63 | 4174900.44 | 0.12536 | 630500.63 | 4174900.44 | 0.16791 |
| 630850.63 | 4174900.44 | 0.24720 | 631200.63 | 4174900.44 | 0.33587 |
| 631550.63 | 4174900.44 | 0.52113 | 631900.63 | 4174900.44 | 0.68023 |
| 632250.63 | 4174900.44 | 0.54292 | 632600.63 | 4174900.44 | 0.43450 |
| 632950.63 | 4174900.44 | 0.37795 | 633300.63 | 4174900.44 | 0.33019 |
| 629800.63 | 4175250.44 | 0.11470 | 630150.63 | 4175250.44 | 0.16101 |
| 630500.63 | 4175250.44 | 0.24607 | 630850.63 | 4175250.44 | 0.43415 |
| 631200.63 | 4175250.44 | 0.85203 | 631550.63 | 4175250.44 | 1.94104 |
| 631900.63 | 4175250.44 | 1.79756 | 632250.63 | 4175250.44 | 1.10537 |
| 632600.63 | 4175250.44 | 0.80173 | 632950.63 | 4175250.44 | 0.61650 |
| 633300.63 | 4175250.44 | 0.48533 | 629800.63 | 4175600.44 | 0.12797 |
| 630150.63 | 4175600.44 | 0.18885 | 630500.63 | 4175600.44 | 0.31953 |
| 630850.63 | 4175600.44 | 0.73953 | 631200.63 | 4175600.44 | 4.55112 |
| 631550.63 | 4175600.44 | 27.41590 | 631900.63 | 4175600.44 | 5.38267 |
| 632250.63 | 4175600.44 | 2.06961 | 632600.63 | 4175600.44 | 1.22521 |
| 632950.63 | 4175600.44 | 0.82578 | 633300.63 | 4175600.44 | 0.60135 |
| 629800.63 | 4175950.44 | 0.13449 | 630150.63 | 4175950.44 | 0.20493 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK13 ***

INCLUDING SOURCE(S): STCK13 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.37519 | 630850.63 | 4175950.44 | 1.08384 |
| 631200.63 | 4175950.44 | 4.01815 | 631550.63 | 4175950.44 | 3.02850 |
| 631900.63 | 4175950.44 | 2.59956 | 632250.63 | 4175950.44 | 1.55231 |
| 632600.63 | 4175950.44 | 1.03040 | 632950.63 | 4175950.44 | 0.73532 |
| 633300.63 | 4175950.44 | 0.55246 | 629800.63 | 4176300.44 | 0.14964 |
| 630150.63 | 4176300.44 | 0.24030 | 630500.63 | 4176300.44 | 0.44621 |
| 630850.63 | 4176300.44 | 0.95138 | 631200.63 | 4176300.44 | 1.30250 |
| 631550.63 | 4176300.44 | 1.11726 | 631900.63 | 4176300.44 | 0.99378 |
| 632250.63 | 4176300.44 | 0.75069 | 632600.63 | 4176300.44 | 0.60047 |
| 632950.63 | 4176300.44 | 0.49009 | 633300.63 | 4176300.44 | 0.40243 |
| 629800.63 | 4176650.44 | 0.16480 | 630150.63 | 4176650.44 | 0.24785 |

| | | | | | |
|---|---|---|---|---|---|
| 630500.63 | 4176650.44 | 0.39142 | 630850.63 | 4176650.44 | 0.57161 |
| 631200.63 | 4176650.44 | 0.69001 | 631550.63 | 4176650.44 | 0.64836 |
| 631900.63 | 4176650.44 | 0.56697 | 632250.63 | 4176650.44 | 0.47278 |
| 632600.63 | 4176650.44 | 0.38459 | 632950.63 | 4176650.44 | 0.32503 |
| 633300.63 | 4176650.44 | 0.28454 | 629800.63 | 4177000.44 | 0.16236 |
| 630150.63 | 4177000.44 | 0.22372 | 630500.63 | 4177000.44 | 0.29691 |
| 630850.63 | 4177000.44 | 0.36807 | 631200.63 | 4177000.44 | 0.41584 |
| 631550.63 | 4177000.44 | 0.40497 | 631900.63 | 4177000.44 | 0.35207 |
| 632250.63 | 4177000.44 | 0.33262 | 632600.63 | 4177000.44 | 0.28424 |
| 632950.63 | 4177000.44 | 0.24404 | 633300.63 | 4177000.44 | 0.21054 |
| 629800.63 | 4177350.44 | 0.14965 | 630150.63 | 4177350.44 | 0.18731 |
| 630500.63 | 4177350.44 | 0.22490 | 630850.63 | 4177350.44 | 0.26401 |
| 631200.63 | 4177350.44 | 0.27983 | 631550.63 | 4177350.44 | 0.27708 |
| 631900.63 | 4177350.44 | 0.25214 | 632250.63 | 4177350.44 | 0.23562 |
| 632600.63 | 4177350.44 | 0.22081 | 632950.63 | 4177350.44 | 0.19435 |
| 633300.63 | 4177350.44 | 0.17200 | 631670.70 | 4175493.59 | 6.27951 |
| 631669.80 | 4175641.41 | 17.42970 | 631665.32 | 4175796.39 | 9.51932 |
| 631417.17 | 4175826.85 | 6.53609 | 631417.17 | 4175673.66 | 76.09948 |
| 631422.55 | 4175484.63 | 4.85047 | 631268.42 | 4175983.74 | 3.42585 |
| 631275.69 | 4175523.99 | 4.14953 | 631345.65 | 4175419.50 | 2.32756 |
| 631384.72 | 4175441.30 | 3.93089 | 631491.93 | 4175442.21 | 11.04080 |
| 631491.93 | 4175414.95 | 4.55510 | 631385.63 | 4175413.14 | 2.90544 |
| 631358.37 | 4175395.87 | 2.16406 | 631409.25 | 4175336.81 | 1.95874 |
| 631567.35 | 4175235.96 | 1.86653 | 631756.33 | 4175028.80 | 0.98244 |
| 631807.22 | 4175003.36 | 0.91879 | 631867.18 | 4174987.91 | 0.87843 |
| 631849.92 | 4175988.28 | 2.30214 | 631268.74 | 4175963.75 | 3.79377 |
| 631269.05 | 4175943.76 | 4.26591 | 631269.37 | 4175923.77 | 5.44819 |
| 631269.68 | 4175903.78 | 7.14035 | 631270.00 | 4175883.79 | 7.03353 |
| 631270.32 | 4175863.81 | 7.43876 | 631270.63 | 4175843.82 | 8.85411 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK13 ***

INCLUDING SOURCE(S): STCK13 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 10.85780 | 631271.26 | 4175803.84 | 13.21008 |
| 631271.58 | 4175783.85 | 15.90604 | 631271.90 | 4175763.86 | 19.06022 |
| 631272.21 | 4175743.87 | 22.56734 | 631272.53 | 4175723.88 | 23.73647 |
| 631272.85 | 4175703.89 | 23.32171 | 631273.16 | 4175683.90 | 20.84602 |
| 631273.48 | 4175663.91 | 16.48820 | 631273.79 | 4175643.92 | 12.26186 |
| 631274.11 | 4175623.94 | 10.16935 | 631274.43 | 4175603.95 | 8.20277 |
| 631274.74 | 4175583.96 | 6.61786 | 631275.06 | 4175563.97 | 5.55653 |
| 631275.37 | 4175543.98 | 4.82586 | 631285.68 | 4175509.06 | 3.60567 |
| 631295.68 | 4175494.14 | 3.49794 | 631305.67 | 4175479.21 | 3.65898 |
| 631315.67 | 4175464.28 | 3.38445 | 631325.66 | 4175449.35 | 2.99974 |
| 631335.66 | 4175434.43 | 2.48731 | 631358.67 | 4175426.77 | 2.63259 |

| | | | | | |
|---|---|---|---|---|---|
| 631371.70 | 4175434.03 | 3.24004 | 631402.59 | 4175441.45 | 4.37151 |
| 631420.46 | 4175441.60 | 5.30351 | 631438.33 | 4175441.76 | 6.59000 |
| 631456.19 | 4175441.91 | 8.61270 | 631474.06 | 4175442.06 | 9.97440 |
| 631491.93 | 4175428.58 | 5.36179 | 631474.21 | 4175414.65 | 4.46218 |
| 631456.50 | 4175414.35 | 4.90778 | 631438.78 | 4175414.05 | 4.94873 |
| 631421.06 | 4175413.74 | 4.42618 | 631403.35 | 4175413.44 | 3.63093 |
| 631372.00 | 4175404.51 | 2.45904 | 631371.09 | 4175381.11 | 2.13875 |
| 631383.81 | 4175366.34 | 2.08046 | 631396.53 | 4175351.58 | 2.01712 |
| 631425.06 | 4175326.73 | 1.98095 | 631440.87 | 4175316.64 | 1.99177 |
| 631456.68 | 4175306.56 | 1.99750 | 631472.49 | 4175296.47 | 1.99326 |
| 631488.30 | 4175286.39 | 1.98763 | 631504.11 | 4175276.30 | 1.97605 |
| 631519.92 | 4175266.22 | 1.95601 | 631535.73 | 4175256.13 | 1.93356 |
| 631551.54 | 4175246.05 | 1.90062 | 631579.95 | 4175222.15 | 1.78586 |
| 631592.55 | 4175208.34 | 1.70932 | 631605.15 | 4175194.53 | 1.63648 |
| 631617.74 | 4175180.72 | 1.56685 | 631630.34 | 4175166.91 | 1.50212 |
| 631642.94 | 4175153.10 | 1.43874 | 631655.54 | 4175139.29 | 1.37811 |
| 631668.14 | 4175125.47 | 1.32011 | 631680.74 | 4175111.66 | 1.26507 |
| 631693.34 | 4175097.85 | 1.21230 | 631705.94 | 4175084.04 | 1.16200 |
| 631718.53 | 4175070.23 | 1.11396 | 631731.13 | 4175056.42 | 1.06809 |
| 631743.73 | 4175042.61 | 1.02430 | 631773.29 | 4175020.32 | 0.96190 |
| 631790.26 | 4175011.84 | 0.94001 | 631822.21 | 4174999.50 | 0.90967 |
| 631837.20 | 4174995.64 | 0.90001 | 631852.19 | 4174991.77 | 0.88920 |
| 631866.84 | 4175007.53 | 0.93146 | 631866.50 | 4175027.14 | 0.98811 |
| 631866.16 | 4175046.76 | 1.04792 | 631865.83 | 4175066.37 | 1.11110 |
| 631865.49 | 4175085.99 | 1.17789 | 631865.15 | 4175105.60 | 1.24871 |
| 631864.81 | 4175125.22 | 1.32400 | 631864.47 | 4175144.83 | 1.40210 |
| 631864.13 | 4175164.45 | 1.48437 | 631863.80 | 4175184.06 | 1.57095 |
| 631863.46 | 4175203.68 | 1.66217 | 631863.12 | 4175223.29 | 1.75906 |
| 631862.78 | 4175242.91 | 1.86208 | 631862.44 | 4175262.52 | 1.97189 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK13 ***

INCLUDING SOURCE(S): STCK13 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.09009 | 631861.77 | 4175301.75 | 2.21791 |
| 631861.43 | 4175321.37 | 2.35759 | 631861.09 | 4175340.98 | 2.51060 |
| 631860.75 | 4175360.60 | 2.67927 | 631860.41 | 4175380.21 | 2.86591 |
| 631860.07 | 4175399.83 | 3.07376 | 631859.73 | 4175419.44 | 3.30523 |
| 631859.40 | 4175439.06 | 3.56306 | 631859.06 | 4175458.67 | 3.84904 |
| 631858.72 | 4175478.29 | 4.16366 | 631858.38 | 4175497.90 | 4.50483 |
| 631858.04 | 4175517.52 | 4.86916 | 631857.70 | 4175537.13 | 5.24943 |
| 631857.37 | 4175556.75 | 5.63514 | 631857.03 | 4175576.36 | 6.01065 |
| 631856.69 | 4175595.98 | 6.35703 | 631856.35 | 4175615.59 | 6.65431 |
| 631856.01 | 4175635.21 | 6.88529 | 631855.67 | 4175654.82 | 7.03579 |
| 631855.33 | 4175674.44 | 7.09481 | 631855.00 | 4175694.05 | 7.05391 |

| | | | | | |
|---|---|---|---|---|---|
| 631854.66 | 4175713.67 | 6.91110 | 631854.32 | 4175733.28 | 6.67281 |
| 631853.98 | 4175752.90 | 6.35677 | 631853.64 | 4175772.51 | 5.98616 |
| 631853.30 | 4175792.13 | 5.58109 | 631852.97 | 4175811.74 | 5.15833 |
| 631852.63 | 4175831.36 | 4.73413 | 631852.29 | 4175850.97 | 4.32547 |
| 631851.95 | 4175870.59 | 3.94453 | 631851.61 | 4175890.20 | 3.59685 |
| 631851.27 | 4175909.82 | 3.28102 | 631850.94 | 4175929.43 | 2.99453 |
| 631850.60 | 4175949.05 | 2.73570 | 631850.26 | 4175968.66 | 2.50487 |
| 631830.54 | 4175988.13 | 2.32148 | 631811.15 | 4175987.98 | 2.33704 |
| 631791.77 | 4175987.83 | 2.34990 | 631772.39 | 4175987.67 | 2.36116 |
| 631753.00 | 4175987.52 | 2.37196 | 631733.62 | 4175987.37 | 2.38302 |
| 631714.24 | 4175987.22 | 2.39543 | 631694.85 | 4175987.07 | 2.40872 |
| 631675.47 | 4175986.92 | 2.42346 | 631656.09 | 4175986.77 | 2.43906 |
| 631636.70 | 4175986.62 | 2.45620 | 631617.32 | 4175986.46 | 2.47475 |
| 631597.94 | 4175986.31 | 2.49495 | 631578.55 | 4175986.16 | 2.51754 |
| 631559.17 | 4175986.01 | 2.53988 | 631539.79 | 4175985.86 | 2.55910 |
| 631520.40 | 4175985.71 | 2.58068 | 631501.02 | 4175985.56 | 2.61559 |
| 631481.64 | 4175985.40 | 2.67489 | 631462.25 | 4175985.25 | 2.77680 |
| 631442.87 | 4175985.10 | 2.99735 | 631423.49 | 4175984.95 | 3.18855 |
| 631404.10 | 4175984.80 | 3.34850 | 631384.72 | 4175984.65 | 3.33708 |
| 631365.34 | 4175984.50 | 3.26395 | 631345.95 | 4175984.35 | 3.25531 |
| 631326.57 | 4175984.19 | 3.30870 | 631307.19 | 4175984.04 | 3.35926 |
| 631287.80 | 4175983.89 | 3.40839 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK14 ***

INCLUDING SOURCE(S): STCK14 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.79532 | 632304.44 | 4174354.52 | 0.26852 |
| 632192.15 | 4174956.32 | 0.74690 | 632420.62 | 4175510.15 | 1.57832 |
| 632418.97 | 4175552.92 | 1.60980 | 631187.00 | 4175727.00 | 5.58430 |
| 631166.00 | 4175729.00 | 5.09144 | 631121.00 | 4175719.00 | 3.55623 |
| 631035.00 | 4174830.00 | 0.31939 | 631106.00 | 4174825.00 | 0.33568 |
| 631937.00 | 4174528.00 | 0.34248 | 631322.00 | 4174522.00 | 0.20870 |
| 629800.63 | 4173850.44 | 0.05633 | 630150.63 | 4173850.44 | 0.06618 |
| 630500.63 | 4173850.44 | 0.07870 | 630850.63 | 4173850.44 | 0.08879 |
| 631200.63 | 4173850.44 | 0.09005 | 631550.63 | 4173850.44 | 0.10526 |
| 631900.63 | 4173850.44 | 0.12458 | 632250.63 | 4173850.44 | 0.13700 |
| 632600.63 | 4173850.44 | 0.14723 | 632950.63 | 4173850.44 | 0.14222 |
| 633300.63 | 4173850.44 | 0.12852 | 629800.63 | 4174200.44 | 0.06776 |
| 630150.63 | 4174200.44 | 0.08083 | 630500.63 | 4174200.44 | 0.09969 |
| 630850.63 | 4174200.44 | 0.12216 | 631200.63 | 4174200.44 | 0.12906 |
| 631550.63 | 4174200.44 | 0.15748 | 631900.63 | 4174200.44 | 0.19102 |
| 632250.63 | 4174200.44 | 0.21447 | 632600.63 | 4174200.44 | 0.21137 |
| 632950.63 | 4174200.44 | 0.18707 | 633300.63 | 4174200.44 | 0.16869 |
| 629800.63 | 4174550.44 | 0.08381 | 630150.63 | 4174550.44 | 0.10289 |

| | | | | | |
|---|---|---|---|---|---|
| 630500.63 | 4174550.44 | 0.13191 | 630850.63 | 4174550.44 | 0.17831 |
| 631200.63 | 4174550.44 | 0.20883 | 631550.63 | 4174550.44 | 0.27763 |
| 631900.63 | 4174550.44 | 0.35360 | 632250.63 | 4174550.44 | 0.36169 |
| 632600.63 | 4174550.44 | 0.30605 | 632950.63 | 4174550.44 | 0.26907 |
| 633300.63 | 4174550.44 | 0.24416 | 629800.63 | 4174900.44 | 0.10298 |
| 630150.63 | 4174900.44 | 0.13569 | 630500.63 | 4174900.44 | 0.18635 |
| 630850.63 | 4174900.44 | 0.28412 | 631200.63 | 4174900.44 | 0.41815 |
| 631550.63 | 4174900.44 | 0.68292 | 631900.63 | 4174900.44 | 0.85563 |
| 632250.63 | 4174900.44 | 0.63601 | 632600.63 | 4174900.44 | 0.51324 |
| 632950.63 | 4174900.44 | 0.43714 | 633300.63 | 4174900.44 | 0.37225 |
| 629800.63 | 4175250.44 | 0.11887 | 630150.63 | 4175250.44 | 0.16968 |
| 630500.63 | 4175250.44 | 0.26932 | 630850.63 | 4175250.44 | 0.51510 |
| 631200.63 | 4175250.44 | 1.24937 | 631550.63 | 4175250.44 | 3.17678 |
| 631900.63 | 4175250.44 | 2.30748 | 632250.63 | 4175250.44 | 1.37296 |
| 632600.63 | 4175250.44 | 0.94164 | 632950.63 | 4175250.44 | 0.69077 |
| 633300.63 | 4175250.44 | 0.52822 | 629800.63 | 4175600.44 | 0.12997 |
| 630150.63 | 4175600.44 | 0.19371 | 630500.63 | 4175600.44 | 0.33372 |
| 630850.63 | 4175600.44 | 0.79526 | 631200.63 | 4175600.44 | 5.75581 |
| 631550.63 | 4175600.44 | 55.50322 | 631900.63 | 4175600.44 | 5.63870 |
| 632250.63 | 4175600.44 | 2.13407 | 632600.63 | 4175600.44 | 1.25043 |
| 632950.63 | 4175600.44 | 0.83650 | 633300.63 | 4175600.44 | 0.60666 |
| 629800.63 | 4175950.44 | 0.13725 | 630150.63 | 4175950.44 | 0.21306 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK14 ***

INCLUDING SOURCE(S): STCK14 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.40630 | 630850.63 | 4175950.44 | 1.11463 |
| 631200.63 | 4175950.44 | 2.55431 | 631550.63 | 4175950.44 | 2.14821 |
| 631900.63 | 4175950.44 | 1.80128 | 632250.63 | 4175950.44 | 1.26320 |
| 632600.63 | 4175950.44 | 0.89068 | 632950.63 | 4175950.44 | 0.66361 |
| 633300.63 | 4175950.44 | 0.51202 | 629800.63 | 4176300.44 | 0.15569 |
| 630150.63 | 4176300.44 | 0.24716 | 630500.63 | 4176300.44 | 0.44385 |
| 630850.63 | 4176300.44 | 0.83510 | 631200.63 | 4176300.44 | 1.07246 |
| 631550.63 | 4176300.44 | 0.95992 | 631900.63 | 4176300.44 | 0.86689 |
| 632250.63 | 4176300.44 | 0.65545 | 632600.63 | 4176300.44 | 0.51710 |
| 632950.63 | 4176300.44 | 0.43381 | 633300.63 | 4176300.44 | 0.36378 |
| 629800.63 | 4176650.44 | 0.16544 | 630150.63 | 4176650.44 | 0.24377 |
| 630500.63 | 4176650.44 | 0.36607 | 630850.63 | 4176650.44 | 0.50488 |
| 631200.63 | 4176650.44 | 0.60004 | 631550.63 | 4176650.44 | 0.57642 |
| 631900.63 | 4176650.44 | 0.49852 | 632250.63 | 4176650.44 | 0.42909 |
| 632600.63 | 4176650.44 | 0.35195 | 632950.63 | 4176650.44 | 0.29500 |
| 633300.63 | 4176650.44 | 0.25872 | 629800.63 | 4177000.44 | 0.15968 |
| 630150.63 | 4177000.44 | 0.21378 | 630500.63 | 4177000.44 | 0.27471 |
| 630850.63 | 4177000.44 | 0.33407 | 631200.63 | 4177000.44 | 0.37137 |

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|---|---|---|---|---|---|
| 631550.63 | 4177000.44 | 0.36577 | 631900.63 | 4177000.44 | 0.32007 |
| 632250.63 | 4177000.44 | 0.30363 | 632600.63 | 4177000.44 | 0.26320 |
| 632950.63 | 4177000.44 | 0.22859 | 633300.63 | 4177000.44 | 0.19720 |
| 629800.63 | 4177350.44 | 0.14469 | 630150.63 | 4177350.44 | 0.17717 |
| 630500.63 | 4177350.44 | 0.20891 | 630850.63 | 4177350.44 | 0.24405 |
| 631200.63 | 4177350.44 | 0.25513 | 631550.63 | 4177350.44 | 0.25371 |
| 631900.63 | 4177350.44 | 0.23352 | 632250.63 | 4177350.44 | 0.21512 |
| 632600.63 | 4177350.44 | 0.20666 | 632950.63 | 4177350.44 | 0.18268 |
| 633300.63 | 4177350.44 | 0.16330 | 631670.70 | 4175493.59 | 11.38549 |
| 631669.80 | 4175641.41 | 16.92300 | 631665.32 | 4175796.39 | 3.98796 |
| 631417.17 | 4175826.85 | 3.66093 | 631417.17 | 4175673.66 | 15.85179 |
| 631422.55 | 4175484.63 | 5.53296 | 631268.42 | 4175983.74 | 2.27893 |
| 631275.69 | 4175523.99 | 9.72484 | 631345.65 | 4175419.50 | 4.78315 |
| 631384.72 | 4175441.30 | 7.97096 | 631491.93 | 4175442.21 | 14.87789 |
| 631491.93 | 4175414.95 | 9.07818 | 631385.63 | 4175413.14 | 5.59809 |
| 631358.37 | 4175395.87 | 4.11791 | 631409.25 | 4175336.81 | 3.47923 |
| 631567.35 | 4175235.96 | 2.99871 | 631756.33 | 4175028.80 | 1.32664 |
| 631807.22 | 4175003.36 | 1.20599 | 631867.18 | 4174987.91 | 1.11670 |
| 631849.92 | 4175988.28 | 1.66385 | 631268.74 | 4175963.75 | 2.44678 |
| 631269.05 | 4175943.76 | 2.64587 | 631269.37 | 4175923.77 | 3.10689 |
| 631269.68 | 4175903.78 | 3.46953 | 631270.00 | 4175883.79 | 2.72617 |
| 631270.32 | 4175863.81 | 2.41845 | 631270.63 | 4175843.82 | 2.44797 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK14 ***

INCLUDING SOURCE(S): STCK14 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 2.69067 | 631271.26 | 4175803.84 | 2.92446 |
| 631271.58 | 4175783.85 | 3.24147 | 631271.90 | 4175763.86 | 3.75108 |
| 631272.21 | 4175743.87 | 4.41965 | 631272.53 | 4175723.88 | 5.13541 |
| 631272.85 | 4175703.89 | 5.78448 | 631273.16 | 4175683.90 | 6.82146 |
| 631273.48 | 4175663.91 | 8.55131 | 631273.79 | 4175643.92 | 10.77625 |
| 631274.11 | 4175623.94 | 13.72654 | 631274.43 | 4175603.95 | 16.75059 |
| 631274.74 | 4175583.96 | 16.66788 | 631275.06 | 4175563.97 | 14.37319 |
| 631275.37 | 4175543.98 | 12.15859 | 631285.68 | 4175509.06 | 9.36985 |
| 631295.68 | 4175494.14 | 8.78129 | 631305.67 | 4175479.21 | 8.22836 |
| 631315.67 | 4175464.28 | 7.94316 | 631325.66 | 4175449.35 | 6.53015 |
| 631335.66 | 4175434.43 | 5.28526 | 631358.67 | 4175426.77 | 5.48814 |
| 631371.70 | 4175434.03 | 6.66681 | 631402.59 | 4175441.45 | 7.71661 |
| 631420.46 | 4175441.60 | 7.86843 | 631438.33 | 4175441.76 | 6.65622 |
| 631456.19 | 4175441.91 | 11.56206 | 631474.06 | 4175442.06 | 14.68014 |
| 631491.93 | 4175428.58 | 10.83766 | 631474.21 | 4175414.65 | 9.41185 |
| 631456.50 | 4175414.35 | 9.75025 | 631438.78 | 4175414.05 | 9.05865 |
| 631421.06 | 4175413.74 | 7.96277 | 631403.35 | 4175413.44 | 6.68792 |
| 631372.00 | 4175404.51 | 4.68128 | 631371.09 | 4175381.11 | 3.91396 |

| | | | | | |
|---|---|---|---|---|---|
| 631383.81 | 4175366.34 | 3.74932 | 631396.53 | 4175351.58 | 3.61199 |
| 631425.06 | 4175326.73 | 3.50206 | 631440.87 | 4175316.64 | 3.52004 |
| 631456.68 | 4175306.56 | 3.51449 | 631472.49 | 4175296.47 | 3.48719 |
| 631488.30 | 4175286.39 | 3.43682 | 631504.11 | 4175276.30 | 3.37300 |
| 631519.92 | 4175266.22 | 3.29408 | 631535.73 | 4175256.13 | 3.20227 |
| 631551.54 | 4175246.05 | 3.10298 | 631579.95 | 4175222.15 | 2.82505 |
| 631592.55 | 4175208.34 | 2.66391 | 631605.15 | 4175194.53 | 2.51369 |
| 631617.74 | 4175180.72 | 2.37414 | 631630.34 | 4175166.91 | 2.24519 |
| 631642.94 | 4175153.10 | 2.12366 | 631655.54 | 4175139.29 | 2.01022 |
| 631668.14 | 4175125.47 | 1.90410 | 631680.74 | 4175111.66 | 1.80482 |
| 631693.34 | 4175097.85 | 1.71191 | 631705.94 | 4175084.04 | 1.62479 |
| 631718.53 | 4175070.23 | 1.54302 | 631731.13 | 4175056.42 | 1.46631 |
| 631743.73 | 4175042.61 | 1.39428 | 631773.29 | 4175020.32 | 1.28634 |
| 631790.26 | 4175011.84 | 1.24564 | 631822.21 | 4174999.50 | 1.18478 |
| 631837.20 | 4174995.64 | 1.16266 | 631852.19 | 4174991.77 | 1.13999 |
| 631866.84 | 4175007.53 | 1.18251 | 631866.50 | 4175027.14 | 1.25212 |
| 631866.16 | 4175046.76 | 1.32547 | 631865.83 | 4175066.37 | 1.40272 |
| 631865.49 | 4175085.99 | 1.48436 | 631865.15 | 4175105.60 | 1.57142 |
| 631864.81 | 4175125.22 | 1.66478 | 631864.47 | 4175144.83 | 1.76293 |
| 631864.13 | 4175164.45 | 1.86823 | 631863.80 | 4175184.06 | 1.98206 |
| 631863.46 | 4175203.68 | 2.10459 | 631863.12 | 4175223.29 | 2.23926 |
| 631862.78 | 4175242.91 | 2.38652 | 631862.44 | 4175262.52 | 2.54827 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK14 ***

INCLUDING SOURCE(S): STCK14 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.72695 | 631861.77 | 4175301.75 | 2.92488 |
| 631861.43 | 4175321.37 | 3.14430 | 631861.09 | 4175340.98 | 3.38911 |
| 631860.75 | 4175360.60 | 3.65910 | 631860.41 | 4175380.21 | 3.95558 |
| 631860.07 | 4175399.83 | 4.27892 | 631859.73 | 4175419.44 | 4.62782 |
| 631859.40 | 4175439.06 | 4.99441 | 631859.06 | 4175458.67 | 5.37178 |
| 631858.72 | 4175478.29 | 5.74491 | 631858.38 | 4175497.90 | 6.09713 |
| 631858.04 | 4175517.52 | 6.41106 | 631857.70 | 4175537.13 | 6.67092 |
| 631857.37 | 4175556.75 | 6.86095 | 631857.03 | 4175576.36 | 6.96476 |
| 631856.69 | 4175595.98 | 6.96859 | 631856.35 | 4175615.59 | 6.86613 |
| 631856.01 | 4175635.21 | 6.66256 | 631855.67 | 4175654.82 | 6.37456 |
| 631855.33 | 4175674.44 | 6.02365 | 631855.00 | 4175694.05 | 5.62951 |
| 631854.66 | 4175713.67 | 5.20963 | 631854.32 | 4175733.28 | 4.78372 |
| 631853.98 | 4175752.90 | 4.37086 | 631853.64 | 4175772.51 | 3.98620 |
| 631853.30 | 4175792.13 | 3.63455 | 631852.97 | 4175811.74 | 3.31452 |
| 631852.63 | 4175831.36 | 3.02257 | 631852.29 | 4175850.97 | 2.75773 |
| 631851.95 | 4175870.59 | 2.52091 | 631851.61 | 4175890.20 | 2.31351 |
| 631851.27 | 4175909.82 | 2.13555 | 631850.94 | 4175929.43 | 1.98543 |
| 631850.60 | 4175949.05 | 1.85958 | 631850.26 | 4175968.66 | 1.75382 |

| | | | | | |
|---|---|---|---|---|---|
| 631830.54 | 4175988.13 | 1.68589 | 631811.15 | 4175987.98 | 1.70652 |
| 631791.77 | 4175987.83 | 1.72522 | 631772.39 | 4175987.67 | 1.74222 |
| 631753.00 | 4175987.52 | 1.75712 | 631733.62 | 4175987.37 | 1.77125 |
| 631714.24 | 4175987.22 | 1.78517 | 631694.85 | 4175987.07 | 1.79939 |
| 631675.47 | 4175986.92 | 1.81295 | 631656.09 | 4175986.77 | 1.82504 |
| 631636.70 | 4175986.62 | 1.83407 | 631617.32 | 4175986.46 | 1.83946 |
| 631597.94 | 4175986.31 | 1.84032 | 631578.55 | 4175986.16 | 1.83922 |
| 631559.17 | 4175986.01 | 1.83843 | 631539.79 | 4175985.86 | 1.84407 |
| 631520.40 | 4175985.71 | 1.86321 | 631501.02 | 4175985.56 | 1.89863 |
| 631481.64 | 4175985.40 | 1.95350 | 631462.25 | 4175985.25 | 2.02647 |
| 631442.87 | 4175985.10 | 2.10534 | 631423.49 | 4175984.95 | 2.20370 |
| 631404.10 | 4175984.80 | 2.28535 | 631384.72 | 4175984.65 | 2.28505 |
| 631365.34 | 4175984.50 | 2.23697 | 631345.95 | 4175984.35 | 2.21429 |
| 631326.57 | 4175984.19 | 2.22358 | 631307.19 | 4175984.04 | 2.24445 |
| 631287.80 | 4175983.89 | 2.26316 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK15 ***

INCLUDING SOURCE(S): STCK15 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.60659 | 632304.44 | 4174354.52 | 0.20689 |
| 632192.15 | 4174956.32 | 0.65325 | 632420.62 | 4175510.15 | 2.61418 |
| 632418.97 | 4175552.92 | 2.96775 | 631187.00 | 4175727.00 | 0.72807 |
| 631166.00 | 4175729.00 | 0.68624 | 631121.00 | 4175719.00 | 0.60278 |
| 631035.00 | 4174830.00 | 0.19547 | 631106.00 | 4174825.00 | 0.20747 |
| 631937.00 | 4174528.00 | 0.21852 | 631322.00 | 4174522.00 | 0.17309 |
| 629800.63 | 4173850.44 | 0.04695 | 630150.63 | 4173850.44 | 0.05423 |
| 630500.63 | 4173850.44 | 0.06372 | 630850.63 | 4173850.44 | 0.07506 |
| 631200.63 | 4173850.44 | 0.08414 | 631550.63 | 4173850.44 | 0.08446 |
| 631900.63 | 4173850.44 | 0.09291 | 632250.63 | 4173850.44 | 0.11001 |
| 632600.63 | 4173850.44 | 0.11686 | 632950.63 | 4173850.44 | 0.12315 |
| 633300.63 | 4173850.44 | 0.12449 | 629800.63 | 4174200.44 | 0.05465 |
| 630150.63 | 4174200.44 | 0.06388 | 630500.63 | 4174200.44 | 0.07741 |
| 630850.63 | 4174200.44 | 0.09631 | 631200.63 | 4174200.44 | 0.11598 |
| 631550.63 | 4174200.44 | 0.11981 | 631900.63 | 4174200.44 | 0.13480 |
| 632250.63 | 4174200.44 | 0.16447 | 632600.63 | 4174200.44 | 0.17600 |
| 632950.63 | 4174200.44 | 0.18087 | 633300.63 | 4174200.44 | 0.16574 |
| 629800.63 | 4174550.44 | 0.06462 | 630150.63 | 4174550.44 | 0.07744 |
| 630500.63 | 4174550.44 | 0.09643 | 630850.63 | 4174550.44 | 0.12689 |
| 631200.63 | 4174550.44 | 0.16777 | 631550.63 | 4174550.44 | 0.18532 |
| 631900.63 | 4174550.44 | 0.21650 | 632250.63 | 4174550.44 | 0.27955 |
| 632600.63 | 4174550.44 | 0.30358 | 632950.63 | 4174550.44 | 0.27184 |
| 633300.63 | 4174550.44 | 0.22441 | 629800.63 | 4174900.44 | 0.07600 |
| 630150.63 | 4174900.44 | 0.09538 | 630500.63 | 4174900.44 | 0.12536 |
| 630850.63 | 4174900.44 | 0.17403 | 631200.63 | 4174900.44 | 0.24787 |

| | | | | | |
|---|---|---|---|---|---|
| 631550.63 | 4174900.44 | 0.31406 | 631900.63 | 4174900.44 | 0.39885 |
| 632250.63 | 4174900.44 | 0.58757 | 632600.63 | 4174900.44 | 0.56568 |
| 632950.63 | 4174900.44 | 0.41830 | 633300.63 | 4174900.44 | 0.34084 |
| 629800.63 | 4175250.44 | 0.08556 | 630150.63 | 4175250.44 | 0.11288 |
| 630500.63 | 4175250.44 | 0.16081 | 630850.63 | 4175250.44 | 0.25213 |
| 631200.63 | 4175250.44 | 0.39501 | 631550.63 | 4175250.44 | 0.65113 |
| 631900.63 | 4175250.44 | 1.07341 | 632250.63 | 4175250.44 | 1.58144 |
| 632600.63 | 4175250.44 | 1.06906 | 632950.63 | 4175250.44 | 0.74228 |
| 633300.63 | 4175250.44 | 0.56770 | 629800.63 | 4175600.44 | 0.09278 |
| 630150.63 | 4175600.44 | 0.12525 | 630500.63 | 4175600.44 | 0.18349 |
| 630850.63 | 4175600.44 | 0.31563 | 631200.63 | 4175600.44 | 0.68060 |
| 631550.63 | 4175600.44 | 3.44568 | 631900.63 | 4175600.44 | 2.52073 |
| 632250.63 | 4175600.44 | 4.80519 | 632600.63 | 4175600.44 | 2.24948 |
| 632950.63 | 4175600.44 | 1.25576 | 633300.63 | 4175600.44 | 0.84032 |
| 629800.63 | 4175950.44 | 0.09564 | 630150.63 | 4175950.44 | 0.13099 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK15 ***

INCLUDING SOURCE(S): STCK15 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.19552 | 630850.63 | 4175950.44 | 0.34782 |
| 631200.63 | 4175950.44 | 0.86209 | 631550.63 | 4175950.44 | 3.99556 |
| 631900.63 | 4175950.44 | 6.34522 | 632250.63 | 4175950.44 | 4.69493 |
| 632600.63 | 4175950.44 | 2.19118 | 632950.63 | 4175950.44 | 1.26773 |
| 633300.63 | 4175950.44 | 0.84779 | 629800.63 | 4176300.44 | 0.09867 |
| 630150.63 | 4176300.44 | 0.13876 | 630500.63 | 4176300.44 | 0.22118 |
| 630850.63 | 4176300.44 | 0.42694 | 631200.63 | 4176300.44 | 0.94543 |
| 631550.63 | 4176300.44 | 1.55058 | 631900.63 | 4176300.44 | 1.58797 |
| 632250.63 | 4176300.44 | 1.42075 | 632600.63 | 4176300.44 | 1.03858 |
| 632950.63 | 4176300.44 | 0.75646 | 633300.63 | 4176300.44 | 0.57703 |
| 629800.63 | 4176650.44 | 0.10738 | 630150.63 | 4176650.44 | 0.15407 |
| 630500.63 | 4176650.44 | 0.24009 | 630850.63 | 4176650.44 | 0.41319 |
| 631200.63 | 4176650.44 | 0.65761 | 631550.63 | 4176650.44 | 0.82068 |
| 631900.63 | 4176650.44 | 0.81468 | 632250.63 | 4176650.44 | 0.75066 |
| 632600.63 | 4176650.44 | 0.60803 | 632950.63 | 4176650.44 | 0.46192 |
| 633300.63 | 4176650.44 | 0.37297 | 629800.63 | 4177000.44 | 0.11314 |
| 630150.63 | 4177000.44 | 0.15567 | 630500.63 | 4177000.44 | 0.22660 |
| 630850.63 | 4177000.44 | 0.32648 | 631200.63 | 4177000.44 | 0.42308 |
| 631550.63 | 4177000.44 | 0.50070 | 631900.63 | 4177000.44 | 0.48340 |
| 632250.63 | 4177000.44 | 0.43640 | 632600.63 | 4177000.44 | 0.40381 |
| 632950.63 | 4177000.44 | 0.32794 | 633300.63 | 4177000.44 | 0.27028 |
| 629800.63 | 4177350.44 | 0.11167 | 630150.63 | 4177350.44 | 0.14779 |
| 630500.63 | 4177350.44 | 0.19374 | 630850.63 | 4177350.44 | 0.24455 |
| 631200.63 | 4177350.44 | 0.29141 | 631550.63 | 4177350.44 | 0.32511 |
| 631900.63 | 4177350.44 | 0.31697 | 632250.63 | 4177350.44 | 0.29763 |

| | | | | | |
|---|---|---|---|---|---|
| 632600.63 | 4177350.44 | 0.27004 | 632950.63 | 4177350.44 | 0.24632 |
| 633300.63 | 4177350.44 | 0.21058 | 631670.70 | 4175493.59 | 1.70392 |
| 631669.80 | 4175641.41 | 5.88609 | 631665.32 | 4175796.39 | 1.90206 |
| 631417.17 | 4175826.85 | 1.68875 | 631417.17 | 4175673.66 | 1.57883 |
| 631422.55 | 4175484.63 | 1.03640 | 631268.42 | 4175983.74 | 1.11323 |
| 631275.69 | 4175523.99 | 0.73712 | 631345.65 | 4175419.50 | 0.67890 |
| 631384.72 | 4175441.30 | 0.82819 | 631491.93 | 4175442.21 | 1.28679 |
| 631491.93 | 4175414.95 | 1.10059 | 631385.63 | 4175413.14 | 0.72328 |
| 631358.37 | 4175395.87 | 0.65340 | 631409.25 | 4175336.81 | 0.65628 |
| 631567.35 | 4175235.96 | 0.63992 | 631756.33 | 4175028.80 | 0.40399 |
| 631807.22 | 4175003.36 | 0.41273 | 631867.18 | 4174987.91 | 0.45000 |
| 631849.92 | 4175988.28 | 5.18248 | 631268.74 | 4175963.75 | 1.09623 |
| 631269.05 | 4175943.76 | 1.07900 | 631269.37 | 4175923.77 | 1.06212 |
| 631269.68 | 4175903.78 | 1.04581 | 631270.00 | 4175883.79 | 1.03016 |
| 631270.32 | 4175863.81 | 1.01619 | 631270.63 | 4175843.82 | 1.00335 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK15 ***

INCLUDING SOURCE(S): STCK15 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 0.99533 | 631271.26 | 4175803.84 | 0.99306 |
| 631271.58 | 4175783.85 | 0.99255 | 631271.90 | 4175763.86 | 0.98304 |
| 631272.21 | 4175743.87 | 0.97257 | 631272.53 | 4175723.88 | 0.94851 |
| 631272.85 | 4175703.89 | 0.91883 | 631273.16 | 4175683.90 | 0.89408 |
| 631273.48 | 4175663.91 | 0.88307 | 631273.79 | 4175643.92 | 0.87635 |
| 631274.11 | 4175623.94 | 0.86703 | 631274.43 | 4175603.95 | 0.82877 |
| 631274.74 | 4175583.96 | 0.78541 | 631275.06 | 4175563.97 | 0.76684 |
| 631275.37 | 4175543.98 | 0.75660 | 631285.68 | 4175509.06 | 0.72490 |
| 631295.68 | 4175494.14 | 0.70893 | 631305.67 | 4175479.21 | 0.69894 |
| 631315.67 | 4175464.28 | 0.68523 | 631325.66 | 4175449.35 | 0.68301 |
| 631335.66 | 4175434.43 | 0.67702 | 631358.67 | 4175426.77 | 0.68638 |
| 631371.70 | 4175434.03 | 0.76716 | 631402.59 | 4175441.45 | 0.82503 |
| 631420.46 | 4175441.60 | 0.93625 | 631438.33 | 4175441.76 | 0.99608 |
| 631456.19 | 4175441.91 | 1.07909 | 631474.06 | 4175442.06 | 1.19035 |
| 631491.93 | 4175428.58 | 1.19762 | 631474.21 | 4175414.65 | 1.06405 |
| 631456.50 | 4175414.35 | 0.96020 | 631438.78 | 4175414.05 | 0.85948 |
| 631421.06 | 4175413.74 | 0.83469 | 631403.35 | 4175413.44 | 0.84946 |
| 631372.00 | 4175404.51 | 0.68804 | 631371.09 | 4175381.11 | 0.65072 |
| 631383.81 | 4175366.34 | 0.64629 | 631396.53 | 4175351.58 | 0.65023 |
| 631425.06 | 4175326.73 | 0.66044 | 631440.87 | 4175316.64 | 0.66419 |
| 631456.68 | 4175306.56 | 0.66721 | 631472.49 | 4175296.47 | 0.66685 |
| 631488.30 | 4175286.39 | 0.65937 | 631504.11 | 4175276.30 | 0.65509 |
| 631519.92 | 4175266.22 | 0.65397 | 631535.73 | 4175256.13 | 0.64790 |
| 631551.54 | 4175246.05 | 0.64392 | 631579.95 | 4175222.15 | 0.62865 |
| 631592.55 | 4175208.34 | 0.61285 | 631605.15 | 4175194.53 | 0.59643 |

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|---|---|---|---|---|---|
| 631617.74 | 4175180.72 | 0.57452 | 631630.34 | 4175166.91 | 0.55353 |
| 631642.94 | 4175153.10 | 0.53531 | 631655.54 | 4175139.29 | 0.51477 |
| 631668.14 | 4175125.47 | 0.49744 | 631680.74 | 4175111.66 | 0.48028 |
| 631693.34 | 4175097.85 | 0.46427 | 631705.94 | 4175084.04 | 0.44655 |
| 631718.53 | 4175070.23 | 0.43309 | 631731.13 | 4175056.42 | 0.42136 |
| 631743.73 | 4175042.61 | 0.41184 | 631773.29 | 4175020.32 | 0.40495 |
| 631790.26 | 4175011.84 | 0.40770 | 631822.21 | 4174999.50 | 0.42090 |
| 631837.20 | 4174995.64 | 0.42796 | 631852.19 | 4174991.77 | 0.43876 |
| 631866.84 | 4175007.53 | 0.47085 | 631866.50 | 4175027.14 | 0.49349 |
| 631866.16 | 4175046.76 | 0.51806 | 631865.83 | 4175066.37 | 0.54484 |
| 631865.49 | 4175085.99 | 0.57384 | 631865.15 | 4175105.60 | 0.60532 |
| 631864.81 | 4175125.22 | 0.63939 | 631864.47 | 4175144.83 | 0.67773 |
| 631864.13 | 4175164.45 | 0.71877 | 631863.80 | 4175184.06 | 0.76406 |
| 631863.46 | 4175203.68 | 0.81498 | 631863.12 | 4175223.29 | 0.87026 |
| 631862.78 | 4175242.91 | 0.93460 | 631862.44 | 4175262.52 | 1.02144 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK15 ***

INCLUDING SOURCE(S): STCK15 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 1.16990 | 631861.77 | 4175301.75 | 1.37137 |
| 631861.43 | 4175321.37 | 1.28171 | 631861.09 | 4175340.98 | 1.05099 |
| 631860.75 | 4175360.60 | 0.93445 | 631860.41 | 4175380.21 | 0.95708 |
| 631860.07 | 4175399.83 | 1.04986 | 631859.73 | 4175419.44 | 1.08420 |
| 631859.40 | 4175439.06 | 1.20531 | 631859.06 | 4175458.67 | 1.25271 |
| 631858.72 | 4175478.29 | 1.45898 | 631858.38 | 4175497.90 | 1.65331 |
| 631858.04 | 4175517.52 | 1.71921 | 631857.70 | 4175537.13 | 1.90560 |
| 631857.37 | 4175556.75 | 1.97109 | 631857.03 | 4175576.36 | 2.03757 |
| 631856.69 | 4175595.98 | 2.10160 | 631856.35 | 4175615.59 | 2.37298 |
| 631856.01 | 4175635.21 | 2.94896 | 631855.67 | 4175654.82 | 3.51176 |
| 631855.33 | 4175674.44 | 3.96114 | 631855.00 | 4175694.05 | 4.95195 |
| 631854.66 | 4175713.67 | 5.01927 | 631854.32 | 4175733.28 | 6.35041 |
| 631853.98 | 4175752.90 | 5.61667 | 631853.64 | 4175772.51 | 12.81883 |
| 631853.30 | 4175792.13 | 54.87852 | 631852.97 | 4175811.74 | 68.68354 |
| 631852.63 | 4175831.36 | 36.11460 | 631852.29 | 4175850.97 | 23.56994 |
| 631851.95 | 4175870.59 | 18.11573 | 631851.61 | 4175890.20 | 13.32598 |
| 631851.27 | 4175909.82 | 11.05391 | 631850.94 | 4175929.43 | 8.80238 |
| 631850.60 | 4175949.05 | 6.90889 | 631850.26 | 4175968.66 | 5.91387 |
| 631830.54 | 4175988.13 | 5.55592 | 631811.15 | 4175987.98 | 6.11200 |
| 631791.77 | 4175987.83 | 6.65682 | 631772.39 | 4175987.67 | 6.89332 |
| 631753.00 | 4175987.52 | 6.58974 | 631733.62 | 4175987.37 | 5.57860 |
| 631714.24 | 4175987.22 | 4.21696 | 631694.85 | 4175987.07 | 3.85004 |
| 631675.47 | 4175986.92 | 2.79478 | 631656.09 | 4175986.77 | 2.09762 |
| 631636.70 | 4175986.62 | 2.51108 | 631617.32 | 4175986.46 | 3.36345 |
| 631597.94 | 4175986.31 | 3.79978 | 631578.55 | 4175986.16 | 4.16017 |

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|---|---|---|---|---|---|
| 631559.17 | 4175986.01 | 3.96637 | 631539.79 | 4175985.86 | 3.56869 |
| 631520.40 | 4175985.71 | 3.22465 | 631501.02 | 4175985.56 | 2.93038 |
| 631481.64 | 4175985.40 | 2.66593 | 631462.25 | 4175985.25 | 2.43094 |
| 631442.87 | 4175985.10 | 2.22860 | 631423.49 | 4175984.95 | 2.04802 |
| 631404.10 | 4175984.80 | 1.88391 | 631384.72 | 4175984.65 | 1.73538 |
| 631365.34 | 4175984.50 | 1.60307 | 631345.95 | 4175984.35 | 1.48313 |
| 631326.57 | 4175984.19 | 1.37714 | 631307.19 | 4175984.04 | 1.28076 |
| 631287.80 | 4175983.89 | 1.19332 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK16 ***

INCLUDING SOURCE(S): STCK16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.79749 | 632304.44 | 4174354.52 | 0.23781 |
| 632192.15 | 4174956.32 | 0.85896 | 632420.62 | 4175510.15 | 3.45863 |
| 632418.97 | 4175552.92 | 3.82408 | 631187.00 | 4175727.00 | 0.77152 |
| 631166.00 | 4175729.00 | 0.72258 | 631121.00 | 4175719.00 | 0.62737 |
| 631035.00 | 4174830.00 | 0.21544 | 631106.00 | 4174825.00 | 0.23068 |
| 631937.00 | 4174528.00 | 0.25460 | 631322.00 | 4174522.00 | 0.19212 |
| 629800.63 | 4173850.44 | 0.04893 | 630150.63 | 4173850.44 | 0.05665 |
| 630500.63 | 4173850.44 | 0.06697 | 630850.63 | 4173850.44 | 0.07974 |
| 631200.63 | 4173850.44 | 0.09077 | 631550.63 | 4173850.44 | 0.09196 |
| 631900.63 | 4173850.44 | 0.10168 | 632250.63 | 4173850.44 | 0.12080 |
| 632600.63 | 4173850.44 | 0.12892 | 632950.63 | 4173850.44 | 0.13614 |
| 633300.63 | 4173850.44 | 0.13506 | 629800.63 | 4174200.44 | 0.05724 |
| 630150.63 | 4174200.44 | 0.06724 | 630500.63 | 4174200.44 | 0.08178 |
| 630850.63 | 4174200.44 | 0.10257 | 631200.63 | 4174200.44 | 0.12607 |
| 631550.63 | 4174200.44 | 0.13296 | 631900.63 | 4174200.44 | 0.15116 |
| 632250.63 | 4174200.44 | 0.18545 | 632600.63 | 4174200.44 | 0.20027 |
| 632950.63 | 4174200.44 | 0.20176 | 633300.63 | 4174200.44 | 0.17923 |
| 629800.63 | 4174550.44 | 0.06781 | 630150.63 | 4174550.44 | 0.08200 |
| 630500.63 | 4174550.44 | 0.10322 | 630850.63 | 4174550.44 | 0.13694 |
| 631200.63 | 4174550.44 | 0.18438 | 631550.63 | 4174550.44 | 0.21132 |
| 631900.63 | 4174550.44 | 0.25290 | 632250.63 | 4174550.44 | 0.33101 |
| 632600.63 | 4174550.44 | 0.35557 | 632950.63 | 4174550.44 | 0.30162 |
| 633300.63 | 4174550.44 | 0.24843 | 629800.63 | 4174900.44 | 0.07909 |
| 630150.63 | 4174900.44 | 0.10062 | 630500.63 | 4174900.44 | 0.13534 |
| 630850.63 | 4174900.44 | 0.19177 | 631200.63 | 4174900.44 | 0.27897 |
| 631550.63 | 4174900.44 | 0.37530 | 631900.63 | 4174900.44 | 0.50404 |
| 632250.63 | 4174900.44 | 0.75586 | 632600.63 | 4174900.44 | 0.65873 |
| 632950.63 | 4174900.44 | 0.48084 | 633300.63 | 4174900.44 | 0.39228 |
| 629800.63 | 4175250.44 | 0.08773 | 630150.63 | 4175250.44 | 0.11671 |
| 630500.63 | 4175250.44 | 0.16934 | 630850.63 | 4175250.44 | 0.27575 |
| 631200.63 | 4175250.44 | 0.46936 | 631550.63 | 4175250.44 | 0.86424 |
| 631900.63 | 4175250.44 | 1.63934 | 632250.63 | 4175250.44 | 2.05575 |

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|---|---|---|---|---|---|
| 632600.63 | 4175250.44 | 1.31892 | 632950.63 | 4175250.44 | 0.88157 |
| 633300.63 | 4175250.44 | 0.65035 | 629800.63 | 4175600.44 | 0.09410 |
| 630150.63 | 4175600.44 | 0.12784 | 630500.63 | 4175600.44 | 0.18835 |
| 630850.63 | 4175600.44 | 0.32588 | 631200.63 | 4175600.44 | 0.76440 |
| 631550.63 | 4175600.44 | 5.94831 | 631900.63 | 4175600.44 | 9.69109 |
| 632250.63 | 4175600.44 | 7.16843 | 632600.63 | 4175600.44 | 2.51681 |
| 632950.63 | 4175600.44 | 1.35366 | 633300.63 | 4175600.44 | 0.88553 |
| 629800.63 | 4175950.44 | 0.09628 | 630150.63 | 4175950.44 | 0.13229 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK16 ***

INCLUDING SOURCE(S): STCK16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.20003 | 630850.63 | 4175950.44 | 0.37196 |
| 631200.63 | 4175950.44 | 0.95790 | 631550.63 | 4175950.44 | 4.05083 |
| 631900.63 | 4175950.44 | 3.20271 | 632250.63 | 4175950.44 | 2.87517 |
| 632600.63 | 4175950.44 | 1.81500 | 632950.63 | 4175950.44 | 1.12153 |
| 633300.63 | 4175950.44 | 0.77938 | 629800.63 | 4176300.44 | 0.10051 |
| 630150.63 | 4176300.44 | 0.14340 | 630500.63 | 4176300.44 | 0.23206 |
| 630850.63 | 4176300.44 | 0.44006 | 631200.63 | 4176300.44 | 0.89325 |
| 631550.63 | 4176300.44 | 1.22449 | 631900.63 | 4176300.44 | 1.21499 |
| 632250.63 | 4176300.44 | 1.10204 | 632600.63 | 4176300.44 | 0.84989 |
| 632950.63 | 4176300.44 | 0.64553 | 633300.63 | 4176300.44 | 0.50743 |
| 629800.63 | 4176650.44 | 0.10996 | 630150.63 | 4176650.44 | 0.15632 |
| 630500.63 | 4176650.44 | 0.24006 | 630850.63 | 4176650.44 | 0.39825 |
| 631200.63 | 4176650.44 | 0.58169 | 631550.63 | 4176650.44 | 0.70619 |
| 631900.63 | 4176650.44 | 0.68029 | 632250.63 | 4176650.44 | 0.60853 |
| 632600.63 | 4176650.44 | 0.52902 | 632950.63 | 4176650.44 | 0.41557 |
| 633300.63 | 4176650.44 | 0.33443 | 629800.63 | 4177000.44 | 0.11319 |
| 630150.63 | 4177000.44 | 0.15451 | 630500.63 | 4177000.44 | 0.21988 |
| 630850.63 | 4177000.44 | 0.30381 | 631200.63 | 4177000.44 | 0.37994 |
| 631550.63 | 4177000.44 | 0.44329 | 631900.63 | 4177000.44 | 0.42196 |
| 632250.63 | 4177000.44 | 0.38401 | 632600.63 | 4177000.44 | 0.35788 |
| 632950.63 | 4177000.44 | 0.29952 | 633300.63 | 4177000.44 | 0.25140 |
| 629800.63 | 4177350.44 | 0.11070 | 630150.63 | 4177350.44 | 0.14414 |
| 630500.63 | 4177350.44 | 0.18427 | 630850.63 | 4177350.44 | 0.22758 |
| 631200.63 | 4177350.44 | 0.26762 | 631550.63 | 4177350.44 | 0.29385 |
| 631900.63 | 4177350.44 | 0.28506 | 632250.63 | 4177350.44 | 0.27035 |
| 632600.63 | 4177350.44 | 0.24245 | 632950.63 | 4177350.44 | 0.22850 |
| 633300.63 | 4177350.44 | 0.19680 | 631670.70 | 4175493.59 | 2.50905 |
| 631669.80 | 4175641.41 | 14.88154 | 631665.32 | 4175796.39 | 5.35995 |
| 631417.17 | 4175826.85 | 1.92769 | 631417.17 | 4175673.66 | 1.87822 |
| 631422.55 | 4175484.63 | 1.39774 | 631268.42 | 4175983.74 | 1.20072 |
| 631275.69 | 4175523.99 | 0.88418 | 631345.65 | 4175419.50 | 0.86428 |
| 631384.72 | 4175441.30 | 1.01612 | 631491.93 | 4175442.21 | 1.75237 |

| | | | | | |
|---|---|---|---|---|---|
| 631491.93 | 4175414.95 | 1.47930 | 631385.63 | 4175413.14 | 0.92771 |
| 631358.37 | 4175395.87 | 0.84263 | 631409.25 | 4175336.81 | 0.82473 |
| 631567.35 | 4175235.96 | 0.85503 | 631756.33 | 4175028.80 | 0.52782 |
| 631807.22 | 4175003.36 | 0.53325 | 631867.18 | 4174987.91 | 0.58612 |
| 631849.92 | 4175988.28 | 2.97538 | 631268.74 | 4175963.75 | 1.19763 |
| 631269.05 | 4175943.76 | 1.19114 | 631269.37 | 4175923.77 | 1.18094 |
| 631269.68 | 4175903.78 | 1.16724 | 631270.00 | 4175883.79 | 1.15123 |
| 631270.32 | 4175863.81 | 1.13542 | 631270.63 | 4175843.82 | 1.12010 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK16 ***

INCLUDING SOURCE(S): STCK16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.10689 | 631271.26 | 4175803.84 | 1.09485 |
| 631271.58 | 4175783.85 | 1.08159 | 631271.90 | 4175763.86 | 1.06669 |
| 631272.21 | 4175743.87 | 1.05321 | 631272.53 | 4175723.88 | 1.03504 |
| 631272.85 | 4175703.89 | 1.01834 | 631273.16 | 4175683.90 | 1.01084 |
| 631273.48 | 4175663.91 | 1.00632 | 631273.79 | 4175643.92 | 1.00113 |
| 631274.11 | 4175623.94 | 0.98486 | 631274.43 | 4175603.95 | 0.95983 |
| 631274.74 | 4175583.96 | 0.93080 | 631275.06 | 4175563.97 | 0.91179 |
| 631275.37 | 4175543.98 | 0.90066 | 631285.68 | 4175509.06 | 0.88696 |
| 631295.68 | 4175494.14 | 0.88079 | 631305.67 | 4175479.21 | 0.87883 |
| 631315.67 | 4175464.28 | 0.87475 | 631325.66 | 4175449.35 | 0.87209 |
| 631335.66 | 4175434.43 | 0.86953 | 631358.67 | 4175426.77 | 0.89490 |
| 631371.70 | 4175434.03 | 0.95046 | 631402.59 | 4175441.45 | 1.01919 |
| 631420.46 | 4175441.60 | 1.18079 | 631438.33 | 4175441.76 | 1.25049 |
| 631456.19 | 4175441.91 | 1.45326 | 631474.06 | 4175442.06 | 1.58989 |
| 631491.93 | 4175428.58 | 1.61697 | 631474.21 | 4175414.65 | 1.44042 |
| 631456.50 | 4175414.35 | 1.26733 | 631438.78 | 4175414.05 | 1.20172 |
| 631421.06 | 4175413.74 | 1.00420 | 631403.35 | 4175413.44 | 1.02768 |
| 631372.00 | 4175404.51 | 0.88302 | 631371.09 | 4175381.11 | 0.83575 |
| 631383.81 | 4175366.34 | 0.82596 | 631396.53 | 4175351.58 | 0.82518 |
| 631425.06 | 4175326.73 | 0.83897 | 631440.87 | 4175316.64 | 0.84795 |
| 631456.68 | 4175306.56 | 0.85601 | 631472.49 | 4175296.47 | 0.84680 |
| 631488.30 | 4175286.39 | 0.85056 | 631504.11 | 4175276.30 | 0.84675 |
| 631519.92 | 4175266.22 | 0.84653 | 631535.73 | 4175256.13 | 0.85078 |
| 631551.54 | 4175246.05 | 0.85133 | 631579.95 | 4175222.15 | 0.83448 |
| 631592.55 | 4175208.34 | 0.81284 | 631605.15 | 4175194.53 | 0.78804 |
| 631617.74 | 4175180.72 | 0.75886 | 631630.34 | 4175166.91 | 0.73252 |
| 631642.94 | 4175153.10 | 0.70823 | 631655.54 | 4175139.29 | 0.68116 |
| 631668.14 | 4175125.47 | 0.65744 | 631680.74 | 4175111.66 | 0.63228 |
| 631693.34 | 4175097.85 | 0.61082 | 631705.94 | 4175084.04 | 0.58791 |
| 631718.53 | 4175070.23 | 0.56930 | 631731.13 | 4175056.42 | 0.55314 |
| 631743.73 | 4175042.61 | 0.53877 | 631773.29 | 4175020.32 | 0.52653 |
| 631790.26 | 4175011.84 | 0.53019 | 631822.21 | 4174999.50 | 0.54463 |

| | | | | | |
|---|---|---|---|---|---|
| 631837.20 | 4174995.64 | 0.55718 | 631852.19 | 4174991.77 | 0.57149 |
| 631866.84 | 4175007.53 | 0.61751 | 631866.50 | 4175027.14 | 0.65254 |
| 631866.16 | 4175046.76 | 0.69121 | 631865.83 | 4175066.37 | 0.73371 |
| 631865.49 | 4175085.99 | 0.78043 | 631865.15 | 4175105.60 | 0.83039 |
| 631864.81 | 4175125.22 | 0.88767 | 631864.47 | 4175144.83 | 0.95182 |
| 631864.13 | 4175164.45 | 1.02199 | 631863.80 | 4175184.06 | 1.09821 |
| 631863.46 | 4175203.68 | 1.18692 | 631863.12 | 4175223.29 | 1.29096 |
| 631862.78 | 4175242.91 | 1.40507 | 631862.44 | 4175262.52 | 1.55581 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK16 ***

INCLUDING SOURCE(S): STCK16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 1.79981 | 631861.77 | 4175301.75 | 2.23572 |
| 631861.43 | 4175321.37 | 2.12211 | 631861.09 | 4175340.98 | 1.46721 |
| 631860.75 | 4175360.60 | 1.42212 | 631860.41 | 4175380.21 | 1.47544 |
| 631860.07 | 4175399.83 | 1.65108 | 631859.73 | 4175419.44 | 1.75547 |
| 631859.40 | 4175439.06 | 1.98879 | 631859.06 | 4175458.67 | 2.32805 |
| 631858.72 | 4175478.29 | 2.67320 | 631858.38 | 4175497.90 | 3.05460 |
| 631858.04 | 4175517.52 | 3.36591 | 631857.70 | 4175537.13 | 3.74540 |
| 631857.37 | 4175556.75 | 4.30122 | 631857.03 | 4175576.36 | 5.18771 |
| 631856.69 | 4175595.98 | 6.70790 | 631856.35 | 4175615.59 | 9.78624 |
| 631856.01 | 4175635.21 | 17.28785 | 631855.67 | 4175654.82 | 34.28283 |
| 631855.33 | 4175674.44 | 66.81704 | 631855.00 | 4175694.05 | 121.59003 |
| 631854.66 | 4175713.67 | 117.29148 | 631854.32 | 4175733.28 | 58.29163 |
| 631853.98 | 4175752.90 | 30.81879 | 631853.64 | 4175772.51 | 17.54707 |
| 631853.30 | 4175792.13 | 12.92290 | 631852.97 | 4175811.74 | 10.11226 |
| 631852.63 | 4175831.36 | 7.96632 | 631852.29 | 4175850.97 | 6.45422 |
| 631851.95 | 4175870.59 | 5.48570 | 631851.61 | 4175890.20 | 4.51068 |
| 631851.27 | 4175909.82 | 4.57027 | 631850.94 | 4175929.43 | 4.38886 |
| 631850.60 | 4175949.05 | 3.61750 | 631850.26 | 4175968.66 | 3.24209 |
| 631830.54 | 4175988.13 | 3.15946 | 631811.15 | 4175987.98 | 3.33407 |
| 631791.77 | 4175987.83 | 3.49152 | 631772.39 | 4175987.67 | 3.60825 |
| 631753.00 | 4175987.52 | 3.56583 | 631733.62 | 4175987.37 | 3.18771 |
| 631714.24 | 4175987.22 | 2.67285 | 631694.85 | 4175987.07 | 2.99867 |
| 631675.47 | 4175986.92 | 2.58938 | 631656.09 | 4175986.77 | 2.24001 |
| 631636.70 | 4175986.62 | 2.85912 | 631617.32 | 4175986.46 | 3.19649 |
| 631597.94 | 4175986.31 | 3.46192 | 631578.55 | 4175986.16 | 3.50050 |
| 631559.17 | 4175986.01 | 3.16379 | 631539.79 | 4175985.86 | 2.92202 |
| 631520.40 | 4175985.71 | 2.76565 | 631501.02 | 4175985.56 | 2.61477 |
| 631481.64 | 4175985.40 | 2.45825 | 631462.25 | 4175985.25 | 2.30282 |
| 631442.87 | 4175985.10 | 2.15306 | 631423.49 | 4175984.95 | 2.01277 |
| 631404.10 | 4175984.80 | 1.88056 | 631384.72 | 4175984.65 | 1.75843 |
| 631365.34 | 4175984.50 | 1.64599 | 631345.95 | 4175984.35 | 1.54180 |
| 631326.57 | 4175984.19 | 1.44609 | 631307.19 | 4175984.04 | 1.35750 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK17 ***

INCLUDING SOURCE(S): STCK17 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.08938 | 632304.44 | 4174354.52 | 0.27763 |
| 632192.15 | 4174956.32 | 1.15856 | 632420.62 | 4175510.15 | 4.09268 |
| 632418.97 | 4175552.92 | 4.14020 | 631187.00 | 4175727.00 | 0.84973 |
| 631166.00 | 4175729.00 | 0.79591 | 631121.00 | 4175719.00 | 0.68781 |
| 631035.00 | 4174830.00 | 0.23756 | 631106.00 | 4174825.00 | 0.25594 |
| 631937.00 | 4174528.00 | 0.30223 | 631322.00 | 4174522.00 | 0.21458 |
| 629800.63 | 4173850.44 | 0.05108 | 630150.63 | 4173850.44 | 0.05927 |
| 630500.63 | 4173850.44 | 0.07051 | 630850.63 | 4173850.44 | 0.08480 |
| 631200.63 | 4173850.44 | 0.09820 | 631550.63 | 4173850.44 | 0.10063 |
| 631900.63 | 4173850.44 | 0.11197 | 632250.63 | 4173850.44 | 0.13354 |
| 632600.63 | 4173850.44 | 0.14336 | 632950.63 | 4173850.44 | 0.15114 |
| 633300.63 | 4173850.44 | 0.14636 | 629800.63 | 4174200.44 | 0.06003 |
| 630150.63 | 4174200.44 | 0.07091 | 630500.63 | 4174200.44 | 0.08648 |
| 630850.63 | 4174200.44 | 0.10956 | 631200.63 | 4174200.44 | 0.13758 |
| 631550.63 | 4174200.44 | 0.14868 | 631900.63 | 4174200.44 | 0.17133 |
| 632250.63 | 4174200.44 | 0.21158 | 632600.63 | 4174200.44 | 0.23012 |
| 632950.63 | 4174200.44 | 0.22496 | 633300.63 | 4174200.44 | 0.19445 |
| 629800.63 | 4174550.44 | 0.07106 | 630150.63 | 4174550.44 | 0.08700 |
| 630500.63 | 4174550.44 | 0.11032 | 630850.63 | 4174550.44 | 0.14735 |
| 631200.63 | 4174550.44 | 0.20276 | 631550.63 | 4174550.44 | 0.24406 |
| 631900.63 | 4174550.44 | 0.30125 | 632250.63 | 4174550.44 | 0.40023 |
| 632600.63 | 4174550.44 | 0.41812 | 632950.63 | 4174550.44 | 0.33677 |
| 633300.63 | 4174550.44 | 0.27854 | 629800.63 | 4174900.44 | 0.08192 |
| 630150.63 | 4174900.44 | 0.10571 | 630500.63 | 4174900.44 | 0.14462 |
| 630850.63 | 4174900.44 | 0.21015 | 631200.63 | 4174900.44 | 0.31544 |
| 631550.63 | 4174900.44 | 0.45669 | 631900.63 | 4174900.44 | 0.66111 |
| 632250.63 | 4174900.44 | 0.99182 | 632600.63 | 4174900.44 | 0.77645 |
| 632950.63 | 4174900.44 | 0.56370 | 633300.63 | 4174900.44 | 0.45435 |
| 629800.63 | 4175250.44 | 0.08988 | 630150.63 | 4175250.44 | 0.12026 |
| 630500.63 | 4175250.44 | 0.17527 | 630850.63 | 4175250.44 | 0.29787 |
| 631200.63 | 4175250.44 | 0.55563 | 631550.63 | 4175250.44 | 1.19838 |
| 631900.63 | 4175250.44 | 2.76944 | 632250.63 | 4175250.44 | 2.75730 |
| 632600.63 | 4175250.44 | 1.66535 | 632950.63 | 4175250.44 | 1.03642 |
| 633300.63 | 4175250.44 | 0.73281 | 629800.63 | 4175600.44 | 0.09487 |
| 630150.63 | 4175600.44 | 0.12942 | 630500.63 | 4175600.44 | 0.19123 |
| 630850.63 | 4175600.44 | 0.32816 | 631200.63 | 4175600.44 | 0.80111 |
| 631550.63 | 4175600.44 | 8.88700 | 631900.63 | 4175600.44 | 87.40733 |
| 632250.63 | 4175600.44 | 7.63642 | 632600.63 | 4175600.44 | 2.52486 |
| 632950.63 | 4175600.44 | 1.37872 | 633300.63 | 4175600.44 | 0.89743 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK17 ***

INCLUDING SOURCE(S): STCK17 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.20746 | 630850.63 | 4175950.44 | 0.40802 |
| 631200.63 | 4175950.44 | 1.02913 | 631550.63 | 4175950.44 | 3.98842 |
| 631900.63 | 4175950.44 | 2.07381 | 632250.63 | 4175950.44 | 1.84802 |
| 632600.63 | 4175950.44 | 1.44358 | 632950.63 | 4175950.44 | 0.96410 |
| 633300.63 | 4175950.44 | 0.69769 | 629800.63 | 4176300.44 | 0.10303 |
| 630150.63 | 4176300.44 | 0.14854 | 630500.63 | 4176300.44 | 0.24186 |
| 630850.63 | 4176300.44 | 0.44716 | 631200.63 | 4176300.44 | 0.82576 |
| 631550.63 | 4176300.44 | 1.02112 | 631900.63 | 4176300.44 | 0.98696 |
| 632250.63 | 4176300.44 | 0.88062 | 632600.63 | 4176300.44 | 0.72654 |
| 632950.63 | 4176300.44 | 0.55479 | 633300.63 | 4176300.44 | 0.44764 |
| 629800.63 | 4176650.44 | 0.11189 | 630150.63 | 4176650.44 | 0.15731 |
| 630500.63 | 4176650.44 | 0.23954 | 630850.63 | 4176650.44 | 0.38072 |
| 631200.63 | 4176650.44 | 0.51944 | 631550.63 | 4176650.44 | 0.62153 |
| 631900.63 | 4176650.44 | 0.58134 | 632250.63 | 4176650.44 | 0.51554 |
| 632600.63 | 4176650.44 | 0.46913 | 632950.63 | 4176650.44 | 0.37768 |
| 633300.63 | 4176650.44 | 0.30460 | 629800.63 | 4177000.44 | 0.11282 |
| 630150.63 | 4177000.44 | 0.15294 | 630500.63 | 4177000.44 | 0.21218 |
| 630850.63 | 4177000.44 | 0.28330 | 631200.63 | 4177000.44 | 0.34393 |
| 631550.63 | 4177000.44 | 0.39703 | 631900.63 | 4177000.44 | 0.37273 |
| 632250.63 | 4177000.44 | 0.34595 | 632600.63 | 4177000.44 | 0.31921 |
| 632950.63 | 4177000.44 | 0.27615 | 633300.63 | 4177000.44 | 0.23432 |
| 629800.63 | 4177350.44 | 0.10946 | 630150.63 | 4177350.44 | 0.13997 |
| 630500.63 | 4177350.44 | 0.17512 | 630850.63 | 4177350.44 | 0.21228 |
| 631200.63 | 4177350.44 | 0.24753 | 631550.63 | 4177350.44 | 0.26755 |
| 631900.63 | 4177350.44 | 0.25809 | 632250.63 | 4177350.44 | 0.24836 |
| 632600.63 | 4177350.44 | 0.22027 | 632950.63 | 4177350.44 | 0.21195 |
| 633300.63 | 4177350.44 | 0.18477 | 631670.70 | 4175493.59 | 5.09002 |
| 631669.80 | 4175641.41 | 40.42467 | 631665.32 | 4175796.39 | 4.81718 |
| 631417.17 | 4175826.85 | 2.13078 | 631417.17 | 4175673.66 | 1.96804 |
| 631422.55 | 4175484.63 | 1.51131 | 631268.42 | 4175983.74 | 1.23564 |
| 631275.69 | 4175523.99 | 0.99313 | 631345.65 | 4175419.50 | 1.06677 |
| 631384.72 | 4175441.30 | 1.23653 | 631491.93 | 4175442.21 | 2.34823 |
| 631491.93 | 4175414.95 | 2.05800 | 631385.63 | 4175413.14 | 1.16951 |
| 631358.37 | 4175395.87 | 1.05624 | 631409.25 | 4175336.81 | 1.06863 |
| 631567.35 | 4175235.96 | 1.19883 | 631756.33 | 4175028.80 | 0.71768 |
| 631807.22 | 4175003.36 | 0.72507 | 631867.18 | 4174987.91 | 0.79558 |
| 631849.92 | 4175988.28 | 2.02925 | 631268.74 | 4175963.75 | 1.24506 |
| 631269.05 | 4175943.76 | 1.25327 | 631269.37 | 4175923.77 | 1.25837 |
| 631269.68 | 4175903.78 | 1.26035 | 631270.00 | 4175883.79 | 1.25994 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK17 ***

INCLUDING SOURCE(S): STCK17 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.23522 | 631271.26 | 4175803.84 | 1.21871 |
| 631271.58 | 4175783.85 | 1.19906 | 631271.90 | 4175763.86 | 1.17880 |
| 631272.21 | 4175743.87 | 1.15956 | 631272.53 | 4175723.88 | 1.13519 |
| 631272.85 | 4175703.89 | 1.11344 | 631273.16 | 4175683.90 | 1.09296 |
| 631273.48 | 4175663.91 | 1.07045 | 631273.79 | 4175643.92 | 1.05812 |
| 631274.11 | 4175623.94 | 1.04033 | 631274.43 | 4175603.95 | 1.03200 |
| 631274.74 | 4175583.96 | 1.02153 | 631275.06 | 4175563.97 | 1.01138 |
| 631275.37 | 4175543.98 | 1.00097 | 631285.68 | 4175509.06 | 1.00690 |
| 631295.68 | 4175494.14 | 1.01901 | 631305.67 | 4175479.21 | 1.02885 |
| 631315.67 | 4175464.28 | 1.03748 | 631325.66 | 4175449.35 | 1.05339 |
| 631335.66 | 4175434.43 | 1.06647 | 631358.67 | 4175426.77 | 1.11866 |
| 631371.70 | 4175434.03 | 1.18145 | 631402.59 | 4175441.45 | 1.27409 |
| 631420.46 | 4175441.60 | 1.34195 | 631438.33 | 4175441.76 | 1.44641 |
| 631456.19 | 4175441.91 | 1.80245 | 631474.06 | 4175442.06 | 1.96759 |
| 631491.93 | 4175428.58 | 2.19870 | 631474.21 | 4175414.65 | 1.83702 |
| 631456.50 | 4175414.35 | 1.44050 | 631438.78 | 4175414.05 | 1.36407 |
| 631421.06 | 4175413.74 | 1.26083 | 631403.35 | 4175413.44 | 1.24302 |
| 631372.00 | 4175404.51 | 1.10634 | 631371.09 | 4175381.11 | 1.06263 |
| 631383.81 | 4175366.34 | 1.06413 | 631396.53 | 4175351.58 | 1.06414 |
| 631425.06 | 4175326.73 | 1.09129 | 631440.87 | 4175316.64 | 1.11244 |
| 631456.68 | 4175306.56 | 1.11719 | 631472.49 | 4175296.47 | 1.11738 |
| 631488.30 | 4175286.39 | 1.13719 | 631504.11 | 4175276.30 | 1.14027 |
| 631519.92 | 4175266.22 | 1.14527 | 631535.73 | 4175256.13 | 1.15903 |
| 631551.54 | 4175246.05 | 1.17891 | 631579.95 | 4175222.15 | 1.17155 |
| 631592.55 | 4175208.34 | 1.13500 | 631605.15 | 4175194.53 | 1.09294 |
| 631617.74 | 4175180.72 | 1.05406 | 631630.34 | 4175166.91 | 1.01291 |
| 631642.94 | 4175153.10 | 0.97859 | 631655.54 | 4175139.29 | 0.94723 |
| 631668.14 | 4175125.47 | 0.91031 | 631680.74 | 4175111.66 | 0.87523 |
| 631693.34 | 4175097.85 | 0.84206 | 631705.94 | 4175084.04 | 0.81395 |
| 631718.53 | 4175070.23 | 0.78360 | 631731.13 | 4175056.42 | 0.76037 |
| 631743.73 | 4175042.61 | 0.73441 | 631773.29 | 4175020.32 | 0.71652 |
| 631790.26 | 4175011.84 | 0.72136 | 631822.21 | 4174999.50 | 0.74117 |
| 631837.20 | 4174995.64 | 0.75649 | 631852.19 | 4174991.77 | 0.77616 |
| 631866.84 | 4175007.53 | 0.84723 | 631866.50 | 4175027.14 | 0.90476 |
| 631866.16 | 4175046.76 | 0.96883 | 631865.83 | 4175066.37 | 1.03838 |
| 631865.49 | 4175085.99 | 1.11843 | 631865.15 | 4175105.60 | 1.20839 |
| 631864.81 | 4175125.22 | 1.30784 | 631864.47 | 4175144.83 | 1.42373 |
| 631864.13 | 4175164.45 | 1.55588 | 631863.80 | 4175184.06 | 1.70101 |
| 631863.46 | 4175203.68 | 1.87424 | 631863.12 | 4175223.29 | 2.07382 |

631862.78 4175242.91 2.31282 631862.44 4175262.52 2.60889



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK17 ***

INCLUDING SOURCE(S): STCK17 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 3.10073 | 631861.77 | 4175301.75 | 4.02397 |
| 631861.43 | 4175321.37 | 4.53789 | 631861.09 | 4175340.98 | 3.43228 |
| 631860.75 | 4175360.60 | 4.16687 | 631860.41 | 4175380.21 | 4.78533 |
| 631860.07 | 4175399.83 | 5.86439 | 631859.73 | 4175419.44 | 7.18424 |
| 631859.40 | 4175439.06 | 9.03347 | 631859.06 | 4175458.67 | 11.53996 |
| 631858.72 | 4175478.29 | 14.49332 | 631858.38 | 4175497.90 | 18.91430 |
| 631858.04 | 4175517.52 | 25.70592 | 631857.70 | 4175537.13 | 36.48170 |
| 631857.37 | 4175556.75 | 56.38339 | 631857.03 | 4175576.36 | 97.12828 |
| 631856.69 | 4175595.98 | 159.37853 | 631856.35 | 4175615.59 | 106.59129 |
| 631856.01 | 4175635.21 | 46.68333 | 631855.67 | 4175654.82 | 24.44585 |
| 631855.33 | 4175674.44 | 14.43899 | 631855.00 | 4175694.05 | 9.36323 |
| 631854.66 | 4175713.67 | 6.47839 | 631854.32 | 4175733.28 | 4.87987 |
| 631853.98 | 4175752.90 | 3.75696 | 631853.64 | 4175772.51 | 3.08988 |
| 631853.30 | 4175792.13 | 2.60362 | 631852.97 | 4175811.74 | 2.33200 |
| 631852.63 | 4175831.36 | 2.06729 | 631852.29 | 4175850.97 | 1.90997 |
| 631851.95 | 4175870.59 | 1.79103 | 631851.61 | 4175890.20 | 1.74306 |
| 631851.27 | 4175909.82 | 2.15837 | 631850.94 | 4175929.43 | 2.69536 |
| 631850.60 | 4175949.05 | 2.36760 | 631850.26 | 4175968.66 | 2.17237 |
| 631830.54 | 4175988.13 | 2.08853 | 631811.15 | 4175987.98 | 2.14012 |
| 631791.77 | 4175987.83 | 2.20353 | 631772.39 | 4175987.67 | 2.30657 |
| 631753.00 | 4175987.52 | 2.36063 | 631733.62 | 4175987.37 | 2.33271 |
| 631714.24 | 4175987.22 | 2.44264 | 631694.85 | 4175987.07 | 2.52383 |
| 631675.47 | 4175986.92 | 2.46610 | 631656.09 | 4175986.77 | 2.53284 |
| 631636.70 | 4175986.62 | 2.75375 | 631617.32 | 4175986.46 | 2.85553 |
| 631597.94 | 4175986.31 | 2.94697 | 631578.55 | 4175986.16 | 2.61411 |
| 631559.17 | 4175986.01 | 2.30837 | 631539.79 | 4175985.86 | 2.21819 |
| 631520.40 | 4175985.71 | 2.16343 | 631501.02 | 4175985.56 | 2.11627 |
| 631481.64 | 4175985.40 | 2.06440 | 631462.25 | 4175985.25 | 2.00335 |
| 631442.87 | 4175985.10 | 1.93485 | 631423.49 | 4175984.95 | 1.85834 |
| 631404.10 | 4175984.80 | 1.77937 | 631384.72 | 4175984.65 | 1.69654 |
| 631365.34 | 4175984.50 | 1.61309 | 631345.95 | 4175984.35 | 1.53052 |
| 631326.57 | 4175984.19 | 1.45077 | 631307.19 | 4175984.04 | 1.37447 |
| 631287.80 | 4175983.89 | 1.30342 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK18 ***

INCLUDING SOURCE(S): STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.54707 | 632304.44 | 4174354.52 | 0.33014 |
| 632192.15 | 4174956.32 | 1.59206 | 632420.62 | 4175510.15 | 4.00777 |
| 632418.97 | 4175552.92 | 3.88639 | 631187.00 | 4175727.00 | 0.93572 |
| 631166.00 | 4175729.00 | 0.87614 | 631121.00 | 4175719.00 | 0.75364 |
| 631035.00 | 4174830.00 | 0.26517 | 631106.00 | 4174825.00 | 0.28700 |
| 631937.00 | 4174528.00 | 0.36742 | 631322.00 | 4174522.00 | 0.24182 |
| 629800.63 | 4173850.44 | 0.05339 | 630150.63 | 4173850.44 | 0.06216 |
| 630500.63 | 4173850.44 | 0.07438 | 630850.63 | 4173850.44 | 0.09040 |
| 631200.63 | 4173850.44 | 0.10664 | 631550.63 | 4173850.44 | 0.11078 |
| 631900.63 | 4173850.44 | 0.12418 | 632250.63 | 4173850.44 | 0.14888 |
| 632600.63 | 4173850.44 | 0.16083 | 632950.63 | 4173850.44 | 0.16836 |
| 633300.63 | 4173850.44 | 0.15841 | 629800.63 | 4174200.44 | 0.06302 |
| 630150.63 | 4174200.44 | 0.07492 | 630500.63 | 4174200.44 | 0.09184 |
| 630850.63 | 4174200.44 | 0.11763 | 631200.63 | 4174200.44 | 0.15096 |
| 631550.63 | 4174200.44 | 0.16795 | 631900.63 | 4174200.44 | 0.19663 |
| 632250.63 | 4174200.44 | 0.24500 | 632600.63 | 4174200.44 | 0.26697 |
| 632950.63 | 4174200.44 | 0.25041 | 633300.63 | 4174200.44 | 0.21225 |
| 629800.63 | 4174550.44 | 0.07434 | 630150.63 | 4174550.44 | 0.09218 |
| 630500.63 | 4174550.44 | 0.11830 | 630850.63 | 4174550.44 | 0.15973 |
| 631200.63 | 4174550.44 | 0.22507 | 631550.63 | 4174550.44 | 0.28659 |
| 631900.63 | 4174550.44 | 0.36730 | 632250.63 | 4174550.44 | 0.49542 |
| 632600.63 | 4174550.44 | 0.49100 | 632950.63 | 4174550.44 | 0.37962 |
| 633300.63 | 4174550.44 | 0.31620 | 629800.63 | 4174900.44 | 0.08441 |
| 630150.63 | 4174900.44 | 0.11046 | 630500.63 | 4174900.44 | 0.15374 |
| 630850.63 | 4174900.44 | 0.23157 | 631200.63 | 4174900.44 | 0.36052 |
| 631550.63 | 4174900.44 | 0.57010 | 631900.63 | 4174900.44 | 0.90788 |
| 632250.63 | 4174900.44 | 1.31633 | 632600.63 | 4174900.44 | 0.92872 |
| 632950.63 | 4174900.44 | 0.66895 | 633300.63 | 4174900.44 | 0.52690 |
| 629800.63 | 4175250.44 | 0.09191 | 630150.63 | 4175250.44 | 0.12377 |
| 630500.63 | 4175250.44 | 0.18096 | 630850.63 | 4175250.44 | 0.30874 |
| 631200.63 | 4175250.44 | 0.63769 | 631550.63 | 4175250.44 | 1.74437 |
| 631900.63 | 4175250.44 | 5.46820 | 632250.63 | 4175250.44 | 3.96624 |
| 632600.63 | 4175250.44 | 2.05714 | 632950.63 | 4175250.44 | 1.18630 |
| 633300.63 | 4175250.44 | 0.80839 | 629800.63 | 4175600.44 | 0.09538 |
| 630150.63 | 4175600.44 | 0.13051 | 630500.63 | 4175600.44 | 0.19432 |
| 630850.63 | 4175600.44 | 0.34507 | 631200.63 | 4175600.44 | 0.87184 |
| 631550.63 | 4175600.44 | 12.65993 | 631900.63 | 4175600.44 | 4.88868 |
| 632250.63 | 4175600.44 | 5.87241 | 632600.63 | 4175600.44 | 2.35936 |
| 632950.63 | 4175600.44 | 1.32237 | 633300.63 | 4175600.44 | 0.87257 |
| 629800.63 | 4175950.44 | 0.09801 | 630150.63 | 4175950.44 | 0.13698 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK18 ***

INCLUDING SOURCE(S): STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.21879 | 630850.63 | 4175950.44 | 0.44017 |
| 631200.63 | 4175950.44 | 1.03109 | 631550.63 | 4175950.44 | 3.32748 |
| 631900.63 | 4175950.44 | 1.57333 | 632250.63 | 4175950.44 | 1.31574 |
| 632600.63 | 4175950.44 | 1.11206 | 632950.63 | 4175950.44 | 0.81927 |
| 633300.63 | 4175950.44 | 0.61542 | 629800.63 | 4176300.44 | 0.10595 |
| 630150.63 | 4176300.44 | 0.15345 | 630500.63 | 4176300.44 | 0.24751 |
| 630850.63 | 4176300.44 | 0.44744 | 631200.63 | 4176300.44 | 0.74824 |
| 631550.63 | 4176300.44 | 0.88472 | 631900.63 | 4176300.44 | 0.82437 |
| 632250.63 | 4176300.44 | 0.73112 | 632600.63 | 4176300.44 | 0.62270 |
| 632950.63 | 4176300.44 | 0.48499 | 633300.63 | 4176300.44 | 0.39565 |
| 629800.63 | 4176650.44 | 0.11302 | 630150.63 | 4176650.44 | 0.15738 |
| 630500.63 | 4176650.44 | 0.23751 | 630850.63 | 4176650.44 | 0.36087 |
| 631200.63 | 4176650.44 | 0.46876 | 631550.63 | 4176650.44 | 0.55459 |
| 631900.63 | 4176650.44 | 0.50324 | 632250.63 | 4176650.44 | 0.45347 |
| 632600.63 | 4176650.44 | 0.42156 | 632950.63 | 4176650.44 | 0.34328 |
| 633300.63 | 4176650.44 | 0.28083 | 629800.63 | 4177000.44 | 0.11222 |
| 630150.63 | 4177000.44 | 0.15068 | 630500.63 | 4177000.44 | 0.20370 |
| 630850.63 | 4177000.44 | 0.26473 | 631200.63 | 4177000.44 | 0.31454 |
| 631550.63 | 4177000.44 | 0.35838 | 631900.63 | 4177000.44 | 0.33193 |
| 632250.63 | 4177000.44 | 0.31632 | 632600.63 | 4177000.44 | 0.28668 |
| 632950.63 | 4177000.44 | 0.25647 | 633300.63 | 4177000.44 | 0.21844 |
| 629800.63 | 4177350.44 | 0.10786 | 630150.63 | 4177350.44 | 0.13540 |
| 630500.63 | 4177350.44 | 0.16637 | 630850.63 | 4177350.44 | 0.19859 |
| 631200.63 | 4177350.44 | 0.23056 | 631550.63 | 4177350.44 | 0.24486 |
| 631900.63 | 4177350.44 | 0.23500 | 632250.63 | 4177350.44 | 0.22973 |
| 632600.63 | 4177350.44 | 0.20225 | 632950.63 | 4177350.44 | 0.19655 |
| 633300.63 | 4177350.44 | 0.17430 | 631670.70 | 4175493.59 | 42.56515 |
| 631669.80 | 4175641.41 | 15.78750 | 631665.32 | 4175796.39 | 3.64329 |
| 631417.17 | 4175826.85 | 2.63968 | 631417.17 | 4175673.66 | 3.16571 |
| 631422.55 | 4175484.63 | 1.71310 | 631268.42 | 4175983.74 | 1.20076 |
| 631275.69 | 4175523.99 | 1.05401 | 631345.65 | 4175419.50 | 1.24565 |
| 631384.72 | 4175441.30 | 1.43488 | 631491.93 | 4175442.21 | 2.24794 |
| 631491.93 | 4175414.95 | 2.24015 | 631385.63 | 4175413.14 | 1.38749 |
| 631358.37 | 4175395.87 | 1.25323 | 631409.25 | 4175336.81 | 1.34782 |
| 631567.35 | 4175235.96 | 1.75790 | 631756.33 | 4175028.80 | 1.02447 |
| 631807.22 | 4175003.36 | 1.03195 | 631867.18 | 4174987.91 | 1.14383 |
| 631849.92 | 4175988.28 | 1.49700 | 631268.74 | 4175963.75 | 1.21766 |
| 631269.05 | 4175943.76 | 1.23227 | 631269.37 | 4175923.77 | 1.24470 |
| 631269.68 | 4175903.78 | 1.25627 | 631270.00 | 4175883.79 | 1.26671 |
| 631270.32 | 4175863.81 | 1.27476 | 631270.63 | 4175843.82 | 1.28186 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK18 ***

INCLUDING SOURCE(S): STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.28553 | 631271.26 | 4175803.84 | 1.28565 |
| 631271.58 | 4175783.85 | 1.28320 | 631271.90 | 4175763.86 | 1.27725 |
| 631272.21 | 4175743.87 | 1.26395 | 631272.53 | 4175723.88 | 1.24823 |
| 631272.85 | 4175703.89 | 1.22484 | 631273.16 | 4175683.90 | 1.19549 |
| 631273.48 | 4175663.91 | 1.17418 | 631273.79 | 4175643.92 | 1.15755 |
| 631274.11 | 4175623.94 | 1.13868 | 631274.43 | 4175603.95 | 1.11787 |
| 631274.74 | 4175583.96 | 1.09592 | 631275.06 | 4175563.97 | 1.07595 |
| 631275.37 | 4175543.98 | 1.06266 | 631285.68 | 4175509.06 | 1.08305 |
| 631295.68 | 4175494.14 | 1.10859 | 631305.67 | 4175479.21 | 1.13314 |
| 631315.67 | 4175464.28 | 1.16157 | 631325.66 | 4175449.35 | 1.19332 |
| 631335.66 | 4175434.43 | 1.22257 | 631358.67 | 4175426.77 | 1.31508 |
| 631371.70 | 4175434.03 | 1.38130 | 631402.59 | 4175441.45 | 1.53932 |
| 631420.46 | 4175441.60 | 1.62045 | 631438.33 | 4175441.76 | 1.80916 |
| 631456.19 | 4175441.91 | 1.99150 | 631474.06 | 4175442.06 | 1.96969 |
| 631491.93 | 4175428.58 | 2.25736 | 631474.21 | 4175414.65 | 1.83823 |
| 631456.50 | 4175414.35 | 1.79142 | 631438.78 | 4175414.05 | 1.72341 |
| 631421.06 | 4175413.74 | 1.58109 | 631403.35 | 4175413.44 | 1.48972 |
| 631372.00 | 4175404.51 | 1.30756 | 631371.09 | 4175381.11 | 1.26353 |
| 631383.81 | 4175366.34 | 1.29736 | 631396.53 | 4175351.58 | 1.32297 |
| 631425.06 | 4175326.73 | 1.40593 | 631440.87 | 4175316.64 | 1.45679 |
| 631456.68 | 4175306.56 | 1.47112 | 631472.49 | 4175296.47 | 1.50924 |
| 631488.30 | 4175286.39 | 1.56191 | 631504.11 | 4175276.30 | 1.58480 |
| 631519.92 | 4175266.22 | 1.61422 | 631535.73 | 4175256.13 | 1.65384 |
| 631551.54 | 4175246.05 | 1.70724 | 631579.95 | 4175222.15 | 1.70459 |
| 631592.55 | 4175208.34 | 1.65416 | 631605.15 | 4175194.53 | 1.59571 |
| 631617.74 | 4175180.72 | 1.54502 | 631630.34 | 4175166.91 | 1.47987 |
| 631642.94 | 4175153.10 | 1.42922 | 631655.54 | 4175139.29 | 1.38264 |
| 631668.14 | 4175125.47 | 1.33362 | 631680.74 | 4175111.66 | 1.28451 |
| 631693.34 | 4175097.85 | 1.23392 | 631705.94 | 4175084.04 | 1.18592 |
| 631718.53 | 4175070.23 | 1.14126 | 631731.13 | 4175056.42 | 1.09888 |
| 631743.73 | 4175042.61 | 1.05943 | 631773.29 | 4175020.32 | 1.02451 |
| 631790.26 | 4175011.84 | 1.02670 | 631822.21 | 4174999.50 | 1.05723 |
| 631837.20 | 4174995.64 | 1.08422 | 631852.19 | 4174991.77 | 1.11363 |
| 631866.84 | 4175007.53 | 1.23456 | 631866.50 | 4175027.14 | 1.33469 |
| 631866.16 | 4175046.76 | 1.45091 | 631865.83 | 4175066.37 | 1.57946 |
| 631865.49 | 4175085.99 | 1.73129 | 631865.15 | 4175105.60 | 1.90297 |
| 631864.81 | 4175125.22 | 2.10679 | 631864.47 | 4175144.83 | 2.34068 |
| 631864.13 | 4175164.45 | 2.62327 | 631863.80 | 4175184.06 | 2.95399 |
| 631863.46 | 4175203.68 | 3.35256 | 631863.12 | 4175223.29 | 3.85421 |
| 631862.78 | 4175242.91 | 4.46048 | 631862.44 | 4175262.52 | 5.24585 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK18 ***

INCLUDING SOURCE(S): STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 6.49263 | 631861.77 | 4175301.75 | 9.45990 |
| 631861.43 | 4175321.37 | 13.48820 | 631861.09 | 4175340.98 | 16.36670 |
| 631860.75 | 4175360.60 | 22.42295 | 631860.41 | 4175380.21 | 25.88334 |
| 631860.07 | 4175399.83 | 32.91539 | 631859.73 | 4175419.44 | 38.10954 |
| 631859.40 | 4175439.06 | 54.34537 | 631859.06 | 4175458.67 | 79.83697 |
| 631858.72 | 4175478.29 | 109.56955 | 631858.38 | 4175497.90 | 140.43305 |
| 631858.04 | 4175517.52 | 91.16003 | 631857.70 | 4175537.13 | 39.12984 |
| 631857.37 | 4175556.75 | 16.20062 | 631857.03 | 4175576.36 | 6.91059 |
| 631856.69 | 4175595.98 | 4.02933 | 631856.35 | 4175615.59 | 2.98020 |
| 631856.01 | 4175635.21 | 2.55252 | 631855.67 | 4175654.82 | 2.41382 |
| 631855.33 | 4175674.44 | 2.08911 | 631855.00 | 4175694.05 | 1.95746 |
| 631854.66 | 4175713.67 | 1.78421 | 631854.32 | 4175733.28 | 1.64751 |
| 631853.98 | 4175752.90 | 1.47703 | 631853.64 | 4175772.51 | 1.32252 |
| 631853.30 | 4175792.13 | 1.20796 | 631852.97 | 4175811.74 | 1.18620 |
| 631852.63 | 4175831.36 | 1.07338 | 631852.29 | 4175850.97 | 1.05643 |
| 631851.95 | 4175870.59 | 1.03488 | 631851.61 | 4175890.20 | 1.05967 |
| 631851.27 | 4175909.82 | 1.24778 | 631850.94 | 4175929.43 | 1.88243 |
| 631850.60 | 4175949.05 | 1.71027 | 631850.26 | 4175968.66 | 1.58521 |
| 631830.54 | 4175988.13 | 1.49496 | 631811.15 | 4175987.98 | 1.50127 |
| 631791.77 | 4175987.83 | 1.53997 | 631772.39 | 4175987.67 | 1.62356 |
| 631753.00 | 4175987.52 | 1.74827 | 631733.62 | 4175987.37 | 1.89233 |
| 631714.24 | 4175987.22 | 2.01004 | 631694.85 | 4175987.07 | 2.07679 |
| 631675.47 | 4175986.92 | 2.10501 | 631656.09 | 4175986.77 | 2.21716 |
| 631636.70 | 4175986.62 | 2.37060 | 631617.32 | 4175986.46 | 2.34901 |
| 631597.94 | 4175986.31 | 2.12304 | 631578.55 | 4175986.16 | 1.84530 |
| 631559.17 | 4175986.01 | 1.76269 | 631539.79 | 4175985.86 | 1.71835 |
| 631520.40 | 4175985.71 | 1.68427 | 631501.02 | 4175985.56 | 1.66342 |
| 631481.64 | 4175985.40 | 1.64547 | 631462.25 | 4175985.25 | 1.62477 |
| 631442.87 | 4175985.10 | 1.60031 | 631423.49 | 4175984.95 | 1.57186 |
| 631404.10 | 4175984.80 | 1.53778 | 631384.72 | 4175984.65 | 1.49926 |
| 631365.34 | 4175984.50 | 1.45648 | 631345.95 | 4175984.35 | 1.40953 |
| 631326.57 | 4175984.19 | 1.35982 | 631307.19 | 4175984.04 | 1.30822 |
| 631287.80 | 4175983.89 | 1.25485 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK19 ***

INCLUDING SOURCE(S): STCK19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 2.33207 | 632304.44 | 4174354.52 | 0.40398 |
| 632192.15 | 4174956.32 | 2.24278 | 632420.62 | 4175510.15 | 3.48870 |
| 632418.97 | 4175552.92 | 3.14437 | 631187.00 | 4175727.00 | 0.97382 |
| 631166.00 | 4175729.00 | 0.91693 | 631121.00 | 4175719.00 | 0.80152 |
| 631035.00 | 4174830.00 | 0.30032 | 631106.00 | 4174825.00 | 0.32770 |
| 631937.00 | 4174528.00 | 0.45936 | 631322.00 | 4174522.00 | 0.27607 |
| 629800.63 | 4173850.44 | 0.05589 | 630150.63 | 4173850.44 | 0.06534 |
| 630500.63 | 4173850.44 | 0.07860 | 630850.63 | 4173850.44 | 0.09667 |
| 631200.63 | 4173850.44 | 0.11638 | 631550.63 | 4173850.44 | 0.12283 |
| 631900.63 | 4173850.44 | 0.13889 | 632250.63 | 4173850.44 | 0.16812 |
| 632600.63 | 4173850.44 | 0.18250 | 632950.63 | 4173850.44 | 0.18804 |
| 633300.63 | 4173850.44 | 0.17140 | 629800.63 | 4174200.44 | 0.06616 |
| 630150.63 | 4174200.44 | 0.07934 | 630500.63 | 4174200.44 | 0.09798 |
| 630850.63 | 4174200.44 | 0.12690 | 631200.63 | 4174200.44 | 0.16681 |
| 631550.63 | 4174200.44 | 0.19185 | 631900.63 | 4174200.44 | 0.22884 |
| 632250.63 | 4174200.44 | 0.29025 | 632600.63 | 4174200.44 | 0.31381 |
| 632950.63 | 4174200.44 | 0.27884 | 633300.63 | 4174200.44 | 0.23399 |
| 629800.63 | 4174550.44 | 0.07754 | 630150.63 | 4174550.44 | 0.09751 |
| 630500.63 | 4174550.44 | 0.12739 | 630850.63 | 4174550.44 | 0.17490 |
| 631200.63 | 4174550.44 | 0.25349 | 631550.63 | 4174550.44 | 0.34287 |
| 631900.63 | 4174550.44 | 0.45988 | 632250.63 | 4174550.44 | 0.63915 |
| 632600.63 | 4174550.44 | 0.57869 | 632950.63 | 4174550.44 | 0.43522 |
| 633300.63 | 4174550.44 | 0.36311 | 629800.63 | 4174900.44 | 0.08665 |
| 630150.63 | 4174900.44 | 0.11465 | 630500.63 | 4174900.44 | 0.16278 |
| 630850.63 | 4174900.44 | 0.25411 | 631200.63 | 4174900.44 | 0.42093 |
| 631550.63 | 4174900.44 | 0.73663 | 631900.63 | 4174900.44 | 1.35207 |
| 632250.63 | 4174900.44 | 1.77816 | 632600.63 | 4174900.44 | 1.14302 |
| 632950.63 | 4174900.44 | 0.79823 | 633300.63 | 4174900.44 | 0.60778 |
| 629800.63 | 4175250.44 | 0.09353 | 630150.63 | 4175250.44 | 0.12680 |
| 630500.63 | 4175250.44 | 0.18658 | 630850.63 | 4175250.44 | 0.31949 |
| 631200.63 | 4175250.44 | 0.70860 | 631550.63 | 4175250.44 | 2.55893 |
| 631900.63 | 4175250.44 | 13.34034 | 632250.63 | 4175250.44 | 5.99258 |
| 632600.63 | 4175250.44 | 2.38009 | 632950.63 | 4175250.44 | 1.31207 |
| 633300.63 | 4175250.44 | 0.86681 | 629800.63 | 4175600.44 | 0.09595 |
| 630150.63 | 4175600.44 | 0.13171 | 630500.63 | 4175600.44 | 0.19856 |
| 630850.63 | 4175600.44 | 0.36484 | 631200.63 | 4175600.44 | 0.92331 |
| 631550.63 | 4175600.44 | 8.75743 | 631900.63 | 4175600.44 | 1.12623 |
| 632250.63 | 4175600.44 | 3.38510 | 632600.63 | 4175600.44 | 1.99104 |
| 632950.63 | 4175600.44 | 1.19731 | 633300.63 | 4175600.44 | 0.81596 |
| 629800.63 | 4175950.44 | 0.09951 | 630150.63 | 4175950.44 | 0.14127 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK19 ***

INCLUDING SOURCE(S): STCK19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.23083 | 630850.63 | 4175950.44 | 0.45735 |
| 631200.63 | 4175950.44 | 0.98212 | 631550.63 | 4175950.44 | 2.49654 |
| 631900.63 | 4175950.44 | 1.27995 | 632250.63 | 4175950.44 | 1.06220 |
| 632600.63 | 4175950.44 | 0.89319 | 632950.63 | 4175950.44 | 0.69827 |
| 633300.63 | 4175950.44 | 0.54098 | 629800.63 | 4176300.44 | 0.10884 |
| 630150.63 | 4176300.44 | 0.15694 | 630500.63 | 4176300.44 | 0.24873 |
| 630850.63 | 4176300.44 | 0.43710 | 631200.63 | 4176300.44 | 0.66466 |
| 631550.63 | 4176300.44 | 0.78258 | 631900.63 | 4176300.44 | 0.69876 |
| 632250.63 | 4176300.44 | 0.62586 | 632600.63 | 4176300.44 | 0.55187 |
| 632950.63 | 4176300.44 | 0.43721 | 633300.63 | 4176300.44 | 0.35293 |
| 629800.63 | 4176650.44 | 0.11342 | 630150.63 | 4176650.44 | 0.15681 |
| 630500.63 | 4176650.44 | 0.23266 | 630850.63 | 4176650.44 | 0.33804 |
| 631200.63 | 4176650.44 | 0.42275 | 631550.63 | 4176650.44 | 0.49797 |
| 631900.63 | 4176650.44 | 0.43970 | 632250.63 | 4176650.44 | 0.40890 |
| 632600.63 | 4176650.44 | 0.38373 | 632950.63 | 4176650.44 | 0.31536 |
| 633300.63 | 4176650.44 | 0.26143 | 629800.63 | 4177000.44 | 0.11141 |
| 630150.63 | 4177000.44 | 0.14761 | 630500.63 | 4177000.44 | 0.19446 |
| 630850.63 | 4177000.44 | 0.24727 | 631200.63 | 4177000.44 | 0.29039 |
| 631550.63 | 4177000.44 | 0.32504 | 631900.63 | 4177000.44 | 0.29772 |
| 632250.63 | 4177000.44 | 0.29194 | 632600.63 | 4177000.44 | 0.25954 |
| 632950.63 | 4177000.44 | 0.23970 | 633300.63 | 4177000.44 | 0.20422 |
| 629800.63 | 4177350.44 | 0.10589 | 630150.63 | 4177350.44 | 0.13057 |
| 630500.63 | 4177350.44 | 0.15797 | 630850.63 | 4177350.44 | 0.18580 |
| 631200.63 | 4177350.44 | 0.21585 | 631550.63 | 4177350.44 | 0.22497 |
| 631900.63 | 4177350.44 | 0.21510 | 632250.63 | 4177350.44 | 0.21341 |
| 632600.63 | 4177350.44 | 0.18730 | 632950.63 | 4177350.44 | 0.18214 |
| 633300.63 | 4177350.44 | 0.16504 | 631670.70 | 4175493.59 | 23.21199 |
| 631669.80 | 4175641.41 | 9.81724 | 631665.32 | 4175796.39 | 2.79397 |
| 631417.17 | 4175826.85 | 3.18227 | 631417.17 | 4175673.66 | 2.94961 |
| 631422.55 | 4175484.63 | 1.50264 | 631268.42 | 4175983.74 | 1.08519 |
| 631275.69 | 4175523.99 | 1.10242 | 631345.65 | 4175419.50 | 1.33939 |
| 631384.72 | 4175441.30 | 1.38829 | 631491.93 | 4175442.21 | 1.56185 |
| 631491.93 | 4175414.95 | 1.76139 | 631385.63 | 4175413.14 | 1.43154 |
| 631358.37 | 4175395.87 | 1.34701 | 631409.25 | 4175336.81 | 1.60265 |
| 631567.35 | 4175235.96 | 2.60178 | 631756.33 | 4175028.80 | 1.57364 |
| 631807.22 | 4175003.36 | 1.59797 | 631867.18 | 4174987.91 | 1.81522 |
| 631849.92 | 4175988.28 | 1.14916 | 631268.74 | 4175963.75 | 1.11046 |
| 631269.05 | 4175943.76 | 1.13463 | 631269.37 | 4175923.77 | 1.15721 |
| 631269.68 | 4175903.78 | 1.17699 | 631270.00 | 4175883.79 | 1.19382 |
| 631270.32 | 4175863.81 | 1.20797 | 631270.63 | 4175843.82 | 1.21953 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK19 ***

INCLUDING SOURCE(S): STCK19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.22923 | 631271.26 | 4175803.84 | 1.23739 |
| 631271.58 | 4175783.85 | 1.24548 | 631271.90 | 4175763.86 | 1.25068 |
| 631272.21 | 4175743.87 | 1.24852 | 631272.53 | 4175723.88 | 1.24868 |
| 631272.85 | 4175703.89 | 1.23761 | 631273.16 | 4175683.90 | 1.22170 |
| 631273.48 | 4175663.91 | 1.21610 | 631273.79 | 4175643.92 | 1.22031 |
| 631274.11 | 4175623.94 | 1.22137 | 631274.43 | 4175603.95 | 1.17182 |
| 631274.74 | 4175583.96 | 1.13384 | 631275.06 | 4175563.97 | 1.11556 |
| 631275.37 | 4175543.98 | 1.10619 | 631285.68 | 4175509.06 | 1.14666 |
| 631295.68 | 4175494.14 | 1.15596 | 631305.67 | 4175479.21 | 1.13965 |
| 631315.67 | 4175464.28 | 1.18291 | 631325.66 | 4175449.35 | 1.22462 |
| 631335.66 | 4175434.43 | 1.27736 | 631358.67 | 4175426.77 | 1.39782 |
| 631371.70 | 4175434.03 | 1.43029 | 631402.59 | 4175441.45 | 1.48898 |
| 631420.46 | 4175441.60 | 1.59256 | 631438.33 | 4175441.76 | 1.88593 |
| 631456.19 | 4175441.91 | 2.03828 | 631474.06 | 4175442.06 | 1.49336 |
| 631491.93 | 4175428.58 | 1.65542 | 631474.21 | 4175414.65 | 1.64105 |
| 631456.50 | 4175414.35 | 2.04412 | 631438.78 | 4175414.05 | 1.91229 |
| 631421.06 | 4175413.74 | 1.65600 | 631403.35 | 4175413.44 | 1.54050 |
| 631372.00 | 4175404.51 | 1.35761 | 631371.09 | 4175381.11 | 1.37600 |
| 631383.81 | 4175366.34 | 1.45571 | 631396.53 | 4175351.58 | 1.52644 |
| 631425.06 | 4175326.73 | 1.71367 | 631440.87 | 4175316.64 | 1.78973 |
| 631456.68 | 4175306.56 | 1.82156 | 631472.49 | 4175296.47 | 1.94647 |
| 631488.30 | 4175286.39 | 2.06731 | 631504.11 | 4175276.30 | 2.18354 |
| 631519.92 | 4175266.22 | 2.28890 | 631535.73 | 4175256.13 | 2.40028 |
| 631551.54 | 4175246.05 | 2.51762 | 631579.95 | 4175222.15 | 2.57162 |
| 631592.55 | 4175208.34 | 2.52591 | 631605.15 | 4175194.53 | 2.46328 |
| 631617.74 | 4175180.72 | 2.40232 | 631630.34 | 4175166.91 | 2.33531 |
| 631642.94 | 4175153.10 | 2.26968 | 631655.54 | 4175139.29 | 2.19356 |
| 631668.14 | 4175125.47 | 2.11137 | 631680.74 | 4175111.66 | 2.02943 |
| 631693.34 | 4175097.85 | 1.95082 | 631705.94 | 4175084.04 | 1.86486 |
| 631718.53 | 4175070.23 | 1.78153 | 631731.13 | 4175056.42 | 1.71030 |
| 631743.73 | 4175042.61 | 1.63561 | 631773.29 | 4175020.32 | 1.58037 |
| 631790.26 | 4175011.84 | 1.58312 | 631822.21 | 4174999.50 | 1.64520 |
| 631837.20 | 4174995.64 | 1.70202 | 631852.19 | 4174991.77 | 1.75952 |
| 631866.84 | 4175007.53 | 1.99878 | 631866.50 | 4175027.14 | 2.21697 |
| 631866.16 | 4175046.76 | 2.46840 | 631865.83 | 4175066.37 | 2.76576 |
| 631865.49 | 4175085.99 | 3.12443 | 631865.15 | 4175105.60 | 3.56565 |
| 631864.81 | 4175125.22 | 4.09663 | 631864.47 | 4175144.83 | 4.75291 |
| 631864.13 | 4175164.45 | 5.57996 | 631863.80 | 4175184.06 | 6.63108 |
| 631863.46 | 4175203.68 | 7.95344 | 631863.12 | 4175223.29 | 9.68685 |
| 631862.78 | 4175242.91 | 11.91364 | 631862.44 | 4175262.52 | 14.77874 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK19 ***

INCLUDING SOURCE(S): STCK19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 18.70260 | 631861.77 | 4175301.75 | 26.34210 |
| 631861.43 | 4175321.37 | 38.37840 | 631861.09 | 4175340.98 | 46.82771 |
| 631860.75 | 4175360.60 | 61.01911 | 631860.41 | 4175380.21 | 82.03993 |
| 631860.07 | 4175399.83 | 96.52970 | 631859.73 | 4175419.44 | 43.58331 |
| 631859.40 | 4175439.06 | 13.61620 | 631859.06 | 4175458.67 | 6.04974 |
| 631858.72 | 4175478.29 | 3.24418 | 631858.38 | 4175497.90 | 2.29943 |
| 631858.04 | 4175517.52 | 2.00105 | 631857.70 | 4175537.13 | 1.73000 |
| 631857.37 | 4175556.75 | 1.60680 | 631857.03 | 4175576.36 | 1.78752 |
| 631856.69 | 4175595.98 | 1.94685 | 631856.35 | 4175615.59 | 2.06086 |
| 631856.01 | 4175635.21 | 1.99881 | 631855.67 | 4175654.82 | 1.81641 |
| 631855.33 | 4175674.44 | 1.70927 | 631855.00 | 4175694.05 | 1.52924 |
| 631854.66 | 4175713.67 | 1.39449 | 631854.32 | 4175733.28 | 1.37452 |
| 631853.98 | 4175752.90 | 1.19048 | 631853.64 | 4175772.51 | 1.02883 |
| 631853.30 | 4175792.13 | 1.00969 | 631852.97 | 4175811.74 | 0.98703 |
| 631852.63 | 4175831.36 | 0.87572 | 631852.29 | 4175850.97 | 0.86342 |
| 631851.95 | 4175870.59 | 0.76301 | 631851.61 | 4175890.20 | 0.83202 |
| 631851.27 | 4175909.82 | 0.88370 | 631850.94 | 4175929.43 | 1.40022 |
| 631850.60 | 4175949.05 | 1.29250 | 631850.26 | 4175968.66 | 1.20856 |
| 631830.54 | 4175988.13 | 1.11743 | 631811.15 | 4175987.98 | 1.11897 |
| 631791.77 | 4175987.83 | 1.13942 | 631772.39 | 4175987.67 | 1.23198 |
| 631753.00 | 4175987.52 | 1.35811 | 631733.62 | 4175987.37 | 1.52019 |
| 631714.24 | 4175987.22 | 1.64612 | 631694.85 | 4175987.07 | 1.69136 |
| 631675.47 | 4175986.92 | 1.69703 | 631656.09 | 4175986.77 | 1.78089 |
| 631636.70 | 4175986.62 | 1.93340 | 631617.32 | 4175986.46 | 1.82018 |
| 631597.94 | 4175986.31 | 1.50186 | 631578.55 | 4175986.16 | 1.44649 |
| 631559.17 | 4175986.01 | 1.41586 | 631539.79 | 4175985.86 | 1.37978 |
| 631520.40 | 4175985.71 | 1.34024 | 631501.02 | 4175985.56 | 1.31980 |
| 631481.64 | 4175985.40 | 1.30917 | 631462.25 | 4175985.25 | 1.29955 |
| 631442.87 | 4175985.10 | 1.28997 | 631423.49 | 4175984.95 | 1.27787 |
| 631404.10 | 4175984.80 | 1.26342 | 631384.72 | 4175984.65 | 1.24656 |
| 631365.34 | 4175984.50 | 1.22629 | 631345.95 | 4175984.35 | 1.20346 |
| 631326.57 | 4175984.19 | 1.17726 | 631307.19 | 4175984.04 | 1.14860 |
| 631287.80 | 4175983.89 | 1.11789 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK2 ***

INCLUDING SOURCE(S): STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.75897 | 632304.44 | 4174354.52 | 0.22360 |
| 632192.15 | 4174956.32 | 0.81927 | 632420.62 | 4175510.15 | 3.37888 |
| 632418.97 | 4175552.92 | 3.73981 | 631187.00 | 4175727.00 | 0.70029 |
| 631166.00 | 4175729.00 | 0.65668 | 631121.00 | 4175719.00 | 0.57100 |

| | | | | | |
|---|---|---|---|---|---|
| 631035.00 | 4174830.00 | 0.18991 | 631106.00 | 4174825.00 | 0.20292 |
| 631937.00 | 4174528.00 | 0.23400 | 631322.00 | 4174522.00 | 0.16973 |
| 629800.63 | 4173850.44 | 0.04582 | 630150.63 | 4173850.44 | 0.05233 |
| 630500.63 | 4173850.44 | 0.06130 | 630850.63 | 4173850.44 | 0.07292 |
| 631200.63 | 4173850.44 | 0.08280 | 631550.63 | 4173850.44 | 0.08330 |
| 631900.63 | 4173850.44 | 0.09342 | 632250.63 | 4173850.44 | 0.11335 |
| 632600.63 | 4173850.44 | 0.12300 | 632950.63 | 4173850.44 | 0.13261 |
| 633300.63 | 4173850.44 | 0.13361 | 629800.63 | 4174200.44 | 0.05384 |
| 630150.63 | 4174200.44 | 0.06235 | 630500.63 | 4174200.44 | 0.07450 |
| 630850.63 | 4174200.44 | 0.09232 | 631200.63 | 4174200.44 | 0.11321 |
| 631550.63 | 4174200.44 | 0.11914 | 631900.63 | 4174200.44 | 0.13835 |
| 632250.63 | 4174200.44 | 0.17343 | 632600.63 | 4174200.44 | 0.19180 |
| 632950.63 | 4174200.44 | 0.19723 | 633300.63 | 4174200.44 | 0.17784 |
| 629800.63 | 4174550.44 | 0.06397 | 630150.63 | 4174550.44 | 0.07638 |
| 630500.63 | 4174550.44 | 0.09415 | 630850.63 | 4174550.44 | 0.12208 |
| 631200.63 | 4174550.44 | 0.16253 | 631550.63 | 4174550.44 | 0.18794 |
| 631900.63 | 4174550.44 | 0.23254 | 632250.63 | 4174550.44 | 0.31182 |
| 632600.63 | 4174550.44 | 0.34170 | 632950.63 | 4174550.44 | 0.29538 |
| 633300.63 | 4174550.44 | 0.24743 | 629800.63 | 4174900.44 | 0.07437 |
| 630150.63 | 4174900.44 | 0.09373 | 630500.63 | 4174900.44 | 0.12359 |
| 630850.63 | 4174900.44 | 0.17046 | 631200.63 | 4174900.44 | 0.24516 |
| 631550.63 | 4174900.44 | 0.33408 | 631900.63 | 4174900.44 | 0.47008 |
| 632250.63 | 4174900.44 | 0.72080 | 632600.63 | 4174900.44 | 0.63503 |
| 632950.63 | 4174900.44 | 0.47344 | 633300.63 | 4174900.44 | 0.39224 |
| 629800.63 | 4175250.44 | 0.08253 | 630150.63 | 4175250.44 | 0.10841 |
| 630500.63 | 4175250.44 | 0.15415 | 630850.63 | 4175250.44 | 0.24436 |
| 631200.63 | 4175250.44 | 0.41147 | 631550.63 | 4175250.44 | 0.77226 |
| 631900.63 | 4175250.44 | 1.54007 | 632250.63 | 4175250.44 | 1.97150 |
| 632600.63 | 4175250.44 | 1.28676 | 632950.63 | 4175250.44 | 0.87536 |
| 633300.63 | 4175250.44 | 0.65099 | 629800.63 | 4175600.44 | 0.08907 |
| 630150.63 | 4175600.44 | 0.11970 | 630500.63 | 4175600.44 | 0.17408 |
| 630850.63 | 4175600.44 | 0.29581 | 631200.63 | 4175600.44 | 0.67656 |
| 631550.63 | 4175600.44 | 5.17469 | 631900.63 | 4175600.44 | 9.02907 |
| 632250.63 | 4175600.44 | 6.92427 | 632600.63 | 4175600.44 | 2.48735 |
| 632950.63 | 4175600.44 | 1.34875 | 633300.63 | 4175600.44 | 0.88703 |
| 629800.63 | 4175950.44 | 0.09176 | 630150.63 | 4175950.44 | 0.12521 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK2 ***

INCLUDING SOURCE(S): STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.18796 | 630850.63 | 4175950.44 | 0.34595 |
| 631200.63 | 4175950.44 | 0.87921 | 631550.63 | 4175950.44 | 3.81176 |
| 631900.63 | 4175950.44 | 2.83563 | 632250.63 | 4175950.44 | 2.71418 |
| 632600.63 | 4175950.44 | 1.75985 | 632950.63 | 4175950.44 | 1.11496 |

| | | | | | |
|---|---|---|---|---|---|
| 633300.63 | 4175950.44 | 0.78298 | 629800.63 | 4176300.44 | 0.09717 |
| 630150.63 | 4176300.44 | 0.13843 | 630500.63 | 4176300.44 | 0.22301 |
| 630850.63 | 4176300.44 | 0.41689 | 631200.63 | 4176300.44 | 0.83953 |
| 631550.63 | 4176300.44 | 1.13493 | 631900.63 | 4176300.44 | 1.08576 |
| 632250.63 | 4176300.44 | 1.00530 | 632600.63 | 4176300.44 | 0.80704 |
| 632950.63 | 4176300.44 | 0.63785 | 633300.63 | 4176300.44 | 0.51165 |
| 629800.63 | 4176650.44 | 0.10834 | 630150.63 | 4176650.44 | 0.15410 |
| 630500.63 | 4176650.44 | 0.23473 | 630850.63 | 4176650.44 | 0.38282 |
| 631200.63 | 4176650.44 | 0.55163 | 631550.63 | 4176650.44 | 0.65407 |
| 631900.63 | 4176650.44 | 0.62897 | 632250.63 | 4176650.44 | 0.56606 |
| 632600.63 | 4176650.44 | 0.50381 | 632950.63 | 4176650.44 | 0.40733 |
| 633300.63 | 4176650.44 | 0.33605 | 629800.63 | 4177000.44 | 0.11305 |
| 630150.63 | 4177000.44 | 0.15338 | 630500.63 | 4177000.44 | 0.21599 |
| 630850.63 | 4177000.44 | 0.29542 | 631200.63 | 4177000.44 | 0.36466 |
| 631550.63 | 4177000.44 | 0.42014 | 631900.63 | 4177000.44 | 0.40250 |
| 632250.63 | 4177000.44 | 0.36613 | 632600.63 | 4177000.44 | 0.34611 |
| 632950.63 | 4177000.44 | 0.29663 | 633300.63 | 4177000.44 | 0.25304 |
| 629800.63 | 4177350.44 | 0.11068 | 630150.63 | 4177350.44 | 0.14319 |
| 630500.63 | 4177350.44 | 0.18232 | 630850.63 | 4177350.44 | 0.22303 |
| 631200.63 | 4177350.44 | 0.26088 | 631550.63 | 4177350.44 | 0.28605 |
| 631900.63 | 4177350.44 | 0.27828 | 632250.63 | 4177350.44 | 0.26322 |
| 632600.63 | 4177350.44 | 0.23901 | 632950.63 | 4177350.44 | 0.22815 |
| 633300.63 | 4177350.44 | 0.19950 | 631670.70 | 4175493.59 | 2.26881 |
| 631669.80 | 4175641.41 | 12.98264 | 631665.32 | 4175796.39 | 5.09502 |
| 631417.17 | 4175826.85 | 1.78875 | 631417.17 | 4175673.66 | 1.72848 |
| 631422.55 | 4175484.63 | 1.23042 | 631268.42 | 4175983.74 | 1.10553 |
| 631275.69 | 4175523.99 | 0.77419 | 631345.65 | 4175419.50 | 0.75955 |
| 631384.72 | 4175441.30 | 0.90521 | 631491.93 | 4175442.21 | 1.57149 |
| 631491.93 | 4175414.95 | 1.32231 | 631385.63 | 4175413.14 | 0.82291 |
| 631358.37 | 4175395.87 | 0.74190 | 631409.25 | 4175336.81 | 0.73023 |
| 631567.35 | 4175235.96 | 0.76739 | 631756.33 | 4175028.80 | 0.49406 |
| 631807.22 | 4175003.36 | 0.50094 | 631867.18 | 4174987.91 | 0.54907 |
| 631849.92 | 4175988.28 | 2.56350 | 631268.74 | 4175963.75 | 1.10078 |
| 631269.05 | 4175943.76 | 1.09308 | 631269.37 | 4175923.77 | 1.08261 |
| 631269.68 | 4175903.78 | 1.06927 | 631270.00 | 4175883.79 | 1.05435 |
| 631270.32 | 4175863.81 | 1.03892 | 631270.63 | 4175843.82 | 1.02350 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK2 ***

INCLUDING SOURCE(S): STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.00975 | 631271.26 | 4175803.84 | 0.99713 |
| 631271.58 | 4175783.85 | 0.98350 | 631271.90 | 4175763.86 | 0.96875 |
| 631272.21 | 4175743.87 | 0.95590 | 631272.53 | 4175723.88 | 0.93790 |
| 631272.85 | 4175703.89 | 0.91964 | 631273.16 | 4175683.90 | 0.90938 |

| | | | | | |
|---|---|---|---|---|---|
| 631273.48 | 4175663.91 | 0.90229 | 631273.79 | 4175643.92 | 0.89326 |
| 631274.11 | 4175623.94 | 0.87717 | 631274.43 | 4175603.95 | 0.85285 |
| 631274.74 | 4175583.96 | 0.82547 | 631275.06 | 4175563.97 | 0.80608 |
| 631275.37 | 4175543.98 | 0.79268 | 631285.68 | 4175509.06 | 0.77496 |
| 631295.68 | 4175494.14 | 0.77048 | 631305.67 | 4175479.21 | 0.77145 |
| 631315.67 | 4175464.28 | 0.76799 | 631325.66 | 4175449.35 | 0.76672 |
| 631335.66 | 4175434.43 | 0.76318 | 631358.67 | 4175426.77 | 0.78939 |
| 631371.70 | 4175434.03 | 0.84202 | 631402.59 | 4175441.45 | 0.90631 |
| 631420.46 | 4175441.60 | 1.03568 | 631438.33 | 4175441.76 | 1.09948 |
| 631456.19 | 4175441.91 | 1.27924 | 631474.06 | 4175442.06 | 1.41130 |
| 631491.93 | 4175428.58 | 1.44920 | 631474.21 | 4175414.65 | 1.28512 |
| 631456.50 | 4175414.35 | 1.11325 | 631438.78 | 4175414.05 | 1.04817 |
| 631421.06 | 4175413.74 | 0.89110 | 631403.35 | 4175413.44 | 0.91530 |
| 631372.00 | 4175404.51 | 0.77924 | 631371.09 | 4175381.11 | 0.73731 |
| 631383.81 | 4175366.34 | 0.72977 | 631396.53 | 4175351.58 | 0.72943 |
| 631425.06 | 4175326.73 | 0.74359 | 631440.87 | 4175316.64 | 0.75285 |
| 631456.68 | 4175306.56 | 0.76063 | 631472.49 | 4175296.47 | 0.75192 |
| 631488.30 | 4175286.39 | 0.75515 | 631504.11 | 4175276.30 | 0.75074 |
| 631519.92 | 4175266.22 | 0.75090 | 631535.73 | 4175256.13 | 0.75671 |
| 631551.54 | 4175246.05 | 0.76061 | 631579.95 | 4175222.15 | 0.75038 |
| 631592.55 | 4175208.34 | 0.73027 | 631605.15 | 4175194.53 | 0.70784 |
| 631617.74 | 4175180.72 | 0.68149 | 631630.34 | 4175166.91 | 0.65828 |
| 631642.94 | 4175153.10 | 0.63827 | 631655.54 | 4175139.29 | 0.61624 |
| 631668.14 | 4175125.47 | 0.59738 | 631680.74 | 4175111.66 | 0.57690 |
| 631693.34 | 4175097.85 | 0.56013 | 631705.94 | 4175084.04 | 0.54174 |
| 631718.53 | 4175070.23 | 0.52721 | 631731.13 | 4175056.42 | 0.51418 |
| 631743.73 | 4175042.61 | 0.50297 | 631773.29 | 4175020.32 | 0.49394 |
| 631790.26 | 4175011.84 | 0.49808 | 631822.21 | 4174999.50 | 0.51140 |
| 631837.20 | 4174995.64 | 0.52277 | 631852.19 | 4174991.77 | 0.53573 |
| 631866.84 | 4175007.53 | 0.57878 | 631866.50 | 4175027.14 | 0.61198 |
| 631866.16 | 4175046.76 | 0.64854 | 631865.83 | 4175066.37 | 0.68863 |
| 631865.49 | 4175085.99 | 0.73275 | 631865.15 | 4175105.60 | 0.78011 |
| 631864.81 | 4175125.22 | 0.83379 | 631864.47 | 4175144.83 | 0.89339 |
| 631864.13 | 4175164.45 | 0.96050 | 631863.80 | 4175184.06 | 1.03056 |
| 631863.46 | 4175203.68 | 1.11383 | 631863.12 | 4175223.29 | 1.20878 |
| 631862.78 | 4175242.91 | 1.31469 | 631862.44 | 4175262.52 | 1.45387 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK2 ***

INCLUDING SOURCE(S): STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 1.68695 | 631861.77 | 4175301.75 | 2.07590 |
| 631861.43 | 4175321.37 | 2.00437 | 631861.09 | 4175340.98 | 1.37813 |
| 631860.75 | 4175360.60 | 1.32943 | 631860.41 | 4175380.21 | 1.38110 |
| 631860.07 | 4175399.83 | 1.54953 | 631859.73 | 4175419.44 | 1.64856 |

| | | | | | |
|---|---|---|---|---|---|
| 631859.40 | 4175439.06 | 1.86651 | 631859.06 | 4175458.67 | 2.18338 |
| 631858.72 | 4175478.29 | 2.50515 | 631858.38 | 4175497.90 | 2.86333 |
| 631858.04 | 4175517.52 | 3.16384 | 631857.70 | 4175537.13 | 3.52520 |
| 631857.37 | 4175556.75 | 4.05894 | 631857.03 | 4175576.36 | 4.89644 |
| 631856.69 | 4175595.98 | 6.30363 | 631856.35 | 4175615.59 | 9.11205 |
| 631856.01 | 4175635.21 | 15.71327 | 631855.67 | 4175654.82 | 29.82631 |
| 631855.33 | 4175674.44 | 53.21937 | 631855.00 | 4175694.05 | 85.73752 |
| 631854.66 | 4175713.67 | 87.55917 | 631854.32 | 4175733.28 | 48.35829 |
| 631853.98 | 4175752.90 | 26.50261 | 631853.64 | 4175772.51 | 14.99369 |
| 631853.30 | 4175792.13 | 10.77699 | 631852.97 | 4175811.74 | 8.41248 |
| 631852.63 | 4175831.36 | 6.69945 | 631852.29 | 4175850.97 | 5.47589 |
| 631851.95 | 4175870.59 | 4.64129 | 631851.61 | 4175890.20 | 3.81989 |
| 631851.27 | 4175909.82 | 3.90131 | 631850.94 | 4175929.43 | 3.77760 |
| 631850.60 | 4175949.05 | 3.11068 | 631850.26 | 4175968.66 | 2.78938 |
| 631830.54 | 4175988.13 | 2.69866 | 631811.15 | 4175987.98 | 2.83330 |
| 631791.77 | 4175987.83 | 2.96662 | 631772.39 | 4175987.67 | 3.08402 |
| 631753.00 | 4175987.52 | 3.07366 | 631733.62 | 4175987.37 | 2.76822 |
| 631714.24 | 4175987.22 | 2.34398 | 631694.85 | 4175987.07 | 2.67775 |
| 631675.47 | 4175986.92 | 2.34134 | 631656.09 | 4175986.77 | 2.05085 |
| 631636.70 | 4175986.62 | 2.64183 | 631617.32 | 4175986.46 | 2.97309 |
| 631597.94 | 4175986.31 | 3.24246 | 631578.55 | 4175986.16 | 3.28385 |
| 631559.17 | 4175986.01 | 2.95379 | 631539.79 | 4175985.86 | 2.71554 |
| 631520.40 | 4175985.71 | 2.56946 | 631501.02 | 4175985.56 | 2.42934 |
| 631481.64 | 4175985.40 | 2.28412 | 631462.25 | 4175985.25 | 2.13961 |
| 631442.87 | 4175985.10 | 2.00026 | 631423.49 | 4175984.95 | 1.86861 |
| 631404.10 | 4175984.80 | 1.74441 | 631384.72 | 4175984.65 | 1.62921 |
| 631365.34 | 4175984.50 | 1.52306 | 631345.95 | 4175984.35 | 1.42496 |
| 631326.57 | 4175984.19 | 1.33530 | 631307.19 | 4175984.04 | 1.25227 |
| 631287.80 | 4175983.89 | 1.17600 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK20 ***

INCLUDING SOURCE(S): STCK20 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.73172 | 632304.44 | 4174354.52 | 0.22435 |
| 632192.15 | 4174956.32 | 0.74304 | 632420.62 | 4175510.15 | 1.96309 |
| 632418.97 | 4175552.92 | 2.13536 | 631187.00 | 4175727.00 | 1.57009 |
| 631166.00 | 4175729.00 | 1.44009 | 631121.00 | 4175719.00 | 1.18822 |
| 631035.00 | 4174830.00 | 0.23639 | 631106.00 | 4174825.00 | 0.24961 |
| 631937.00 | 4174528.00 | 0.26694 | 631322.00 | 4174522.00 | 0.17764 |
| 629800.63 | 4173850.44 | 0.05144 | 630150.63 | 4173850.44 | 0.06004 |
| 630500.63 | 4173850.44 | 0.07061 | 630850.63 | 4173850.44 | 0.08119 |
| 631200.63 | 4173850.44 | 0.08478 | 631550.63 | 4173850.44 | 0.08834 |
| 631900.63 | 4173850.44 | 0.10626 | 632250.63 | 4173850.44 | 0.11626 |
| 632600.63 | 4173850.44 | 0.12206 | 632950.63 | 4173850.44 | 0.12592 |

| | | | | | |
|---|---|---|---|---|---|
| 633300.63 | 4173850.44 | 0.11989 | 629800.63 | 4174200.44 | 0.06029 |
| 630150.63 | 4174200.44 | 0.07170 | 630500.63 | 4174200.44 | 0.08783 |
| 630850.63 | 4174200.44 | 0.10797 | 631200.63 | 4174200.44 | 0.11983 |
| 631550.63 | 4174200.44 | 0.12625 | 631900.63 | 4174200.44 | 0.16029 |
| 632250.63 | 4174200.44 | 0.17602 | 632600.63 | 4174200.44 | 0.18548 |
| 632950.63 | 4174200.44 | 0.17548 | 633300.63 | 4174200.44 | 0.15254 |
| 629800.63 | 4174550.44 | 0.07235 | 630150.63 | 4174550.44 | 0.08803 |
| 630500.63 | 4174550.44 | 0.11239 | 630850.63 | 4174550.44 | 0.14892 |
| 631200.63 | 4174550.44 | 0.18243 | 631550.63 | 4174550.44 | 0.19668 |
| 631900.63 | 4174550.44 | 0.27193 | 632250.63 | 4174550.44 | 0.31236 |
| 632600.63 | 4174550.44 | 0.30422 | 632950.63 | 4174550.44 | 0.24451 |
| 633300.63 | 4174550.44 | 0.20697 | 629800.63 | 4174900.44 | 0.08752 |
| 630150.63 | 4174900.44 | 0.11158 | 630500.63 | 4174900.44 | 0.14967 |
| 630850.63 | 4174900.44 | 0.21259 | 631200.63 | 4174900.44 | 0.29706 |
| 631550.63 | 4174900.44 | 0.33975 | 631900.63 | 4174900.44 | 0.54480 |
| 632250.63 | 4174900.44 | 0.64894 | 632600.63 | 4174900.44 | 0.49402 |
| 632950.63 | 4174900.44 | 0.37388 | 633300.63 | 4174900.44 | 0.31313 |
| 629800.63 | 4175250.44 | 0.10179 | 630150.63 | 4175250.44 | 0.13873 |
| 630500.63 | 4175250.44 | 0.20522 | 630850.63 | 4175250.44 | 0.32674 |
| 631200.63 | 4175250.44 | 0.54050 | 631550.63 | 4175250.44 | 0.78795 |
| 631900.63 | 4175250.44 | 1.65267 | 632250.63 | 4175250.44 | 1.30393 |
| 632600.63 | 4175250.44 | 0.89971 | 632950.63 | 4175250.44 | 0.63267 |
| 633300.63 | 4175250.44 | 0.49167 | 629800.63 | 4175600.44 | 0.11224 |
| 630150.63 | 4175600.44 | 0.15893 | 630500.63 | 4175600.44 | 0.25164 |
| 630850.63 | 4175600.44 | 0.48963 | 631200.63 | 4175600.44 | 1.27764 |
| 631550.63 | 4175600.44 | 2.34349 | 631900.63 | 4175600.44 | 6.75707 |
| 632250.63 | 4175600.44 | 3.35482 | 632600.63 | 4175600.44 | 1.57965 |
| 632950.63 | 4175600.44 | 0.95641 | 633300.63 | 4175600.44 | 0.67649 |
| 629800.63 | 4175950.44 | 0.11684 | 630150.63 | 4175950.44 | 0.16888 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK20 ***

INCLUDING SOURCE(S): STCK20 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.27710 | 630850.63 | 4175950.44 | 0.59400 |
| 631200.63 | 4175950.44 | 2.21781 | 631550.63 | 4175950.44 | 8.96219 |
| 631900.63 | 4175950.44 | 4.33585 | 632250.63 | 4175950.44 | 2.92151 |
| 632600.63 | 4175950.44 | 1.50496 | 632950.63 | 4175950.44 | 0.96017 |
| 633300.63 | 4175950.44 | 0.68020 | 629800.63 | 4176300.44 | 0.12226 |
| 630150.63 | 4176300.44 | 0.18438 | 630500.63 | 4176300.44 | 0.32849 |
| 630850.63 | 4176300.44 | 0.72879 | 631200.63 | 4176300.44 | 1.61429 |
| 631550.63 | 4176300.44 | 1.59913 | 631900.63 | 4176300.44 | 1.22612 |
| 632250.63 | 4176300.44 | 1.04060 | 632600.63 | 4176300.44 | 0.83959 |
| 632950.63 | 4176300.44 | 0.63119 | 633300.63 | 4176300.44 | 0.49361 |
| 629800.63 | 4176650.44 | 0.13494 | 630150.63 | 4176650.44 | 0.20249 |

| | | | | | |
|---|---|---|---|---|---|
| 630500.63 | 4176650.44 | 0.33685 | 630850.63 | 4176650.44 | 0.58664 |
| 631200.63 | 4176650.44 | 0.80741 | 631550.63 | 4176650.44 | 0.82486 |
| 631900.63 | 4176650.44 | 0.69686 | 632250.63 | 4176650.44 | 0.62443 |
| 632600.63 | 4176650.44 | 0.49829 | 632950.63 | 4176650.44 | 0.39743 |
| 633300.63 | 4176650.44 | 0.33456 | 629800.63 | 4177000.44 | 0.13850 |
| 630150.63 | 4177000.44 | 0.19718 | 630500.63 | 4177000.44 | 0.28802 |
| 630850.63 | 4177000.44 | 0.39731 | 631200.63 | 4177000.44 | 0.48991 |
| 631550.63 | 4177000.44 | 0.49506 | 631900.63 | 4177000.44 | 0.45361 |
| 632250.63 | 4177000.44 | 0.40873 | 632600.63 | 4177000.44 | 0.34817 |
| 632950.63 | 4177000.44 | 0.28870 | 633300.63 | 4177000.44 | 0.24075 |
| 629800.63 | 4177350.44 | 0.13395 | 630150.63 | 4177350.44 | 0.17654 |
| 630500.63 | 4177350.44 | 0.22623 | 630850.63 | 4177350.44 | 0.27598 |
| 631200.63 | 4177350.44 | 0.32451 | 631550.63 | 4177350.44 | 0.32280 |
| 631900.63 | 4177350.44 | 0.30956 | 632250.63 | 4177350.44 | 0.27127 |
| 632600.63 | 4177350.44 | 0.25812 | 632950.63 | 4177350.44 | 0.22110 |
| 633300.63 | 4177350.44 | 0.19223 | 631670.70 | 4175493.59 | 3.62550 |
| 631669.80 | 4175641.41 | 10.56123 | 631665.32 | 4175796.39 | 11.16098 |
| 631417.17 | 4175826.85 | 9.11031 | 631417.17 | 4175673.66 | 2.75995 |
| 631422.55 | 4175484.63 | 1.20973 | 631268.42 | 4175983.74 | 3.23802 |
| 631275.69 | 4175523.99 | 1.45943 | 631345.65 | 4175419.50 | 1.22595 |
| 631384.72 | 4175441.30 | 1.14120 | 631491.93 | 4175442.21 | 1.06853 |
| 631491.93 | 4175414.95 | 0.94468 | 631385.63 | 4175413.14 | 1.05716 |
| 631358.37 | 4175395.87 | 1.09442 | 631409.25 | 4175336.81 | 1.13018 |
| 631567.35 | 4175235.96 | 0.76494 | 631756.33 | 4175028.80 | 0.63873 |
| 631807.22 | 4175003.36 | 0.63992 | 631867.18 | 4174987.91 | 0.65862 |
| 631849.92 | 4175988.28 | 3.08072 | 631268.74 | 4175963.75 | 3.23542 |
| 631269.05 | 4175943.76 | 3.21015 | 631269.37 | 4175923.77 | 3.15759 |
| 631269.68 | 4175903.78 | 3.08577 | 631270.00 | 4175883.79 | 3.00372 |
| 631270.32 | 4175863.81 | 2.91850 | 631270.63 | 4175843.82 | 2.84239 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK20 ***

INCLUDING SOURCE(S): STCK20 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 2.77867 | 631271.26 | 4175803.84 | 2.71956 |
| 631271.58 | 4175783.85 | 2.65932 | 631271.90 | 4175763.86 | 2.58724 |
| 631272.21 | 4175743.87 | 2.48978 | 631272.53 | 4175723.88 | 2.38040 |
| 631272.85 | 4175703.89 | 2.21972 | 631273.16 | 4175683.90 | 2.07104 |
| 631273.48 | 4175663.91 | 1.87800 | 631273.79 | 4175643.92 | 2.03189 |
| 631274.11 | 4175623.94 | 1.85684 | 631274.43 | 4175603.95 | 1.69227 |
| 631274.74 | 4175583.96 | 1.53609 | 631275.06 | 4175563.97 | 1.40788 |
| 631275.37 | 4175543.98 | 1.50328 | 631285.68 | 4175509.06 | 1.39943 |
| 631295.68 | 4175494.14 | 1.28966 | 631305.67 | 4175479.21 | 1.22753 |
| 631315.67 | 4175464.28 | 1.16326 | 631325.66 | 4175449.35 | 1.13406 |
| 631335.66 | 4175434.43 | 1.32015 | 631358.67 | 4175426.77 | 1.07025 |

| | | | | | |
|---|---|---|---|---|---|
| 631371.70 | 4175434.03 | 1.14811 | 631402.59 | 4175441.45 | 1.12695 |
| 631420.46 | 4175441.60 | 1.15304 | 631438.33 | 4175441.76 | 1.21018 |
| 631456.19 | 4175441.91 | 1.08574 | 631474.06 | 4175442.06 | 1.04573 |
| 631491.93 | 4175428.58 | 0.95696 | 631474.21 | 4175414.65 | 0.99630 |
| 631456.50 | 4175414.35 | 0.99005 | 631438.78 | 4175414.05 | 1.08048 |
| 631421.06 | 4175413.74 | 1.15106 | 631403.35 | 4175413.44 | 1.04801 |
| 631372.00 | 4175404.51 | 1.14343 | 631371.09 | 4175381.11 | 1.01351 |
| 631383.81 | 4175366.34 | 1.23968 | 631396.53 | 4175351.58 | 1.18901 |
| 631425.06 | 4175326.73 | 1.00499 | 631440.87 | 4175316.64 | 1.01503 |
| 631456.68 | 4175306.56 | 0.96060 | 631472.49 | 4175296.47 | 0.89633 |
| 631488.30 | 4175286.39 | 0.84547 | 631504.11 | 4175276.30 | 0.83962 |
| 631519.92 | 4175266.22 | 0.78862 | 631535.73 | 4175256.13 | 0.79863 |
| 631551.54 | 4175246.05 | 0.76376 | 631579.95 | 4175222.15 | 0.74190 |
| 631592.55 | 4175208.34 | 0.74944 | 631605.15 | 4175194.53 | 0.73552 |
| 631617.74 | 4175180.72 | 0.74037 | 631630.34 | 4175166.91 | 0.74001 |
| 631642.94 | 4175153.10 | 0.73347 | 631655.54 | 4175139.29 | 0.72623 |
| 631668.14 | 4175125.47 | 0.71808 | 631680.74 | 4175111.66 | 0.70790 |
| 631693.34 | 4175097.85 | 0.69666 | 631705.94 | 4175084.04 | 0.68505 |
| 631718.53 | 4175070.23 | 0.67463 | 631731.13 | 4175056.42 | 0.66247 |
| 631743.73 | 4175042.61 | 0.64993 | 631773.29 | 4175020.32 | 0.64003 |
| 631790.26 | 4175011.84 | 0.64039 | 631822.21 | 4174999.50 | 0.64492 |
| 631837.20 | 4174995.64 | 0.64957 | 631852.19 | 4174991.77 | 0.65427 |
| 631866.84 | 4175007.53 | 0.69509 | 631866.50 | 4175027.14 | 0.73417 |
| 631866.16 | 4175046.76 | 0.77779 | 631865.83 | 4175066.37 | 0.82491 |
| 631865.49 | 4175085.99 | 0.87751 | 631865.15 | 4175105.60 | 0.93455 |
| 631864.81 | 4175125.22 | 0.99855 | 631864.47 | 4175144.83 | 1.06841 |
| 631864.13 | 4175164.45 | 1.14591 | 631863.80 | 4175184.06 | 1.23206 |
| 631863.46 | 4175203.68 | 1.32685 | 631863.12 | 4175223.29 | 1.43104 |
| 631862.78 | 4175242.91 | 1.54860 | 631862.44 | 4175262.52 | 1.67845 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK20 ***

INCLUDING SOURCE(S): STCK20 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 1.83996 | 631861.77 | 4175301.75 | 2.35430 |
| 631861.43 | 4175321.37 | 3.54505 | 631861.09 | 4175340.98 | 4.10643 |
| 631860.75 | 4175360.60 | 4.56330 | 631860.41 | 4175380.21 | 4.57122 |
| 631860.07 | 4175399.83 | 4.91477 | 631859.73 | 4175419.44 | 5.12448 |
| 631859.40 | 4175439.06 | 5.40522 | 631859.06 | 4175458.67 | 5.65466 |
| 631858.72 | 4175478.29 | 5.82070 | 631858.38 | 4175497.90 | 5.98192 |
| 631858.04 | 4175517.52 | 6.09822 | 631857.70 | 4175537.13 | 6.18204 |
| 631857.37 | 4175556.75 | 6.24319 | 631857.03 | 4175576.36 | 6.31949 |
| 631856.69 | 4175595.98 | 6.44463 | 631856.35 | 4175615.59 | 6.61471 |
| 631856.01 | 4175635.21 | 6.96752 | 631855.67 | 4175654.82 | 7.55158 |
| 631855.33 | 4175674.44 | 8.60268 | 631855.00 | 4175694.05 | 10.88062 |

| | | | | | |
|---|---|---|---|---|---|
| 631854.66 | 4175713.67 | 14.58934 | 631854.32 | 4175733.28 | 18.01802 |
| 631853.98 | 4175752.90 | 14.11964 | 631853.64 | 4175772.51 | 15.54189 |
| 631853.30 | 4175792.13 | 16.20738 | 631852.97 | 4175811.74 | 15.90091 |
| 631852.63 | 4175831.36 | 14.60697 | 631852.29 | 4175850.97 | 12.60748 |
| 631851.95 | 4175870.59 | 10.35401 | 631851.61 | 4175890.20 | 8.25548 |
| 631851.27 | 4175909.82 | 6.51854 | 631850.94 | 4175929.43 | 5.19520 |
| 631850.60 | 4175949.05 | 4.23723 | 631850.26 | 4175968.66 | 3.55846 |
| 631830.54 | 4175988.13 | 3.07352 | 631811.15 | 4175987.98 | 3.08914 |
| 631791.77 | 4175987.83 | 3.12906 | 631772.39 | 4175987.67 | 3.20175 |
| 631753.00 | 4175987.52 | 3.30803 | 631733.62 | 4175987.37 | 3.38014 |
| 631714.24 | 4175987.22 | 3.27213 | 631694.85 | 4175987.07 | 3.09983 |
| 631675.47 | 4175986.92 | 2.44018 | 631656.09 | 4175986.77 | 2.58740 |
| 631636.70 | 4175986.62 | 2.21446 | 631617.32 | 4175986.46 | 2.99616 |
| 631597.94 | 4175986.31 | 3.52022 | 631578.55 | 4175986.16 | 4.39721 |
| 631559.17 | 4175986.01 | 5.61090 | 631539.79 | 4175985.86 | 6.08615 |
| 631520.40 | 4175985.71 | 6.40700 | 631501.02 | 4175985.56 | 6.67391 |
| 631481.64 | 4175985.40 | 6.79977 | 631462.25 | 4175985.25 | 6.84944 |
| 631442.87 | 4175985.10 | 6.78144 | 631423.49 | 4175984.95 | 6.57808 |
| 631404.10 | 4175984.80 | 6.25772 | 631384.72 | 4175984.65 | 5.84945 |
| 631365.34 | 4175984.50 | 5.38394 | 631345.95 | 4175984.35 | 4.89744 |
| 631326.57 | 4175984.19 | 4.42662 | 631307.19 | 4175984.04 | 3.99070 |
| 631287.80 | 4175983.89 | 3.59525 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK21 ***

INCLUDING SOURCE(S): STCK21 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.92928 | 632304.44 | 4174354.52 | 0.25971 |
| 632192.15 | 4174956.32 | 0.91347 | 632420.62 | 4175510.15 | 2.31503 |
| 632418.97 | 4175552.92 | 2.42435 | 631187.00 | 4175727.00 | 1.82953 |
| 631166.00 | 4175729.00 | 1.65650 | 631121.00 | 4175719.00 | 1.33169 |
| 631035.00 | 4174830.00 | 0.26589 | 631106.00 | 4174825.00 | 0.28414 |
| 631937.00 | 4174528.00 | 0.31186 | 631322.00 | 4174522.00 | 0.20213 |
| 629800.63 | 4173850.44 | 0.05369 | 630150.63 | 4173850.44 | 0.06298 |
| 630500.63 | 4173850.44 | 0.07473 | 630850.63 | 4173850.44 | 0.08716 |
| 631200.63 | 4173850.44 | 0.09213 | 631550.63 | 4173850.44 | 0.09631 |
| 631900.63 | 4173850.44 | 0.11649 | 632250.63 | 4173850.44 | 0.12769 |
| 632600.63 | 4173850.44 | 0.13514 | 632950.63 | 4173850.44 | 0.13781 |
| 633300.63 | 4173850.44 | 0.12810 | 629800.63 | 4174200.44 | 0.06336 |
| 630150.63 | 4174200.44 | 0.07562 | 630500.63 | 4174200.44 | 0.09347 |
| 630850.63 | 4174200.44 | 0.11674 | 631200.63 | 4174200.44 | 0.13238 |
| 631550.63 | 4174200.44 | 0.14060 | 631900.63 | 4174200.44 | 0.17986 |
| 632250.63 | 4174200.44 | 0.19953 | 632600.63 | 4174200.44 | 0.20935 |
| 632950.63 | 4174200.44 | 0.19106 | 633300.63 | 4174200.44 | 0.16435 |
| 629800.63 | 4174550.44 | 0.07644 | 630150.63 | 4174550.44 | 0.09380 |

| | | | | | |
|---|---|---|---|---|---|
| 630500.63 | 4174550.44 | 0.12053 | 630850.63 | 4174550.44 | 0.16226 |
| 631200.63 | 4174550.44 | 0.20595 | 631550.63 | 4174550.44 | 0.22693 |
| 631900.63 | 4174550.44 | 0.31854 | 632250.63 | 4174550.44 | 0.37112 |
| 632600.63 | 4174550.44 | 0.34213 | 632950.63 | 4174550.44 | 0.26965 |
| 633300.63 | 4174550.44 | 0.22990 | 629800.63 | 4174900.44 | 0.09197 |
| 630150.63 | 4174900.44 | 0.11933 | 630500.63 | 4174900.44 | 0.16304 |
| 630850.63 | 4174900.44 | 0.23655 | 631200.63 | 4174900.44 | 0.34711 |
| 631550.63 | 4174900.44 | 0.42049 | 631900.63 | 4174900.44 | 0.70487 |
| 632250.63 | 4174900.44 | 0.78264 | 632600.63 | 4174900.44 | 0.56608 |
| 632950.63 | 4174900.44 | 0.42955 | 633300.63 | 4174900.44 | 0.35618 |
| 629800.63 | 4175250.44 | 0.10499 | 630150.63 | 4175250.44 | 0.14523 |
| 630500.63 | 4175250.44 | 0.22087 | 630850.63 | 4175250.44 | 0.37505 |
| 631200.63 | 4175250.44 | 0.67704 | 631550.63 | 4175250.44 | 1.20144 |
| 631900.63 | 4175250.44 | 2.40327 | 632250.63 | 4175250.44 | 1.63210 |
| 632600.63 | 4175250.44 | 1.07892 | 632950.63 | 4175250.44 | 0.72962 |
| 633300.63 | 4175250.44 | 0.54972 | 629800.63 | 4175600.44 | 0.11432 |
| 630150.63 | 4175600.44 | 0.16322 | 630500.63 | 4175600.44 | 0.26111 |
| 630850.63 | 4175600.44 | 0.52430 | 631200.63 | 4175600.44 | 1.63907 |
| 631550.63 | 4175600.44 | 9.93730 | 631900.63 | 4175600.44 | 16.12067 |
| 632250.63 | 4175600.44 | 3.98549 | 632600.63 | 4175600.44 | 1.66920 |
| 632950.63 | 4175600.44 | 1.01010 | 633300.63 | 4175600.44 | 0.70495 |
| 629800.63 | 4175950.44 | 0.11782 | 630150.63 | 4175950.44 | 0.17129 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK21 ***

INCLUDING SOURCE(S): STCK21 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.28723 | 630850.63 | 4175950.44 | 0.65698 |
| 631200.63 | 4175950.44 | 2.28029 | 631550.63 | 4175950.44 | 3.83295 |
| 631900.63 | 4175950.44 | 2.30200 | 632250.63 | 4175950.44 | 2.19774 |
| 632600.63 | 4175950.44 | 1.32887 | 632950.63 | 4175950.44 | 0.87507 |
| 633300.63 | 4175950.44 | 0.63567 | 629800.63 | 4176300.44 | 0.12559 |
| 630150.63 | 4176300.44 | 0.19182 | 630500.63 | 4176300.44 | 0.34095 |
| 630850.63 | 4176300.44 | 0.70969 | 631200.63 | 4176300.44 | 1.24684 |
| 631550.63 | 4176300.44 | 1.22673 | 631900.63 | 4176300.44 | 0.99339 |
| 632250.63 | 4176300.44 | 0.88015 | 632600.63 | 4176300.44 | 0.70758 |
| 632950.63 | 4176300.44 | 0.55276 | 633300.63 | 4176300.44 | 0.44068 |
| 629800.63 | 4176650.44 | 0.13735 | 630150.63 | 4176650.44 | 0.20311 |
| 630500.63 | 4176650.44 | 0.32921 | 630850.63 | 4176650.44 | 0.52711 |
| 631200.63 | 4176650.44 | 0.67284 | 631550.63 | 4176650.44 | 0.69240 |
| 631900.63 | 4176650.44 | 0.59975 | 632250.63 | 4176650.44 | 0.55595 |
| 632600.63 | 4176650.44 | 0.45166 | 632950.63 | 4176650.44 | 0.35802 |
| 633300.63 | 4176650.44 | 0.30133 | 629800.63 | 4177000.44 | 0.13779 |
| 630150.63 | 4177000.44 | 0.19312 | 630500.63 | 4177000.44 | 0.27103 |
| 630850.63 | 4177000.44 | 0.35667 | 631200.63 | 4177000.44 | 0.43130 |

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|---|---|---|---|---|---|
| 631550.63 | 4177000.44 | 0.43406 | 631900.63 | 4177000.44 | 0.40608 |
| 632250.63 | 4177000.44 | 0.36201 | 632600.63 | 4177000.44 | 0.32036 |
| 632950.63 | 4177000.44 | 0.26779 | 633300.63 | 4177000.44 | 0.22450 |
| 629800.63 | 4177350.44 | 0.13157 | 630150.63 | 4177350.44 | 0.16924 |
| 630500.63 | 4177350.44 | 0.21142 | 630850.63 | 4177350.44 | 0.25197 |
| 631200.63 | 4177350.44 | 0.29373 | 631550.63 | 4177350.44 | 0.29099 |
| 631900.63 | 4177350.44 | 0.28187 | 632250.63 | 4177350.44 | 0.24662 |
| 632600.63 | 4177350.44 | 0.23747 | 632950.63 | 4177350.44 | 0.20696 |
| 633300.63 | 4177350.44 | 0.18097 | 631670.70 | 4175493.59 | 7.93423 |
| 631669.80 | 4175641.41 | 32.02370 | 631665.32 | 4175796.39 | 5.57454 |
| 631417.17 | 4175826.85 | 10.06604 | 631417.17 | 4175673.66 | 8.78953 |
| 631422.55 | 4175484.63 | 1.94898 | 631268.42 | 4175983.74 | 2.81853 |
| 631275.69 | 4175523.99 | 1.91489 | 631345.65 | 4175419.50 | 1.73088 |
| 631384.72 | 4175441.30 | 1.78737 | 631491.93 | 4175442.21 | 1.67211 |
| 631491.93 | 4175414.95 | 1.51115 | 631385.63 | 4175413.14 | 1.48264 |
| 631358.37 | 4175395.87 | 1.55792 | 631409.25 | 4175336.81 | 1.55064 |
| 631567.35 | 4175235.96 | 1.11830 | 631756.33 | 4175028.80 | 0.85904 |
| 631807.22 | 4175003.36 | 0.85679 | 631867.18 | 4174987.91 | 0.88263 |
| 631849.92 | 4175988.28 | 2.03012 | 631268.74 | 4175963.75 | 2.92518 |
| 631269.05 | 4175943.76 | 3.02180 | 631269.37 | 4175923.77 | 3.10618 |
| 631269.68 | 4175903.78 | 3.17425 | 631270.00 | 4175883.79 | 3.22422 |
| 631270.32 | 4175863.81 | 3.25341 | 631270.63 | 4175843.82 | 3.26745 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK21 ***

INCLUDING SOURCE(S): STCK21 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 3.25653 | 631271.26 | 4175803.84 | 3.22919 |
| 631271.58 | 4175783.85 | 3.20237 | 631271.90 | 4175763.86 | 3.15693 |
| 631272.21 | 4175743.87 | 3.07404 | 631272.53 | 4175723.88 | 2.96609 |
| 631272.85 | 4175703.89 | 2.82393 | 631273.16 | 4175683.90 | 2.69635 |
| 631273.48 | 4175663.91 | 2.61315 | 631273.79 | 4175643.92 | 2.60475 |
| 631274.11 | 4175623.94 | 2.52289 | 631274.43 | 4175603.95 | 2.32406 |
| 631274.74 | 4175583.96 | 2.10917 | 631275.06 | 4175563.97 | 1.97642 |
| 631275.37 | 4175543.98 | 1.97407 | 631285.68 | 4175509.06 | 1.86760 |
| 631295.68 | 4175494.14 | 1.77988 | 631305.67 | 4175479.21 | 1.66827 |
| 631315.67 | 4175464.28 | 1.58238 | 631325.66 | 4175449.35 | 1.62242 |
| 631335.66 | 4175434.43 | 1.76037 | 631358.67 | 4175426.77 | 1.65041 |
| 631371.70 | 4175434.03 | 1.73375 | 631402.59 | 4175441.45 | 1.71734 |
| 631420.46 | 4175441.60 | 1.72093 | 631438.33 | 4175441.76 | 1.89086 |
| 631456.19 | 4175441.91 | 1.78013 | 631474.06 | 4175442.06 | 1.68420 |
| 631491.93 | 4175428.58 | 1.58035 | 631474.21 | 4175414.65 | 1.47337 |
| 631456.50 | 4175414.35 | 1.51805 | 631438.78 | 4175414.05 | 1.69155 |
| 631421.06 | 4175413.74 | 1.67495 | 631403.35 | 4175413.44 | 1.60213 |
| 631372.00 | 4175404.51 | 1.65033 | 631371.09 | 4175381.11 | 1.43386 |

| | | | | | |
|---|---|---|---|---|---|
| 631383.81 | 4175366.34 | 1.50951 | 631396.53 | 4175351.58 | 1.60191 |
| 631425.06 | 4175326.73 | 1.41344 | 631440.87 | 4175316.64 | 1.42675 |
| 631456.68 | 4175306.56 | 1.38918 | 631472.49 | 4175296.47 | 1.33130 |
| 631488.30 | 4175286.39 | 1.28586 | 631504.11 | 4175276.30 | 1.21873 |
| 631519.92 | 4175266.22 | 1.19796 | 631535.73 | 4175256.13 | 1.17652 |
| 631551.54 | 4175246.05 | 1.14843 | 631579.95 | 4175222.15 | 1.09980 |
| 631592.55 | 4175208.34 | 1.10068 | 631605.15 | 4175194.53 | 1.05210 |
| 631617.74 | 4175180.72 | 1.05834 | 631630.34 | 4175166.91 | 1.05107 |
| 631642.94 | 4175153.10 | 1.03882 | 631655.54 | 4175139.29 | 1.02371 |
| 631668.14 | 4175125.47 | 1.00306 | 631680.74 | 4175111.66 | 0.98264 |
| 631693.34 | 4175097.85 | 0.96177 | 631705.94 | 4175084.04 | 0.94028 |
| 631718.53 | 4175070.23 | 0.92106 | 631731.13 | 4175056.42 | 0.90023 |
| 631743.73 | 4175042.61 | 0.87960 | 631773.29 | 4175020.32 | 0.85966 |
| 631790.26 | 4175011.84 | 0.85864 | 631822.21 | 4174999.50 | 0.86444 |
| 631837.20 | 4174995.64 | 0.87086 | 631852.19 | 4174991.77 | 0.87658 |
| 631866.84 | 4175007.53 | 0.93995 | 631866.50 | 4175027.14 | 1.00291 |
| 631866.16 | 4175046.76 | 1.07309 | 631865.83 | 4175066.37 | 1.15034 |
| 631865.49 | 4175085.99 | 1.23576 | 631865.15 | 4175105.60 | 1.33053 |
| 631864.81 | 4175125.22 | 1.43475 | 631864.47 | 4175144.83 | 1.55037 |
| 631864.13 | 4175164.45 | 1.67800 | 631863.80 | 4175184.06 | 1.81874 |
| 631863.46 | 4175203.68 | 1.97422 | 631863.12 | 4175223.29 | 2.14470 |
| 631862.78 | 4175242.91 | 2.33187 | 631862.44 | 4175262.52 | 2.53780 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK21 ***

INCLUDING SOURCE(S): STCK21 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.77403 | 631861.77 | 4175301.75 | 3.22293 |
| 631861.43 | 4175321.37 | 5.11040 | 631861.09 | 4175340.98 | 6.36341 |
| 631860.75 | 4175360.60 | 8.29633 | 631860.41 | 4175380.21 | 8.26020 |
| 631860.07 | 4175399.83 | 9.17398 | 631859.73 | 4175419.44 | 9.14195 |
| 631859.40 | 4175439.06 | 9.62143 | 631859.06 | 4175458.67 | 10.31596 |
| 631858.72 | 4175478.29 | 10.62567 | 631858.38 | 4175497.90 | 11.51727 |
| 631858.04 | 4175517.52 | 12.71705 | 631857.70 | 4175537.13 | 14.16130 |
| 631857.37 | 4175556.75 | 15.75419 | 631857.03 | 4175576.36 | 17.75795 |
| 631856.69 | 4175595.98 | 23.38247 | 631856.35 | 4175615.59 | 28.52582 |
| 631856.01 | 4175635.21 | 32.04081 | 631855.67 | 4175654.82 | 32.72942 |
| 631855.33 | 4175674.44 | 30.36142 | 631855.00 | 4175694.05 | 26.67967 |
| 631854.66 | 4175713.67 | 22.23635 | 631854.32 | 4175733.28 | 18.83234 |
| 631853.98 | 4175752.90 | 15.09360 | 631853.64 | 4175772.51 | 11.48282 |
| 631853.30 | 4175792.13 | 9.14955 | 631852.97 | 4175811.74 | 7.26571 |
| 631852.63 | 4175831.36 | 5.56803 | 631852.29 | 4175850.97 | 4.50936 |
| 631851.95 | 4175870.59 | 3.74218 | 631851.61 | 4175890.20 | 3.21628 |
| 631851.27 | 4175909.82 | 2.85479 | 631850.94 | 4175929.43 | 2.57424 |
| 631850.60 | 4175949.05 | 2.35419 | 631850.26 | 4175968.66 | 2.17604 |

| | | | | | |
|---|---|---|---|---|---|
| 631830.54 | 4175988.13 | 2.06369 | 631811.15 | 4175987.98 | 2.10316 |
| 631791.77 | 4175987.83 | 2.14525 | 631772.39 | 4175987.67 | 2.19007 |
| 631753.00 | 4175987.52 | 2.24147 | 631733.62 | 4175987.37 | 2.31662 |
| 631714.24 | 4175987.22 | 2.54564 | 631694.85 | 4175987.07 | 2.60412 |
| 631675.47 | 4175986.92 | 2.54019 | 631656.09 | 4175986.77 | 2.41122 |
| 631636.70 | 4175986.62 | 2.23969 | 631617.32 | 4175986.46 | 2.50755 |
| 631597.94 | 4175986.31 | 2.63330 | 631578.55 | 4175986.16 | 2.73206 |
| 631559.17 | 4175986.01 | 3.05905 | 631539.79 | 4175985.86 | 3.22680 |
| 631520.40 | 4175985.71 | 3.31159 | 631501.02 | 4175985.56 | 3.37106 |
| 631481.64 | 4175985.40 | 3.43927 | 631462.25 | 4175985.25 | 3.48232 |
| 631442.87 | 4175985.10 | 3.50866 | 631423.49 | 4175984.95 | 3.52837 |
| 631404.10 | 4175984.80 | 3.52822 | 631384.72 | 4175984.65 | 3.51316 |
| 631365.34 | 4175984.50 | 3.46786 | 631345.95 | 4175984.35 | 3.38855 |
| 631326.57 | 4175984.19 | 3.27922 | 631307.19 | 4175984.04 | 3.14225 |
| 631287.80 | 4175983.89 | 2.98488 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK22 ***

INCLUDING SOURCE(S): STCK22 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.15348 | 632304.44 | 4174354.52 | 0.30346 |
| 632192.15 | 4174956.32 | 1.09613 | 632420.62 | 4175510.15 | 2.44050 |
| 632418.97 | 4175552.92 | 2.43785 | 631187.00 | 4175727.00 | 2.05332 |
| 631166.00 | 4175729.00 | 1.86215 | 631121.00 | 4175719.00 | 1.50774 |
| 631035.00 | 4174830.00 | 0.30461 | 631106.00 | 4174825.00 | 0.32876 |
| 631937.00 | 4174528.00 | 0.37227 | 631322.00 | 4174522.00 | 0.23271 |
| 629800.63 | 4173850.44 | 0.05614 | 630150.63 | 4173850.44 | 0.06616 |
| 630500.63 | 4173850.44 | 0.07926 | 630850.63 | 4173850.44 | 0.09383 |
| 631200.63 | 4173850.44 | 0.10060 | 631550.63 | 4173850.44 | 0.10557 |
| 631900.63 | 4173850.44 | 0.12847 | 632250.63 | 4173850.44 | 0.14135 |
| 632600.63 | 4173850.44 | 0.15045 | 632950.63 | 4173850.44 | 0.15068 |
| 633300.63 | 4173850.44 | 0.13686 | 629800.63 | 4174200.44 | 0.06671 |
| 630150.63 | 4174200.44 | 0.08000 | 630500.63 | 4174200.44 | 0.09982 |
| 630850.63 | 4174200.44 | 0.12681 | 631200.63 | 4174200.44 | 0.14726 |
| 631550.63 | 4174200.44 | 0.15791 | 631900.63 | 4174200.44 | 0.20390 |
| 632250.63 | 4174200.44 | 0.22903 | 632600.63 | 4174200.44 | 0.23649 |
| 632950.63 | 4174200.44 | 0.20778 | 633300.63 | 4174200.44 | 0.17841 |
| 629800.63 | 4174550.44 | 0.08076 | 630150.63 | 4174550.44 | 0.10020 |
| 630500.63 | 4174550.44 | 0.13012 | 630850.63 | 4174550.44 | 0.17849 |
| 631200.63 | 4174550.44 | 0.23506 | 631550.63 | 4174550.44 | 0.26585 |
| 631900.63 | 4174550.44 | 0.38137 | 632250.63 | 4174550.44 | 0.44439 |
| 632600.63 | 4174550.44 | 0.38262 | 632950.63 | 4174550.44 | 0.30028 |
| 633300.63 | 4174550.44 | 0.25798 | 629800.63 | 4174900.44 | 0.09620 |
| 630150.63 | 4174900.44 | 0.12722 | 630500.63 | 4174900.44 | 0.17888 |
| 630850.63 | 4174900.44 | 0.26787 | 631200.63 | 4174900.44 | 0.41410 |

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|---|---|---|---|---|---|
| 631550.63 | 4174900.44 | 0.53737 | 631900.63 | 4174900.44 | 0.94503 |
| 632250.63 | 4174900.44 | 0.92523 | 632600.63 | 4174900.44 | 0.65626 |
| 632950.63 | 4174900.44 | 0.49644 | 633300.63 | 4174900.44 | 0.40598 |
| 629800.63 | 4175250.44 | 0.10803 | 630150.63 | 4175250.44 | 0.15101 |
| 630500.63 | 4175250.44 | 0.23525 | 630850.63 | 4175250.44 | 0.43060 |
| 631200.63 | 4175250.44 | 0.88800 | 631550.63 | 4175250.44 | 1.85762 |
| 631900.63 | 4175250.44 | 3.30208 | 632250.63 | 4175250.44 | 2.11047 |
| 632600.63 | 4175250.44 | 1.27812 | 632950.63 | 4175250.44 | 0.82477 |
| 633300.63 | 4175250.44 | 0.60584 | 629800.63 | 4175600.44 | 0.11558 |
| 630150.63 | 4175600.44 | 0.16604 | 630500.63 | 4175600.44 | 0.26768 |
| 630850.63 | 4175600.44 | 0.54160 | 631200.63 | 4175600.44 | 1.89970 |
| 631550.63 | 4175600.44 | 0.00000 | 631900.63 | 4175600.44 | 16.46639 |
| 632250.63 | 4175600.44 | 3.92045 | 632600.63 | 4175600.44 | 1.65587 |
| 632950.63 | 4175600.44 | 1.02275 | 633300.63 | 4175600.44 | 0.71205 |
| 629800.63 | 4175950.44 | 0.11908 | 630150.63 | 4175950.44 | 0.17508 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK22 ***

INCLUDING SOURCE(S): STCK22 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.30425 | 630850.63 | 4175950.44 | 0.70688 |
| 631200.63 | 4175950.44 | 1.99197 | 631550.63 | 4175950.44 | 2.29468 |
| 631900.63 | 4175950.44 | 1.76517 | 632250.63 | 4175950.44 | 1.64146 |
| 632600.63 | 4175950.44 | 1.13376 | 632950.63 | 4175950.44 | 0.77639 |
| 633300.63 | 4175950.44 | 0.58047 | 629800.63 | 4176300.44 | 0.12954 |
| 630150.63 | 4176300.44 | 0.19850 | 630500.63 | 4176300.44 | 0.34548 |
| 630850.63 | 4176300.44 | 0.67100 | 631200.63 | 4176300.44 | 0.99358 |
| 631550.63 | 4176300.44 | 0.98970 | 631900.63 | 4176300.44 | 0.83170 |
| 632250.63 | 4176300.44 | 0.78173 | 632600.63 | 4176300.44 | 0.61340 |
| 632950.63 | 4176300.44 | 0.48675 | 633300.63 | 4176300.44 | 0.39445 |
| 629800.63 | 4176650.44 | 0.13859 | 630150.63 | 4176650.44 | 0.20229 |
| 630500.63 | 4176650.44 | 0.31796 | 630850.63 | 4176650.44 | 0.47204 |
| 631200.63 | 4176650.44 | 0.58333 | 631550.63 | 4176650.44 | 0.59508 |
| 631900.63 | 4176650.44 | 0.53312 | 632250.63 | 4176650.44 | 0.50294 |
| 632600.63 | 4176650.44 | 0.41272 | 632950.63 | 4176650.44 | 0.32924 |
| 633300.63 | 4176650.44 | 0.27348 | 629800.63 | 4177000.44 | 0.13669 |
| 630150.63 | 4177000.44 | 0.18788 | 630500.63 | 4177000.44 | 0.25430 |
| 630850.63 | 4177000.44 | 0.32313 | 631200.63 | 4177000.44 | 0.38760 |
| 631550.63 | 4177000.44 | 0.38579 | 631900.63 | 4177000.44 | 0.36822 |
| 632250.63 | 4177000.44 | 0.32418 | 632600.63 | 4177000.44 | 0.29828 |
| 632950.63 | 4177000.44 | 0.24890 | 633300.63 | 4177000.44 | 0.21102 |
| 629800.63 | 4177350.44 | 0.12863 | 630150.63 | 4177350.44 | 0.16180 |
| 630500.63 | 4177350.44 | 0.19800 | 630850.63 | 4177350.44 | 0.23222 |
| 631200.63 | 4177350.44 | 0.26838 | 631550.63 | 4177350.44 | 0.26444 |
| 631900.63 | 4177350.44 | 0.25852 | 632250.63 | 4177350.44 | 0.22674 |

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|---|---|---|---|---|---|
| 632600.63 | 4177350.44 | 0.21861 | 632950.63 | 4177350.44 | 0.19493 |
| 633300.63 | 4177350.44 | 0.17037 | 631670.70 | 4175493.59 | 14.85981 |
| 631669.80 | 4175641.41 | 34.40100 | 631665.32 | 4175796.39 | 3.03780 |
| 631417.17 | 4175826.85 | 3.99841 | 631417.17 | 4175673.66 | 11.06409 |
| 631422.55 | 4175484.63 | 5.41828 | 631268.42 | 4175983.74 | 2.12343 |
| 631275.69 | 4175523.99 | 2.62313 | 631345.65 | 4175419.50 | 2.66199 |
| 631384.72 | 4175441.30 | 3.50264 | 631491.93 | 4175442.21 | 4.24929 |
| 631491.93 | 4175414.95 | 3.39373 | 631385.63 | 4175413.14 | 2.75487 |
| 631358.37 | 4175395.87 | 2.45717 | 631409.25 | 4175336.81 | 2.38751 |
| 631567.35 | 4175235.96 | 1.74489 | 631756.33 | 4175028.80 | 1.22208 |
| 631807.22 | 4175003.36 | 1.20532 | 631867.18 | 4174987.91 | 1.23029 |
| 631849.92 | 4175988.28 | 1.62235 | 631268.74 | 4175963.75 | 2.23936 |
| 631269.05 | 4175943.76 | 2.35937 | 631269.37 | 4175923.77 | 2.48072 |
| 631269.68 | 4175903.78 | 2.59818 | 631270.00 | 4175883.79 | 2.71324 |
| 631270.32 | 4175863.81 | 2.81976 | 631270.63 | 4175843.82 | 2.91657 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK22 ***

INCLUDING SOURCE(S): STCK22 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 3.00370 | 631271.26 | 4175803.84 | 3.07962 |
| 631271.58 | 4175783.85 | 3.14755 | 631271.90 | 4175763.86 | 3.18564 |
| 631272.21 | 4175743.87 | 3.21941 | 631272.53 | 4175723.88 | 3.25085 |
| 631272.85 | 4175703.89 | 3.19971 | 631273.16 | 4175683.90 | 3.11947 |
| 631273.48 | 4175663.91 | 3.09743 | 631273.79 | 4175643.92 | 3.07375 |
| 631274.11 | 4175623.94 | 3.04392 | 631274.43 | 4175603.95 | 2.92187 |
| 631274.74 | 4175583.96 | 2.80204 | 631275.06 | 4175563.97 | 2.74317 |
| 631275.37 | 4175543.98 | 2.70497 | 631285.68 | 4175509.06 | 2.67091 |
| 631295.68 | 4175494.14 | 2.64581 | 631305.67 | 4175479.21 | 2.58348 |
| 631315.67 | 4175464.28 | 2.52216 | 631325.66 | 4175449.35 | 2.56510 |
| 631335.66 | 4175434.43 | 2.63146 | 631358.67 | 4175426.77 | 2.75354 |
| 631371.70 | 4175434.03 | 3.20471 | 631402.59 | 4175441.45 | 3.54880 |
| 631420.46 | 4175441.60 | 3.89324 | 631438.33 | 4175441.76 | 4.16560 |
| 631456.19 | 4175441.91 | 4.35660 | 631474.06 | 4175442.06 | 4.10286 |
| 631491.93 | 4175428.58 | 3.79333 | 631474.21 | 4175414.65 | 3.31687 |
| 631456.50 | 4175414.35 | 3.45325 | 631438.78 | 4175414.05 | 3.52976 |
| 631421.06 | 4175413.74 | 3.19442 | 631403.35 | 4175413.44 | 3.25611 |
| 631372.00 | 4175404.51 | 2.69138 | 631371.09 | 4175381.11 | 2.25008 |
| 631383.81 | 4175366.34 | 2.26955 | 631396.53 | 4175351.58 | 2.41037 |
| 631425.06 | 4175326.73 | 2.41648 | 631440.87 | 4175316.64 | 2.38542 |
| 631456.68 | 4175306.56 | 2.25798 | 631472.49 | 4175296.47 | 2.15228 |
| 631488.30 | 4175286.39 | 2.06451 | 631504.11 | 4175276.30 | 1.95865 |
| 631519.92 | 4175266.22 | 1.88707 | 631535.73 | 4175256.13 | 1.79537 |
| 631551.54 | 4175246.05 | 1.78254 | 631579.95 | 4175222.15 | 1.74818 |
| 631592.55 | 4175208.34 | 1.71032 | 631605.15 | 4175194.53 | 1.65361 |

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|---|---|---|---|---|---|
| 631617.74 | 4175180.72 | 1.66192 | 631630.34 | 4175166.91 | 1.59721 |
| 631642.94 | 4175153.10 | 1.57505 | 631655.54 | 4175139.29 | 1.54145 |
| 631668.14 | 4175125.47 | 1.50063 | 631680.74 | 4175111.66 | 1.45801 |
| 631693.34 | 4175097.85 | 1.41771 | 631705.94 | 4175084.04 | 1.37739 |
| 631718.53 | 4175070.23 | 1.33776 | 631731.13 | 4175056.42 | 1.29857 |
| 631743.73 | 4175042.61 | 1.25949 | 631773.29 | 4175020.32 | 1.21943 |
| 631790.26 | 4175011.84 | 1.21327 | 631822.21 | 4174999.50 | 1.21346 |
| 631837.20 | 4174995.64 | 1.22059 | 631852.19 | 4174991.77 | 1.22646 |
| 631866.84 | 4175007.53 | 1.32245 | 631866.50 | 4175027.14 | 1.42368 |
| 631866.16 | 4175046.76 | 1.53502 | 631865.83 | 4175066.37 | 1.65792 |
| 631865.49 | 4175085.99 | 1.79314 | 631865.15 | 4175105.60 | 1.94141 |
| 631864.81 | 4175125.22 | 2.10408 | 631864.47 | 4175144.83 | 2.28117 |
| 631864.13 | 4175164.45 | 2.47327 | 631863.80 | 4175184.06 | 2.67936 |
| 631863.46 | 4175203.68 | 2.90213 | 631863.12 | 4175223.29 | 3.13885 |
| 631862.78 | 4175242.91 | 3.38974 | 631862.44 | 4175262.52 | 3.66003 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK22 ***

INCLUDING SOURCE(S): STCK22 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 3.95540 | 631861.77 | 4175301.75 | 4.30216 |
| 631861.43 | 4175321.37 | 4.51705 | 631861.09 | 4175340.98 | 5.63401 |
| 631860.75 | 4175360.60 | 7.40643 | 631860.41 | 4175380.21 | 8.95772 |
| 631860.07 | 4175399.83 | 10.25360 | 631859.73 | 4175419.44 | 10.00483 |
| 631859.40 | 4175439.06 | 14.01117 | 631859.06 | 4175458.67 | 16.47279 |
| 631858.72 | 4175478.29 | 16.69720 | 631858.38 | 4175497.90 | 17.88264 |
| 631858.04 | 4175517.52 | 18.84490 | 631857.70 | 4175537.13 | 19.70016 |
| 631857.37 | 4175556.75 | 25.79135 | 631857.03 | 4175576.36 | 27.52499 |
| 631856.69 | 4175595.98 | 26.58801 | 631856.35 | 4175615.59 | 22.91834 |
| 631856.01 | 4175635.21 | 18.69294 | 631855.67 | 4175654.82 | 16.04747 |
| 631855.33 | 4175674.44 | 14.06154 | 631855.00 | 4175694.05 | 12.45297 |
| 631854.66 | 4175713.67 | 11.04218 | 631854.32 | 4175733.28 | 9.64826 |
| 631853.98 | 4175752.90 | 8.51648 | 631853.64 | 4175772.51 | 6.08146 |
| 631853.30 | 4175792.13 | 5.77722 | 631852.97 | 4175811.74 | 5.18160 |
| 631852.63 | 4175831.36 | 4.07018 | 631852.29 | 4175850.97 | 3.33363 |
| 631851.95 | 4175870.59 | 2.76453 | 631851.61 | 4175890.20 | 2.25864 |
| 631851.27 | 4175909.82 | 2.12912 | 631850.94 | 4175929.43 | 1.96878 |
| 631850.60 | 4175949.05 | 1.83676 | 631850.26 | 4175968.66 | 1.72224 |
| 631830.54 | 4175988.13 | 1.63654 | 631811.15 | 4175987.98 | 1.64848 |
| 631791.77 | 4175987.83 | 1.65880 | 631772.39 | 4175987.67 | 1.66931 |
| 631753.00 | 4175987.52 | 1.68253 | 631733.62 | 4175987.37 | 1.70986 |
| 631714.24 | 4175987.22 | 1.89078 | 631694.85 | 4175987.07 | 2.10938 |
| 631675.47 | 4175986.92 | 2.20859 | 631656.09 | 4175986.77 | 2.10312 |
| 631636.70 | 4175986.62 | 2.05481 | 631617.32 | 4175986.46 | 2.10811 |
| 631597.94 | 4175986.31 | 2.13488 | 631578.55 | 4175986.16 | 2.06623 |

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|---|---|---|---|---|---|
| 631559.17 | 4175986.01 | 2.11346 | 631539.79 | 4175985.86 | 2.14498 |
| 631520.40 | 4175985.71 | 2.16484 | 631501.02 | 4175985.56 | 2.18412 |
| 631481.64 | 4175985.40 | 2.20456 | 631462.25 | 4175985.25 | 2.21865 |
| 631442.87 | 4175985.10 | 2.22820 | 631423.49 | 4175984.95 | 2.22855 |
| 631404.10 | 4175984.80 | 2.22754 | 631384.72 | 4175984.65 | 2.23200 |
| 631365.34 | 4175984.50 | 2.23621 | 631345.95 | 4175984.35 | 2.23478 |
| 631326.57 | 4175984.19 | 2.22302 | 631307.19 | 4175984.04 | 2.20126 |
| 631287.80 | 4175983.89 | 2.16781 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK23 ***

INCLUDING SOURCE(S): STCK23 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.41370 | 632304.44 | 4174354.52 | 0.35809 |
| 632192.15 | 4174956.32 | 1.31786 | 632420.62 | 4175510.15 | 2.38111 |
| 632418.97 | 4175552.92 | 2.34831 | 631187.00 | 4175727.00 | 1.99891 |
| 631166.00 | 4175729.00 | 1.83943 | 631121.00 | 4175719.00 | 1.54660 |
| 631035.00 | 4174830.00 | 0.35621 | 631106.00 | 4174825.00 | 0.38900 |
| 631937.00 | 4174528.00 | 0.45505 | 631322.00 | 4174522.00 | 0.27291 |
| 629800.63 | 4173850.44 | 0.05882 | 630150.63 | 4173850.44 | 0.06962 |
| 630500.63 | 4173850.44 | 0.08429 | 630850.63 | 4173850.44 | 0.10138 |
| 631200.63 | 4173850.44 | 0.11052 | 631550.63 | 4173850.44 | 0.11647 |
| 631900.63 | 4173850.44 | 0.14271 | 632250.63 | 4173850.44 | 0.15790 |
| 632600.63 | 4173850.44 | 0.16849 | 632950.63 | 4173850.44 | 0.16455 |
| 633300.63 | 4173850.44 | 0.14649 | 629800.63 | 4174200.44 | 0.07036 |
| 630150.63 | 4174200.44 | 0.08494 | 630500.63 | 4174200.44 | 0.10697 |
| 630850.63 | 4174200.44 | 0.13868 | 631200.63 | 4174200.44 | 0.16545 |
| 631550.63 | 4174200.44 | 0.17929 | 631900.63 | 4174200.44 | 0.23400 |
| 632250.63 | 4174200.44 | 0.26638 | 632600.63 | 4174200.44 | 0.26695 |
| 632950.63 | 4174200.44 | 0.22672 | 633300.63 | 4174200.44 | 0.19544 |
| 629800.63 | 4174550.44 | 0.08521 | 630150.63 | 4174550.44 | 0.10729 |
| 630500.63 | 4174550.44 | 0.14146 | 630850.63 | 4174550.44 | 0.19833 |
| 631200.63 | 4174550.44 | 0.27291 | 631550.63 | 4174550.44 | 0.31790 |
| 631900.63 | 4174550.44 | 0.46738 | 632250.63 | 4174550.44 | 0.53506 |
| 632600.63 | 4174550.44 | 0.42989 | 632950.63 | 4174550.44 | 0.33891 |
| 633300.63 | 4174550.44 | 0.29182 | 629800.63 | 4174900.44 | 0.10003 |
| 630150.63 | 4174900.44 | 0.13484 | 630500.63 | 4174900.44 | 0.19548 |
| 630850.63 | 4174900.44 | 0.30674 | 631200.63 | 4174900.44 | 0.50872 |
| 631550.63 | 4174900.44 | 0.71556 | 631900.63 | 4174900.44 | 1.30458 |
| 632250.63 | 4174900.44 | 1.09798 | 632600.63 | 4174900.44 | 0.77298 |
| 632950.63 | 4174900.44 | 0.57645 | 633300.63 | 4174900.44 | 0.46156 |
| 629800.63 | 4175250.44 | 0.11094 | 630150.63 | 4175250.44 | 0.15645 |
| 630500.63 | 4175250.44 | 0.24654 | 630850.63 | 4175250.44 | 0.48079 |
| 631200.63 | 4175250.44 | 1.18922 | 631550.63 | 4175250.44 | 3.37420 |
| 631900.63 | 4175250.44 | 4.39592 | 632250.63 | 4175250.44 | 2.77036 |

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|---|---|---|---|---|---|
| 632600.63 | 4175250.44 | 1.46076 | 632950.63 | 4175250.44 | 0.91508 |
| 633300.63 | 4175250.44 | 0.65585 | 629800.63 | 4175600.44 | 0.11643 |
| 630150.63 | 4175600.44 | 0.16799 | 630500.63 | 4175600.44 | 0.27415 |
| 630850.63 | 4175600.44 | 0.57846 | 631200.63 | 4175600.44 | 2.04635 |
| 631550.63 | 4175600.44 | 9.64737 | 631900.63 | 4175600.44 | 11.82543 |
| 632250.63 | 4175600.44 | 3.50935 | 632600.63 | 4175600.44 | 1.59148 |
| 632950.63 | 4175600.44 | 0.99135 | 633300.63 | 4175600.44 | 0.69606 |
| 629800.63 | 4175950.44 | 0.12096 | 630150.63 | 4175950.44 | 0.18101 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK23 ***

INCLUDING SOURCE(S): STCK23 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.32238 | 630850.63 | 4175950.44 | 0.71436 |
| 631200.63 | 4175950.44 | 1.62103 | 631550.63 | 4175950.44 | 1.71455 |
| 631900.63 | 4175950.44 | 1.42940 | 632250.63 | 4175950.44 | 1.21989 |
| 632600.63 | 4175950.44 | 0.96412 | 632950.63 | 4175950.44 | 0.68056 |
| 633300.63 | 4175950.44 | 0.52223 | 629800.63 | 4176300.44 | 0.13341 |
| 630150.63 | 4176300.44 | 0.20271 | 630500.63 | 4176300.44 | 0.34387 |
| 630850.63 | 4176300.44 | 0.61939 | 631200.63 | 4176300.44 | 0.82543 |
| 631550.63 | 4176300.44 | 0.82872 | 631900.63 | 4176300.44 | 0.71193 |
| 632250.63 | 4176300.44 | 0.69130 | 632600.63 | 4176300.44 | 0.54880 |
| 632950.63 | 4176300.44 | 0.42892 | 633300.63 | 4176300.44 | 0.35440 |
| 629800.63 | 4176650.44 | 0.13887 | 630150.63 | 4176650.44 | 0.20046 |
| 630500.63 | 4176650.44 | 0.30365 | 630850.63 | 4176650.44 | 0.42613 |
| 631200.63 | 4176650.44 | 0.51836 | 631550.63 | 4176650.44 | 0.52218 |
| 631900.63 | 4176650.44 | 0.48433 | 632250.63 | 4176650.44 | 0.45504 |
| 632600.63 | 4176650.44 | 0.37732 | 632950.63 | 4176650.44 | 0.30628 |
| 633300.63 | 4176650.44 | 0.25108 | 629800.63 | 4177000.44 | 0.13518 |
| 630150.63 | 4177000.44 | 0.18162 | 630500.63 | 4177000.44 | 0.23849 |
| 630850.63 | 4177000.44 | 0.29489 | 631200.63 | 4177000.44 | 0.35240 |
| 631550.63 | 4177000.44 | 0.34724 | 631900.63 | 4177000.44 | 0.33645 |
| 632250.63 | 4177000.44 | 0.29277 | 632600.63 | 4177000.44 | 0.27780 |
| 632950.63 | 4177000.44 | 0.23188 | 633300.63 | 4177000.44 | 0.19894 |
| 629800.63 | 4177350.44 | 0.12521 | 630150.63 | 4177350.44 | 0.15440 |
| 630500.63 | 4177350.44 | 0.18581 | 630850.63 | 4177350.44 | 0.21534 |
| 631200.63 | 4177350.44 | 0.24655 | 631550.63 | 4177350.44 | 0.24214 |
| 631900.63 | 4177350.44 | 0.23847 | 632250.63 | 4177350.44 | 0.21057 |
| 632600.63 | 4177350.44 | 0.20143 | 632950.63 | 4177350.44 | 0.18419 |
| 633300.63 | 4177350.44 | 0.16062 | 631670.70 | 4175493.59 | 44.35984 |
| 631669.80 | 4175641.41 | 6.94811 | 631665.32 | 4175796.39 | 2.33846 |
| 631417.17 | 4175826.85 | 1.41612 | 631417.17 | 4175673.66 | 2.62069 |
| 631422.55 | 4175484.63 | 10.29866 | 631268.42 | 4175983.74 | 1.58932 |
| 631275.69 | 4175523.99 | 2.92518 | 631345.65 | 4175419.50 | 4.06122 |
| 631384.72 | 4175441.30 | 5.94834 | 631491.93 | 4175442.21 | 16.93631 |

| | | | | | |
|---|---|---|---|---|---|
| 631491.93 | 4175414.95 | 11.63540 | 631385.63 | 4175413.14 | 5.05691 |
| 631358.37 | 4175395.87 | 3.92926 | 631409.25 | 4175336.81 | 4.05110 |
| 631567.35 | 4175235.96 | 3.08027 | 631756.33 | 4175028.80 | 1.83262 |
| 631807.22 | 4175003.36 | 1.77184 | 631867.18 | 4174987.91 | 1.76364 |
| 631849.92 | 4175988.28 | 1.30829 | 631268.74 | 4175963.75 | 1.67288 |
| 631269.05 | 4175943.76 | 1.76293 | 631269.37 | 4175923.77 | 1.85933 |
| 631269.68 | 4175903.78 | 1.96198 | 631270.00 | 4175883.79 | 2.07100 |
| 631270.32 | 4175863.81 | 2.18334 | 631270.63 | 4175843.82 | 2.29796 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK23 ***

INCLUDING SOURCE(S): STCK23 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 2.41341 | 631271.26 | 4175803.84 | 2.53379 |
| 631271.58 | 4175783.85 | 2.65682 | 631271.90 | 4175763.86 | 2.74219 |
| 631272.21 | 4175743.87 | 2.82980 | 631272.53 | 4175723.88 | 2.98596 |
| 631272.85 | 4175703.89 | 2.95146 | 631273.16 | 4175683.90 | 2.74017 |
| 631273.48 | 4175663.91 | 2.86523 | 631273.79 | 4175643.92 | 3.03936 |
| 631274.11 | 4175623.94 | 3.09180 | 631274.43 | 4175603.95 | 2.98856 |
| 631274.74 | 4175583.96 | 2.85362 | 631275.06 | 4175563.97 | 2.89386 |
| 631275.37 | 4175543.98 | 2.92344 | 631285.68 | 4175509.06 | 3.11225 |
| 631295.68 | 4175494.14 | 3.25330 | 631305.67 | 4175479.21 | 3.37836 |
| 631315.67 | 4175464.28 | 3.57909 | 631325.66 | 4175449.35 | 3.74157 |
| 631335.66 | 4175434.43 | 3.88505 | 631358.67 | 4175426.77 | 4.47543 |
| 631371.70 | 4175434.03 | 5.13717 | 631402.59 | 4175441.45 | 6.83002 |
| 631420.46 | 4175441.60 | 8.58031 | 631438.33 | 4175441.76 | 9.98101 |
| 631456.19 | 4175441.91 | 13.41390 | 631474.06 | 4175442.06 | 14.50938 |
| 631491.93 | 4175428.58 | 13.92372 | 631474.21 | 4175414.65 | 11.25492 |
| 631456.50 | 4175414.35 | 9.73199 | 631438.78 | 4175414.05 | 8.87823 |
| 631421.06 | 4175413.74 | 6.88990 | 631403.35 | 4175413.44 | 6.36079 |
| 631372.00 | 4175404.51 | 4.47168 | 631371.09 | 4175381.11 | 3.87720 |
| 631383.81 | 4175366.34 | 3.90908 | 631396.53 | 4175351.58 | 4.03447 |
| 631425.06 | 4175326.73 | 4.23513 | 631440.87 | 4175316.64 | 4.30254 |
| 631456.68 | 4175306.56 | 4.17396 | 631472.49 | 4175296.47 | 3.94777 |
| 631488.30 | 4175286.39 | 3.88990 | 631504.11 | 4175276.30 | 3.63630 |
| 631519.92 | 4175266.22 | 3.42300 | 631535.73 | 4175256.13 | 3.34938 |
| 631551.54 | 4175246.05 | 3.24506 | 631579.95 | 4175222.15 | 3.01768 |
| 631592.55 | 4175208.34 | 2.87557 | 631605.15 | 4175194.53 | 2.77277 |
| 631617.74 | 4175180.72 | 2.76713 | 631630.34 | 4175166.91 | 2.63195 |
| 631642.94 | 4175153.10 | 2.59033 | 631655.54 | 4175139.29 | 2.50482 |
| 631668.14 | 4175125.47 | 2.41702 | 631680.74 | 4175111.66 | 2.32678 |
| 631693.34 | 4175097.85 | 2.23767 | 631705.94 | 4175084.04 | 2.15229 |
| 631718.53 | 4175070.23 | 2.06853 | 631731.13 | 4175056.42 | 1.98590 |
| 631743.73 | 4175042.61 | 1.90887 | 631773.29 | 4175020.32 | 1.81627 |
| 631790.26 | 4175011.84 | 1.79555 | 631822.21 | 4174999.50 | 1.77477 |

| | | | | | |
|---|---|---|---|---|---|
| 631837.20 | 4174995.64 | 1.77474 | 631852.19 | 4174991.77 | 1.77060 |
| 631866.84 | 4175007.53 | 1.90435 | 631866.50 | 4175027.14 | 2.05848 |
| 631866.16 | 4175046.76 | 2.22537 | 631865.83 | 4175066.37 | 2.40587 |
| 631865.49 | 4175085.99 | 2.59940 | 631865.15 | 4175105.60 | 2.80709 |
| 631864.81 | 4175125.22 | 3.02757 | 631864.47 | 4175144.83 | 3.25955 |
| 631864.13 | 4175164.45 | 3.50446 | 631863.80 | 4175184.06 | 3.76011 |
| 631863.46 | 4175203.68 | 4.02998 | 631863.12 | 4175223.29 | 4.31568 |
| 631862.78 | 4175242.91 | 4.62429 | 631862.44 | 4175262.52 | 4.96936 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK23 ***

INCLUDING SOURCE(S): STCK23 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 5.38192 | 631861.77 | 4175301.75 | 5.87714 |
| 631861.43 | 4175321.37 | 6.23070 | 631861.09 | 4175340.98 | 6.98902 |
| 631860.75 | 4175360.60 | 7.99946 | 631860.41 | 4175380.21 | 9.61223 |
| 631860.07 | 4175399.83 | 11.24912 | 631859.73 | 4175419.44 | 13.31765 |
| 631859.40 | 4175439.06 | 16.51266 | 631859.06 | 4175458.67 | 18.45750 |
| 631858.72 | 4175478.29 | 20.84353 | 631858.38 | 4175497.90 | 24.24605 |
| 631858.04 | 4175517.52 | 27.58204 | 631857.70 | 4175537.13 | 29.35119 |
| 631857.37 | 4175556.75 | 27.90446 | 631857.03 | 4175576.36 | 21.21219 |
| 631856.69 | 4175595.98 | 14.18064 | 631856.35 | 4175615.59 | 10.69873 |
| 631856.01 | 4175635.21 | 9.26997 | 631855.67 | 4175654.82 | 8.06671 |
| 631855.33 | 4175674.44 | 6.97976 | 631855.00 | 4175694.05 | 6.09801 |
| 631854.66 | 4175713.67 | 5.43820 | 631854.32 | 4175733.28 | 4.92378 |
| 631853.98 | 4175752.90 | 4.61862 | 631853.64 | 4175772.51 | 4.31105 |
| 631853.30 | 4175792.13 | 4.03954 | 631852.97 | 4175811.74 | 3.78703 |
| 631852.63 | 4175831.36 | 3.58459 | 631852.29 | 4175850.97 | 3.11138 |
| 631851.95 | 4175870.59 | 3.00965 | 631851.61 | 4175890.20 | 2.08758 |
| 631851.27 | 4175909.82 | 1.83600 | 631850.94 | 4175929.43 | 1.59676 |
| 631850.60 | 4175949.05 | 1.48054 | 631850.26 | 4175968.66 | 1.38795 |
| 631830.54 | 4175988.13 | 1.30662 | 631811.15 | 4175987.98 | 1.30290 |
| 631791.77 | 4175987.83 | 1.30391 | 631772.39 | 4175987.67 | 1.31121 |
| 631753.00 | 4175987.52 | 1.32363 | 631733.62 | 4175987.37 | 1.34982 |
| 631714.24 | 4175987.22 | 1.40973 | 631694.85 | 4175987.07 | 1.59383 |
| 631675.47 | 4175986.92 | 1.78193 | 631656.09 | 4175986.77 | 1.73327 |
| 631636.70 | 4175986.62 | 1.71565 | 631617.32 | 4175986.46 | 1.74771 |
| 631597.94 | 4175986.31 | 1.74392 | 631578.55 | 4175986.16 | 1.67095 |
| 631559.17 | 4175986.01 | 1.62405 | 631539.79 | 4175985.86 | 1.60406 |
| 631520.40 | 4175985.71 | 1.58327 | 631501.02 | 4175985.56 | 1.59566 |
| 631481.64 | 4175985.40 | 1.61437 | 631462.25 | 4175985.25 | 1.62596 |
| 631442.87 | 4175985.10 | 1.63351 | 631423.49 | 4175984.95 | 1.63417 |
| 631404.10 | 4175984.80 | 1.62717 | 631384.72 | 4175984.65 | 1.61856 |
| 631365.34 | 4175984.50 | 1.61267 | 631345.95 | 4175984.35 | 1.60959 |
| 631326.57 | 4175984.19 | 1.60815 | 631307.19 | 4175984.04 | 1.60468 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK24 ***

INCLUDING SOURCE(S): STCK24 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.77006 | 632304.44 | 4174354.52 | 0.42420 |
| 632192.15 | 4174956.32 | 1.65025 | 632420.62 | 4175510.15 | 2.22913 |
| 632418.97 | 4175552.92 | 2.12567 | 631187.00 | 4175727.00 | 1.89680 |
| 631166.00 | 4175729.00 | 1.77624 | 631121.00 | 4175719.00 | 1.54522 |
| 631035.00 | 4174830.00 | 0.42488 | 631106.00 | 4174825.00 | 0.47217 |
| 631937.00 | 4174528.00 | 0.57042 | 631322.00 | 4174522.00 | 0.33015 |
| 629800.63 | 4173850.44 | 0.06176 | 630150.63 | 4173850.44 | 0.07342 |
| 630500.63 | 4173850.44 | 0.08984 | 630850.63 | 4173850.44 | 0.11022 |
| 631200.63 | 4173850.44 | 0.12250 | 631550.63 | 4173850.44 | 0.12958 |
| 631900.63 | 4173850.44 | 0.16008 | 632250.63 | 4173850.44 | 0.17814 |
| 632600.63 | 4173850.44 | 0.18956 | 632950.63 | 4173850.44 | 0.17949 |
| 633300.63 | 4173850.44 | 0.15745 | 629800.63 | 4174200.44 | 0.07431 |
| 630150.63 | 4174200.44 | 0.09048 | 630500.63 | 4174200.44 | 0.11512 |
| 630850.63 | 4174200.44 | 0.15309 | 631200.63 | 4174200.44 | 0.18941 |
| 631550.63 | 4174200.44 | 0.20661 | 631900.63 | 4174200.44 | 0.27320 |
| 632250.63 | 4174200.44 | 0.31301 | 632600.63 | 4174200.44 | 0.30091 |
| 632950.63 | 4174200.44 | 0.24929 | 633300.63 | 4174200.44 | 0.21637 |
| 629800.63 | 4174550.44 | 0.08971 | 630150.63 | 4174550.44 | 0.11493 |
| 630500.63 | 4174550.44 | 0.15441 | 630850.63 | 4174550.44 | 0.22344 |
| 631200.63 | 4174550.44 | 0.32719 | 631550.63 | 4174550.44 | 0.39104 |
| 631900.63 | 4174550.44 | 0.58895 | 632250.63 | 4174550.44 | 0.64314 |
| 632600.63 | 4174550.44 | 0.49042 | 632950.63 | 4174550.44 | 0.38863 |
| 633300.63 | 4174550.44 | 0.33213 | 629800.63 | 4174900.44 | 0.10342 |
| 630150.63 | 4174900.44 | 0.14188 | 630500.63 | 4174900.44 | 0.21175 |
| 630850.63 | 4174900.44 | 0.35169 | 631200.63 | 4174900.44 | 0.64635 |
| 631550.63 | 4174900.44 | 1.01164 | 631900.63 | 4174900.44 | 1.82716 |
| 632250.63 | 4174900.44 | 1.34934 | 632600.63 | 4174900.44 | 0.92933 |
| 632950.63 | 4174900.44 | 0.67011 | 633300.63 | 4174900.44 | 0.51998 |
| 629800.63 | 4175250.44 | 0.11340 | 630150.63 | 4175250.44 | 0.16138 |
| 630500.63 | 4175250.44 | 0.25724 | 630850.63 | 4175250.44 | 0.50943 |
| 631200.63 | 4175250.44 | 1.49233 | 631550.63 | 4175250.44 | 7.80378 |
| 631900.63 | 4175250.44 | 7.12049 | 632250.63 | 4175250.44 | 3.47087 |
| 632600.63 | 4175250.44 | 1.60076 | 632950.63 | 4175250.44 | 0.98661 |
| 633300.63 | 4175250.44 | 0.69322 | 629800.63 | 4175600.44 | 0.11732 |
| 630150.63 | 4175600.44 | 0.17008 | 630500.63 | 4175600.44 | 0.28237 |
| 630850.63 | 4175600.44 | 0.61858 | 631200.63 | 4175600.44 | 2.08985 |
| 631550.63 | 4175600.44 | 3.54181 | 631900.63 | 4175600.44 | 3.47345 |
| 632250.63 | 4175600.44 | 2.63965 | 632600.63 | 4175600.44 | 1.43987 |
| 632950.63 | 4175600.44 | 0.92052 | 633300.63 | 4175600.44 | 0.65961 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK24 ***

INCLUDING SOURCE(S): STCK24 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.33998 | 630850.63 | 4175950.44 | 0.71695 |
| 631200.63 | 4175950.44 | 1.31927 | 631550.63 | 4175950.44 | 1.34199 |
| 631900.63 | 4175950.44 | 1.15852 | 632250.63 | 4175950.44 | 0.97316 |
| 632600.63 | 4175950.44 | 0.79804 | 632950.63 | 4175950.44 | 0.59541 |
| 633300.63 | 4175950.44 | 0.46648 | 629800.63 | 4176300.44 | 0.13650 |
| 630150.63 | 4176300.44 | 0.20498 | 630500.63 | 4176300.44 | 0.34236 |
| 630850.63 | 4176300.44 | 0.57032 | 631200.63 | 4176300.44 | 0.71027 |
| 631550.63 | 4176300.44 | 0.71078 | 631900.63 | 4176300.44 | 0.62145 |
| 632250.63 | 4176300.44 | 0.61686 | 632600.63 | 4176300.44 | 0.49783 |
| 632950.63 | 4176300.44 | 0.38161 | 633300.63 | 4176300.44 | 0.31873 |
| 629800.63 | 4176650.44 | 0.13852 | 630150.63 | 4176650.44 | 0.19789 |
| 630500.63 | 4176650.44 | 0.28877 | 630850.63 | 4176650.44 | 0.38816 |
| 631200.63 | 4176650.44 | 0.46954 | 631550.63 | 4176650.44 | 0.46466 |
| 631900.63 | 4176650.44 | 0.44370 | 632250.63 | 4176650.44 | 0.40791 |
| 632600.63 | 4176650.44 | 0.34702 | 632950.63 | 4176650.44 | 0.28448 |
| 633300.63 | 4176650.44 | 0.23340 | 629800.63 | 4177000.44 | 0.13319 |
| 630150.63 | 4177000.44 | 0.17482 | 630500.63 | 4177000.44 | 0.22404 |
| 630850.63 | 4177000.44 | 0.27091 | 631200.63 | 4177000.44 | 0.32306 |
| 631550.63 | 4177000.44 | 0.31531 | 631900.63 | 4177000.44 | 0.30893 |
| 632250.63 | 4177000.44 | 0.26633 | 632600.63 | 4177000.44 | 0.25743 |
| 632950.63 | 4177000.44 | 0.21671 | 633300.63 | 4177000.44 | 0.18744 |
| 629800.63 | 4177350.44 | 0.12146 | 630150.63 | 4177350.44 | 0.14722 |
| 630500.63 | 4177350.44 | 0.17464 | 630850.63 | 4177350.44 | 0.20074 |
| 631200.63 | 4177350.44 | 0.22752 | 631550.63 | 4177350.44 | 0.22299 |
| 631900.63 | 4177350.44 | 0.22111 | 632250.63 | 4177350.44 | 0.19703 |
| 632600.63 | 4177350.44 | 0.18539 | 632950.63 | 4177350.44 | 0.17394 |
| 633300.63 | 4177350.44 | 0.15180 | 631670.70 | 4175493.59 | 8.77615 |
| 631669.80 | 4175641.41 | 4.92304 | 631665.32 | 4175796.39 | 2.00727 |
| 631417.17 | 4175826.85 | 1.06416 | 631417.17 | 4175673.66 | 1.55472 |
| 631422.55 | 4175484.63 | 3.31879 | 631268.42 | 4175983.74 | 1.25328 |
| 631275.69 | 4175523.99 | 2.99943 | 631345.65 | 4175419.50 | 4.47816 |
| 631384.72 | 4175441.30 | 4.24377 | 631491.93 | 4175442.21 | 8.46726 |
| 631491.93 | 4175414.95 | 14.86206 | 631385.63 | 4175413.14 | 5.16974 |
| 631358.37 | 4175395.87 | 4.66776 | 631409.25 | 4175336.81 | 6.76323 |
| 631567.35 | 4175235.96 | 7.26393 | 631756.33 | 4175028.80 | 2.91613 |
| 631807.22 | 4175003.36 | 2.69779 | 631867.18 | 4174987.91 | 2.54492 |
| 631849.92 | 4175988.28 | 1.03903 | 631268.74 | 4175963.75 | 1.31109 |
| 631269.05 | 4175943.76 | 1.37339 | 631269.37 | 4175923.77 | 1.44104 |
| 631269.68 | 4175903.78 | 1.51282 | 631270.00 | 4175883.79 | 1.58850 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK24 ***

INCLUDING SOURCE(S): STCK24 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.85467 | 631271.26 | 4175803.84 | 1.97476 |
| 631271.58 | 4175783.85 | 2.09880 | 631271.90 | 4175763.86 | 2.05225 |
| 631272.21 | 4175743.87 | 2.34279 | 631272.53 | 4175723.88 | 2.50271 |
| 631272.85 | 4175703.89 | 2.64633 | 631273.16 | 4175683.90 | 1.93093 |
| 631273.48 | 4175663.91 | 2.14662 | 631273.79 | 4175643.92 | 2.45253 |
| 631274.11 | 4175623.94 | 2.73766 | 631274.43 | 4175603.95 | 2.94200 |
| 631274.74 | 4175583.96 | 2.23468 | 631275.06 | 4175563.97 | 2.53608 |
| 631275.37 | 4175543.98 | 2.78348 | 631285.68 | 4175509.06 | 3.17210 |
| 631295.68 | 4175494.14 | 3.28579 | 631305.67 | 4175479.21 | 2.91259 |
| 631315.67 | 4175464.28 | 3.27139 | 631325.66 | 4175449.35 | 3.64108 |
| 631335.66 | 4175434.43 | 4.05604 | 631358.67 | 4175426.77 | 4.77886 |
| 631371.70 | 4175434.03 | 4.58931 | 631402.59 | 4175441.45 | 4.76920 |
| 631420.46 | 4175441.60 | 5.31340 | 631438.33 | 4175441.76 | 6.35191 |
| 631456.19 | 4175441.91 | 7.22867 | 631474.06 | 4175442.06 | 6.53331 |
| 631491.93 | 4175428.58 | 11.16415 | 631474.21 | 4175414.65 | 11.16250 |
| 631456.50 | 4175414.35 | 10.89674 | 631438.78 | 4175414.05 | 8.63514 |
| 631421.06 | 4175413.74 | 7.15458 | 631403.35 | 4175413.44 | 5.98843 |
| 631372.00 | 4175404.51 | 4.89804 | 631371.09 | 4175381.11 | 5.04933 |
| 631383.81 | 4175366.34 | 5.67221 | 631396.53 | 4175351.58 | 6.26642 |
| 631425.06 | 4175326.73 | 7.58185 | 631440.87 | 4175316.64 | 8.43385 |
| 631456.68 | 4175306.56 | 8.99553 | 631472.49 | 4175296.47 | 9.21818 |
| 631488.30 | 4175286.39 | 9.39498 | 631504.11 | 4175276.30 | 8.95040 |
| 631519.92 | 4175266.22 | 8.28116 | 631535.73 | 4175256.13 | 7.88169 |
| 631551.54 | 4175246.05 | 7.46544 | 631579.95 | 4175222.15 | 6.67832 |
| 631592.55 | 4175208.34 | 6.21543 | 631605.15 | 4175194.53 | 5.77172 |
| 631617.74 | 4175180.72 | 5.40804 | 631630.34 | 4175166.91 | 5.09112 |
| 631642.94 | 4175153.10 | 4.84802 | 631655.54 | 4175139.29 | 4.60944 |
| 631668.14 | 4175125.47 | 4.35989 | 631680.74 | 4175111.66 | 4.11533 |
| 631693.34 | 4175097.85 | 3.88122 | 631705.94 | 4175084.04 | 3.66207 |
| 631718.53 | 4175070.23 | 3.45655 | 631731.13 | 4175056.42 | 3.26389 |
| 631743.73 | 4175042.61 | 3.08310 | 631773.29 | 4175020.32 | 2.84879 |
| 631790.26 | 4175011.84 | 2.77589 | 631822.21 | 4174999.50 | 2.66873 |
| 631837.20 | 4174995.64 | 2.63320 | 631852.19 | 4174991.77 | 2.59115 |
| 631866.84 | 4175007.53 | 2.74682 | 631866.50 | 4175027.14 | 2.96038 |
| 631866.16 | 4175046.76 | 3.18786 | 631865.83 | 4175066.37 | 3.42753 |
| 631865.49 | 4175085.99 | 3.67863 | 631865.15 | 4175105.60 | 3.94499 |
| 631864.81 | 4175125.22 | 4.22718 | 631864.47 | 4175144.83 | 4.53140 |
| 631864.13 | 4175164.45 | 4.86611 | 631863.80 | 4175184.06 | 5.25473 |
| 631863.46 | 4175203.68 | 5.72663 | 631863.12 | 4175223.29 | 6.32169 |

631862.78 4175242.91 7.09525 631862.44 4175262.52 8.11407



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK24 ***

INCLUDING SOURCE(S): STCK24 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 9.42010 | 631861.77 | 4175301.75 | 10.98196 |
| 631861.43 | 4175321.37 | 12.67787 | 631861.09 | 4175340.98 | 14.36354 |
| 631860.75 | 4175360.60 | 15.80337 | 631860.41 | 4175380.21 | 16.81296 |
| 631860.07 | 4175399.83 | 17.32053 | 631859.73 | 4175419.44 | 17.54030 |
| 631859.40 | 4175439.06 | 16.38301 | 631859.06 | 4175458.67 | 13.91292 |
| 631858.72 | 4175478.29 | 10.50345 | 631858.38 | 4175497.90 | 7.44981 |
| 631858.04 | 4175517.52 | 5.21955 | 631857.70 | 4175537.13 | 4.08005 |
| 631857.37 | 4175556.75 | 3.49524 | 631857.03 | 4175576.36 | 3.24885 |
| 631856.69 | 4175595.98 | 3.15868 | 631856.35 | 4175615.59 | 3.16032 |
| 631856.01 | 4175635.21 | 3.20501 | 631855.67 | 4175654.82 | 3.24310 |
| 631855.33 | 4175674.44 | 3.23964 | 631855.00 | 4175694.05 | 3.19879 |
| 631854.66 | 4175713.67 | 3.13150 | 631854.32 | 4175733.28 | 3.05565 |
| 631853.98 | 4175752.90 | 2.96277 | 631853.64 | 4175772.51 | 2.86389 |
| 631853.30 | 4175792.13 | 2.75839 | 631852.97 | 4175811.74 | 2.65331 |
| 631852.63 | 4175831.36 | 2.53138 | 631852.29 | 4175850.97 | 2.44444 |
| 631851.95 | 4175870.59 | 2.32953 | 631851.61 | 4175890.20 | 2.11757 |
| 631851.27 | 4175909.82 | 1.75291 | 631850.94 | 4175929.43 | 1.29911 |
| 631850.60 | 4175949.05 | 1.17633 | 631850.26 | 4175968.66 | 1.10136 |
| 631830.54 | 4175988.13 | 1.03540 | 631811.15 | 4175987.98 | 1.03933 |
| 631791.77 | 4175987.83 | 1.04965 | 631772.39 | 4175987.67 | 1.06988 |
| 631753.00 | 4175987.52 | 1.09340 | 631733.62 | 4175987.37 | 1.12418 |
| 631714.24 | 4175987.22 | 1.15155 | 631694.85 | 4175987.07 | 1.23389 |
| 631675.47 | 4175986.92 | 1.37319 | 631656.09 | 4175986.77 | 1.36441 |
| 631636.70 | 4175986.62 | 1.39220 | 631617.32 | 4175986.46 | 1.43470 |
| 631597.94 | 4175986.31 | 1.41645 | 631578.55 | 4175986.16 | 1.35186 |
| 631559.17 | 4175986.01 | 1.28773 | 631539.79 | 4175985.86 | 1.25744 |
| 631520.40 | 4175985.71 | 1.24479 | 631501.02 | 4175985.56 | 1.24307 |
| 631481.64 | 4175985.40 | 1.26476 | 631462.25 | 4175985.25 | 1.28255 |
| 631442.87 | 4175985.10 | 1.29686 | 631423.49 | 4175984.95 | 1.30435 |
| 631404.10 | 4175984.80 | 1.30378 | 631384.72 | 4175984.65 | 1.29308 |
| 631365.34 | 4175984.50 | 1.28112 | 631345.95 | 4175984.35 | 1.27092 |
| 631326.57 | 4175984.19 | 1.26170 | 631307.19 | 4175984.04 | 1.25727 |
| 631287.80 | 4175983.89 | 1.25571 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK25 ***

INCLUDING SOURCE(S): STCK25 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.75711 | 632304.44 | 4174354.52 | 0.23806 |
| 632192.15 | 4174956.32 | 0.71641 | 632420.62 | 4175510.15 | 1.73510 |
| 632418.97 | 4175552.92 | 1.83851 | 631187.00 | 4175727.00 | 2.95922 |
| 631166.00 | 4175729.00 | 2.64166 | 631121.00 | 4175719.00 | 2.00884 |
| 631035.00 | 4174830.00 | 0.28229 | 631106.00 | 4174825.00 | 0.30000 |
| 631937.00 | 4174528.00 | 0.28903 | 631322.00 | 4174522.00 | 0.19715 |
| 629800.63 | 4173850.44 | 0.05530 | 630150.63 | 4173850.44 | 0.06491 |
| 630500.63 | 4173850.44 | 0.07648 | 630850.63 | 4173850.44 | 0.08751 |
| 631200.63 | 4173850.44 | 0.09045 | 631550.63 | 4173850.44 | 0.09737 |
| 631900.63 | 4173850.44 | 0.11526 | 632250.63 | 4173850.44 | 0.12515 |
| 632600.63 | 4173850.44 | 0.13375 | 632950.63 | 4173850.44 | 0.13539 |
| 633300.63 | 4173850.44 | 0.12495 | 629800.63 | 4174200.44 | 0.06540 |
| 630150.63 | 4174200.44 | 0.07822 | 630500.63 | 4174200.44 | 0.09601 |
| 630850.63 | 4174200.44 | 0.11729 | 631200.63 | 4174200.44 | 0.12811 |
| 631550.63 | 4174200.44 | 0.14074 | 631900.63 | 4174200.44 | 0.17140 |
| 632250.63 | 4174200.44 | 0.18878 | 632600.63 | 4174200.44 | 0.19722 |
| 632950.63 | 4174200.44 | 0.18107 | 633300.63 | 4174200.44 | 0.15944 |
| 629800.63 | 4174550.44 | 0.07930 | 630150.63 | 4174550.44 | 0.09721 |
| 630500.63 | 4174550.44 | 0.12429 | 630850.63 | 4174550.44 | 0.16577 |
| 631200.63 | 4174550.44 | 0.20246 | 631550.63 | 4174550.44 | 0.23246 |
| 631900.63 | 4174550.44 | 0.29737 | 632250.63 | 4174550.44 | 0.32461 |
| 632600.63 | 4174550.44 | 0.29432 | 632950.63 | 4174550.44 | 0.24992 |
| 633300.63 | 4174550.44 | 0.22318 | 629800.63 | 4174900.44 | 0.09640 |
| 630150.63 | 4174900.44 | 0.12489 | 630500.63 | 4174900.44 | 0.16891 |
| 630850.63 | 4174900.44 | 0.25019 | 631200.63 | 4174900.44 | 0.37174 |
| 631550.63 | 4174900.44 | 0.48126 | 631900.63 | 4174900.44 | 0.68227 |
| 632250.63 | 4174900.44 | 0.60987 | 632600.63 | 4174900.44 | 0.46549 |
| 632950.63 | 4174900.44 | 0.39599 | 633300.63 | 4174900.44 | 0.34393 |
| 629800.63 | 4175250.44 | 0.11135 | 630150.63 | 4175250.44 | 0.15542 |
| 630500.63 | 4175250.44 | 0.23666 | 630850.63 | 4175250.44 | 0.41696 |
| 631200.63 | 4175250.44 | 0.81240 | 631550.63 | 4175250.44 | 1.47504 |
| 631900.63 | 4175250.44 | 2.15547 | 632250.63 | 4175250.44 | 1.26496 |
| 632600.63 | 4175250.44 | 0.88849 | 632950.63 | 4175250.44 | 0.67304 |
| 633300.63 | 4175250.44 | 0.52295 | 629800.63 | 4175600.44 | 0.12197 |
| 630150.63 | 4175600.44 | 0.17733 | 630500.63 | 4175600.44 | 0.29104 |
| 630850.63 | 4175600.44 | 0.61526 | 631200.63 | 4175600.44 | 2.49782 |
| 631550.63 | 4175600.44 | 29.16184 | 631900.63 | 4175600.44 | 7.93795 |
| 632250.63 | 4175600.44 | 2.64650 | 632600.63 | 4175600.44 | 1.44984 |
| 632950.63 | 4175600.44 | 0.93518 | 633300.63 | 4175600.44 | 0.66221 |
| 629800.63 | 4175950.44 | 0.12607 | 630150.63 | 4175950.44 | 0.18691 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK25 ***

INCLUDING SOURCE(S): STCK25 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.32028 | 630850.63 | 4175950.44 | 0.80031 |
| 631200.63 | 4175950.44 | 3.21609 | 631550.63 | 4175950.44 | 3.74960 |
| 631900.63 | 4175950.44 | 3.13576 | 632250.63 | 4175950.44 | 1.87734 |
| 632600.63 | 4175950.44 | 1.18421 | 632950.63 | 4175950.44 | 0.81768 |
| 633300.63 | 4175950.44 | 0.60065 | 629800.63 | 4176300.44 | 0.13533 |
| 630150.63 | 4176300.44 | 0.20963 | 630500.63 | 4176300.44 | 0.37292 |
| 630850.63 | 4176300.44 | 0.81565 | 631200.63 | 4176300.44 | 1.34759 |
| 631550.63 | 4176300.44 | 1.35792 | 631900.63 | 4176300.44 | 1.19542 |
| 632250.63 | 4176300.44 | 0.87547 | 632600.63 | 4176300.44 | 0.65476 |
| 632950.63 | 4176300.44 | 0.52234 | 633300.63 | 4176300.44 | 0.42294 |
| 629800.63 | 4176650.44 | 0.14724 | 630150.63 | 4176650.44 | 0.21801 |
| 630500.63 | 4176650.44 | 0.34823 | 630850.63 | 4176650.44 | 0.54540 |
| 631200.63 | 4176650.44 | 0.71943 | 631550.63 | 4176650.44 | 0.72558 |
| 631900.63 | 4176650.44 | 0.61912 | 632250.63 | 4176650.44 | 0.53449 |
| 632600.63 | 4176650.44 | 0.42062 | 632950.63 | 4176650.44 | 0.34142 |
| 633300.63 | 4176650.44 | 0.29207 | 629800.63 | 4177000.44 | 0.14648 |
| 630150.63 | 4177000.44 | 0.20380 | 630500.63 | 4177000.44 | 0.27785 |
| 630850.63 | 4177000.44 | 0.35938 | 631200.63 | 4177000.44 | 0.43588 |
| 631550.63 | 4177000.44 | 0.43086 | 631900.63 | 4177000.44 | 0.38732 |
| 632250.63 | 4177000.44 | 0.35245 | 632600.63 | 4177000.44 | 0.30241 |
| 632950.63 | 4177000.44 | 0.25615 | 633300.63 | 4177000.44 | 0.21696 |
| 629800.63 | 4177350.44 | 0.13829 | 630150.63 | 4177350.44 | 0.17575 |
| 630500.63 | 4177350.44 | 0.21572 | 630850.63 | 4177350.44 | 0.25413 |
| 631200.63 | 4177350.44 | 0.28800 | 631550.63 | 4177350.44 | 0.28591 |
| 631900.63 | 4177350.44 | 0.26902 | 632250.63 | 4177350.44 | 0.23919 |
| 632600.63 | 4177350.44 | 0.22964 | 632950.63 | 4177350.44 | 0.19993 |
| 633300.63 | 4177350.44 | 0.17600 | 631670.70 | 4175493.59 | 8.51785 |
| 631669.80 | 4175641.41 | 29.34453 | 631665.32 | 4175796.39 | 11.31110 |
| 631417.17 | 4175826.85 | 13.01970 | 631417.17 | 4175673.66 | 53.70963 |
| 631422.55 | 4175484.63 | 2.61763 | 631268.42 | 4175983.74 | 3.61018 |
| 631275.69 | 4175523.99 | 2.62460 | 631345.65 | 4175419.50 | 2.10933 |
| 631384.72 | 4175441.30 | 3.94139 | 631491.93 | 4175442.21 | 4.70893 |
| 631491.93 | 4175414.95 | 2.89783 | 631385.63 | 4175413.14 | 2.35063 |
| 631358.37 | 4175395.87 | 1.93565 | 631409.25 | 4175336.81 | 1.58812 |
| 631567.35 | 4175235.96 | 1.45373 | 631756.33 | 4175028.80 | 0.93003 |
| 631807.22 | 4175003.36 | 0.89275 | 631867.18 | 4174987.91 | 0.88053 |
| 631849.92 | 4175988.28 | 2.75216 | 631268.74 | 4175963.75 | 3.89037 |
| 631269.05 | 4175943.76 | 4.18723 | 631269.37 | 4175923.77 | 4.51023 |
| 631269.68 | 4175903.78 | 5.09873 | 631270.00 | 4175883.79 | 5.83388 |
| 631270.32 | 4175863.81 | 7.25740 | 631270.63 | 4175843.82 | 7.04375 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK25 ***

INCLUDING SOURCE(S): STCK25 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 8.72395 | 631271.26 | 4175803.84 | 7.97797 |
| 631271.58 | 4175783.85 | 7.43178 | 631271.90 | 4175763.86 | 7.91683 |
| 631272.21 | 4175743.87 | 7.34674 | 631272.53 | 4175723.88 | 6.54336 |
| 631272.85 | 4175703.89 | 6.05152 | 631273.16 | 4175683.90 | 5.64406 |
| 631273.48 | 4175663.91 | 5.34433 | 631273.79 | 4175643.92 | 4.69617 |
| 631274.11 | 4175623.94 | 4.57752 | 631274.43 | 4175603.95 | 4.25665 |
| 631274.74 | 4175583.96 | 3.66129 | 631275.06 | 4175563.97 | 3.34817 |
| 631275.37 | 4175543.98 | 2.98910 | 631285.68 | 4175509.06 | 2.57229 |
| 631295.68 | 4175494.14 | 2.55569 | 631305.67 | 4175479.21 | 2.56503 |
| 631315.67 | 4175464.28 | 2.64857 | 631325.66 | 4175449.35 | 2.37992 |
| 631335.66 | 4175434.43 | 2.20064 | 631358.67 | 4175426.77 | 2.32270 |
| 631371.70 | 4175434.03 | 2.69601 | 631402.59 | 4175441.45 | 4.37953 |
| 631420.46 | 4175441.60 | 4.36178 | 631438.33 | 4175441.76 | 4.19788 |
| 631456.19 | 4175441.91 | 4.11368 | 631474.06 | 4175442.06 | 4.42445 |
| 631491.93 | 4175428.58 | 3.28776 | 631474.21 | 4175414.65 | 2.85734 |
| 631456.50 | 4175414.35 | 2.87129 | 631438.78 | 4175414.05 | 2.83781 |
| 631421.06 | 4175413.74 | 2.67529 | 631403.35 | 4175413.44 | 2.51721 |
| 631372.00 | 4175404.51 | 2.09984 | 631371.09 | 4175381.11 | 1.85168 |
| 631383.81 | 4175366.34 | 1.76818 | 631396.53 | 4175351.58 | 1.67407 |
| 631425.06 | 4175326.73 | 1.54430 | 631440.87 | 4175316.64 | 1.50394 |
| 631456.68 | 4175306.56 | 1.47441 | 631472.49 | 4175296.47 | 1.45843 |
| 631488.30 | 4175286.39 | 1.43945 | 631504.11 | 4175276.30 | 1.43405 |
| 631519.92 | 4175266.22 | 1.43591 | 631535.73 | 4175256.13 | 1.44297 |
| 631551.54 | 4175246.05 | 1.45114 | 631579.95 | 4175222.15 | 1.41735 |
| 631592.55 | 4175208.34 | 1.38094 | 631605.15 | 4175194.53 | 1.34491 |
| 631617.74 | 4175180.72 | 1.30874 | 631630.34 | 4175166.91 | 1.27379 |
| 631642.94 | 4175153.10 | 1.23836 | 631655.54 | 4175139.29 | 1.20235 |
| 631668.14 | 4175125.47 | 1.16660 | 631680.74 | 4175111.66 | 1.13172 |
| 631693.34 | 4175097.85 | 1.09711 | 631705.94 | 4175084.04 | 1.06291 |
| 631718.53 | 4175070.23 | 1.02911 | 631731.13 | 4175056.42 | 0.99571 |
| 631743.73 | 4175042.61 | 0.96299 | 631773.29 | 4175020.32 | 0.91825 |
| 631790.26 | 4175011.84 | 0.90607 | 631822.21 | 4174999.50 | 0.89100 |
| 631837.20 | 4174995.64 | 0.88857 | 631852.19 | 4174991.77 | 0.88507 |
| 631866.84 | 4175007.53 | 0.93961 | 631866.50 | 4175027.14 | 1.00349 |
| 631866.16 | 4175046.76 | 1.07371 | 631865.83 | 4175066.37 | 1.14939 |
| 631865.49 | 4175085.99 | 1.23265 | 631865.15 | 4175105.60 | 1.32327 |
| 631864.81 | 4175125.22 | 1.42160 | 631864.47 | 4175144.83 | 1.52793 |
| 631864.13 | 4175164.45 | 1.64284 | 631863.80 | 4175184.06 | 1.76511 |
| 631863.46 | 4175203.68 | 1.89637 | 631863.12 | 4175223.29 | 2.03890 |
| 631862.78 | 4175242.91 | 2.18996 | 631862.44 | 4175262.52 | 2.35032 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK25 ***

INCLUDING SOURCE(S): STCK25 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.52196 | 631861.77 | 4175301.75 | 2.70463 |
| 631861.43 | 4175321.37 | 2.89906 | 631861.09 | 4175340.98 | 3.10795 |
| 631860.75 | 4175360.60 | 3.33395 | 631860.41 | 4175380.21 | 3.57914 |
| 631860.07 | 4175399.83 | 3.85156 | 631859.73 | 4175419.44 | 4.15461 |
| 631859.40 | 4175439.06 | 4.49500 | 631859.06 | 4175458.67 | 4.88328 |
| 631858.72 | 4175478.29 | 5.32922 | 631858.38 | 4175497.90 | 5.84236 |
| 631858.04 | 4175517.52 | 6.43069 | 631857.70 | 4175537.13 | 7.09170 |
| 631857.37 | 4175556.75 | 7.82258 | 631857.03 | 4175576.36 | 8.60873 |
| 631856.69 | 4175595.98 | 9.41226 | 631856.35 | 4175615.59 | 10.16273 |
| 631856.01 | 4175635.21 | 10.76873 | 631855.67 | 4175654.82 | 11.15063 |
| 631855.33 | 4175674.44 | 11.28040 | 631855.00 | 4175694.05 | 11.17797 |
| 631854.66 | 4175713.67 | 10.88176 | 631854.32 | 4175733.28 | 10.41304 |
| 631853.98 | 4175752.90 | 9.77910 | 631853.64 | 4175772.51 | 8.99867 |
| 631853.30 | 4175792.13 | 8.12189 | 631852.97 | 4175811.74 | 7.23388 |
| 631852.63 | 4175831.36 | 6.41030 | 631852.29 | 4175850.97 | 5.68045 |
| 631851.95 | 4175870.59 | 5.03780 | 631851.61 | 4175890.20 | 4.47615 |
| 631851.27 | 4175909.82 | 3.99404 | 631850.94 | 4175929.43 | 3.58960 |
| 631850.60 | 4175949.05 | 3.25477 | 631850.26 | 4175968.66 | 2.97970 |
| 631830.54 | 4175988.13 | 2.78384 | 631811.15 | 4175987.98 | 2.81167 |
| 631791.77 | 4175987.83 | 2.83832 | 631772.39 | 4175987.67 | 2.86141 |
| 631753.00 | 4175987.52 | 2.88143 | 631733.62 | 4175987.37 | 2.89706 |
| 631714.24 | 4175987.22 | 2.91016 | 631694.85 | 4175987.07 | 2.91877 |
| 631675.47 | 4175986.92 | 2.92648 | 631656.09 | 4175986.77 | 2.92776 |
| 631636.70 | 4175986.62 | 2.92200 | 631617.32 | 4175986.46 | 2.92187 |
| 631597.94 | 4175986.31 | 2.95588 | 631578.55 | 4175986.16 | 3.01308 |
| 631559.17 | 4175986.01 | 3.07657 | 631539.79 | 4175985.86 | 3.15975 |
| 631520.40 | 4175985.71 | 3.24819 | 631501.02 | 4175985.56 | 3.35251 |
| 631481.64 | 4175985.40 | 3.56373 | 631462.25 | 4175985.25 | 3.91514 |
| 631442.87 | 4175985.10 | 4.18566 | 631423.49 | 4175984.95 | 4.23192 |
| 631404.10 | 4175984.80 | 4.25557 | 631384.72 | 4175984.65 | 4.03816 |
| 631365.34 | 4175984.50 | 3.94090 | 631345.95 | 4175984.35 | 3.87616 |
| 631326.57 | 4175984.19 | 3.82880 | 631307.19 | 4175984.04 | 3.78555 |
| 631287.80 | 4175983.89 | 3.71460 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK26 ***

INCLUDING SOURCE(S): STCK26 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.91966 | 632304.44 | 4174354.52 | 0.27656 |
| 632192.15 | 4174956.32 | 0.85546 | 632420.62 | 4175510.15 | 1.93432 |
| 632418.97 | 4175552.92 | 1.98203 | 631187.00 | 4175727.00 | 3.40009 |
| 631166.00 | 4175729.00 | 2.98190 | 631121.00 | 4175719.00 | 2.20353 |
| 631035.00 | 4174830.00 | 0.32359 | 631106.00 | 4174825.00 | 0.34898 |
| 631937.00 | 4174528.00 | 0.34649 | 631322.00 | 4174522.00 | 0.22850 |
| 629800.63 | 4173850.44 | 0.05786 | 630150.63 | 4173850.44 | 0.06832 |
| 630500.63 | 4173850.44 | 0.08135 | 630850.63 | 4173850.44 | 0.09463 |
| 631200.63 | 4173850.44 | 0.09895 | 631550.63 | 4173850.44 | 0.10699 |
| 631900.63 | 4173850.44 | 0.12751 | 632250.63 | 4173850.44 | 0.13906 |
| 632600.63 | 4173850.44 | 0.14876 | 632950.63 | 4173850.44 | 0.14730 |
| 633300.63 | 4173850.44 | 0.13329 | 629800.63 | 4174200.44 | 0.06894 |
| 630150.63 | 4174200.44 | 0.08289 | 630500.63 | 4174200.44 | 0.10286 |
| 630850.63 | 4174200.44 | 0.12813 | 631200.63 | 4174200.44 | 0.14333 |
| 631550.63 | 4174200.44 | 0.15877 | 631900.63 | 4174200.44 | 0.19553 |
| 632250.63 | 4174200.44 | 0.21675 | 632600.63 | 4174200.44 | 0.22117 |
| 632950.63 | 4174200.44 | 0.19688 | 633300.63 | 4174200.44 | 0.17346 |
| 629800.63 | 4174550.44 | 0.08399 | 630150.63 | 4174550.44 | 0.10417 |
| 630500.63 | 4174550.44 | 0.13445 | 630850.63 | 4174550.44 | 0.18313 |
| 631200.63 | 4174550.44 | 0.23345 | 631550.63 | 4174550.44 | 0.27409 |
| 631900.63 | 4174550.44 | 0.35774 | 632250.63 | 4174550.44 | 0.38375 |
| 632600.63 | 4174550.44 | 0.32996 | 632950.63 | 4174550.44 | 0.28046 |
| 633300.63 | 4174550.44 | 0.25075 | 629800.63 | 4174900.44 | 0.10123 |
| 630150.63 | 4174900.44 | 0.13399 | 630500.63 | 4174900.44 | 0.18576 |
| 630850.63 | 4174900.44 | 0.28121 | 631200.63 | 4174900.44 | 0.44651 |
| 631550.63 | 4174900.44 | 0.62250 | 631900.63 | 4174900.44 | 0.89966 |
| 632250.63 | 4174900.44 | 0.71943 | 632600.63 | 4174900.44 | 0.55033 |
| 632950.63 | 4174900.44 | 0.46183 | 633300.63 | 4174900.44 | 0.39122 |
| 629800.63 | 4175250.44 | 0.11479 | 630150.63 | 4175250.44 | 0.16252 |
| 630500.63 | 4175250.44 | 0.25479 | 630850.63 | 4175250.44 | 0.47793 |
| 631200.63 | 4175250.44 | 1.06245 | 631550.63 | 4175250.44 | 2.46506 |
| 631900.63 | 4175250.44 | 2.89786 | 632250.63 | 4175250.44 | 1.61188 |
| 632600.63 | 4175250.44 | 1.06695 | 632950.63 | 4175250.44 | 0.76453 |
| 633300.63 | 4175250.44 | 0.57399 | 629800.63 | 4175600.44 | 0.12346 |
| 630150.63 | 4175600.44 | 0.18078 | 630500.63 | 4175600.44 | 0.30012 |
| 630850.63 | 4175600.44 | 0.64526 | 631200.63 | 4175600.44 | 3.15964 |
| 631550.63 | 4175600.44 | 179.67875 | 631900.63 | 4175600.44 | 8.60852 |
| 632250.63 | 4175600.44 | 2.75834 | 632600.63 | 4175600.44 | 1.48579 |
| 632950.63 | 4175600.44 | 0.94883 | 633300.63 | 4175600.44 | 0.66842 |
| 629800.63 | 4175950.44 | 0.12758 | 630150.63 | 4175950.44 | 0.19135 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK26 ***

INCLUDING SOURCE(S): STCK26 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.33908 | 630850.63 | 4175950.44 | 0.87524 |
| 631200.63 | 4175950.44 | 2.63914 | 631550.63 | 4175950.44 | 2.45197 |
| 631900.63 | 4175950.44 | 2.03517 | 632250.63 | 4175950.44 | 1.47373 |
| 632600.63 | 4175950.44 | 1.00387 | 632950.63 | 4175950.44 | 0.72792 |
| 633300.63 | 4175950.44 | 0.55124 | 629800.63 | 4176300.44 | 0.13968 |
| 630150.63 | 4176300.44 | 0.21552 | 630500.63 | 4176300.44 | 0.37621 |
| 630850.63 | 4176300.44 | 0.76662 | 631200.63 | 4176300.44 | 1.11309 |
| 631550.63 | 4176300.44 | 1.10401 | 631900.63 | 4176300.44 | 0.96539 |
| 632250.63 | 4176300.44 | 0.74945 | 632600.63 | 4176300.44 | 0.56234 |
| 632950.63 | 4176300.44 | 0.45811 | 633300.63 | 4176300.44 | 0.37942 |
| 629800.63 | 4176650.44 | 0.14807 | 630150.63 | 4176650.44 | 0.21610 |
| 630500.63 | 4176650.44 | 0.33292 | 630850.63 | 4176650.44 | 0.49351 |
| 631200.63 | 4176650.44 | 0.63581 | 631550.63 | 4176650.44 | 0.62628 |
| 631900.63 | 4176650.44 | 0.53592 | 632250.63 | 4176650.44 | 0.47733 |
| 632600.63 | 4176650.44 | 0.38117 | 632950.63 | 4176650.44 | 0.31101 |
| 633300.63 | 4176650.44 | 0.26502 | 629800.63 | 4177000.44 | 0.14490 |
| 630150.63 | 4177000.44 | 0.19675 | 630500.63 | 4177000.44 | 0.25966 |
| 630850.63 | 4177000.44 | 0.32647 | 631200.63 | 4177000.44 | 0.39133 |
| 631550.63 | 4177000.44 | 0.38407 | 631900.63 | 4177000.44 | 0.34972 |
| 632250.63 | 4177000.44 | 0.31417 | 632600.63 | 4177000.44 | 0.27913 |
| 632950.63 | 4177000.44 | 0.23812 | 633300.63 | 4177000.44 | 0.20356 |
| 629800.63 | 4177350.44 | 0.13458 | 630150.63 | 4177350.44 | 0.16725 |
| 630500.63 | 4177350.44 | 0.20153 | 630850.63 | 4177350.44 | 0.23468 |
| 631200.63 | 4177350.44 | 0.26220 | 631550.63 | 4177350.44 | 0.26007 |
| 631900.63 | 4177350.44 | 0.24675 | 632250.63 | 4177350.44 | 0.21848 |
| 632600.63 | 4177350.44 | 0.21213 | 632950.63 | 4177350.44 | 0.18783 |
| 633300.63 | 4177350.44 | 0.16600 | 631670.70 | 4175493.59 | 16.56340 |
| 631669.80 | 4175641.41 | 27.38328 | 631665.32 | 4175796.39 | 4.49687 |
| 631417.17 | 4175826.85 | 6.10672 | 631417.17 | 4175673.66 | 35.80115 |
| 631422.55 | 4175484.63 | 4.31309 | 631268.42 | 4175983.74 | 2.55610 |
| 631275.69 | 4175523.99 | 4.15675 | 631345.65 | 4175419.50 | 3.57190 |
| 631384.72 | 4175441.30 | 6.63865 | 631491.93 | 4175442.21 | 13.25759 |
| 631491.93 | 4175414.95 | 6.12758 | 631385.63 | 4175413.14 | 4.24679 |
| 631358.37 | 4175395.87 | 3.26775 | 631409.25 | 4175336.81 | 2.66867 |
| 631567.35 | 4175235.96 | 2.41039 | 631756.33 | 4175028.80 | 1.32009 |
| 631807.22 | 4175003.36 | 1.24236 | 631867.18 | 4174987.91 | 1.20091 |
| 631849.92 | 4175988.28 | 1.86539 | 631268.74 | 4175963.75 | 2.75307 |
| 631269.05 | 4175943.76 | 2.99937 | 631269.37 | 4175923.77 | 3.43016 |
| 631269.68 | 4175903.78 | 5.17515 | 631270.00 | 4175883.79 | 6.61512 |
| 631270.32 | 4175863.81 | 6.51706 | 631270.63 | 4175843.82 | 7.07152 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK26 ***

INCLUDING SOURCE(S): STCK26 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 7.63672 | 631271.26 | 4175803.84 | 8.20797 |
| 631271.58 | 4175783.85 | 8.72107 | 631271.90 | 4175763.86 | 8.93242 |
| 631272.21 | 4175743.87 | 9.31496 | 631272.53 | 4175723.88 | 9.45916 |
| 631272.85 | 4175703.89 | 9.14590 | 631273.16 | 4175683.90 | 8.22584 |
| 631273.48 | 4175663.91 | 7.74278 | 631273.79 | 4175643.92 | 6.78217 |
| 631274.11 | 4175623.94 | 6.39786 | 631274.43 | 4175603.95 | 6.33223 |
| 631274.74 | 4175583.96 | 5.78853 | 631275.06 | 4175563.97 | 5.07394 |
| 631275.37 | 4175543.98 | 4.52566 | 631285.68 | 4175509.06 | 4.09786 |
| 631295.68 | 4175494.14 | 3.99327 | 631305.67 | 4175479.21 | 4.16777 |
| 631315.67 | 4175464.28 | 4.18239 | 631325.66 | 4175449.35 | 3.94721 |
| 631335.66 | 4175434.43 | 3.72753 | 631358.67 | 4175426.77 | 4.05033 |
| 631371.70 | 4175434.03 | 4.90573 | 631402.59 | 4175441.45 | 7.46456 |
| 631420.46 | 4175441.60 | 7.62103 | 631438.33 | 4175441.76 | 7.75444 |
| 631456.19 | 4175441.91 | 8.05035 | 631474.06 | 4175442.06 | 10.33325 |
| 631491.93 | 4175428.58 | 7.21830 | 631474.21 | 4175414.65 | 5.79446 |
| 631456.50 | 4175414.35 | 5.67888 | 631438.78 | 4175414.05 | 5.44460 |
| 631421.06 | 4175413.74 | 5.07278 | 631403.35 | 4175413.44 | 4.61543 |
| 631372.00 | 4175404.51 | 3.66213 | 631371.09 | 4175381.11 | 3.13889 |
| 631383.81 | 4175366.34 | 2.98372 | 631396.53 | 4175351.58 | 2.82086 |
| 631425.06 | 4175326.73 | 2.58572 | 631440.87 | 4175316.64 | 2.51329 |
| 631456.68 | 4175306.56 | 2.45691 | 631472.49 | 4175296.47 | 2.41892 |
| 631488.30 | 4175286.39 | 2.39360 | 631504.11 | 4175276.30 | 2.37979 |
| 631519.92 | 4175266.22 | 2.39435 | 631535.73 | 4175256.13 | 2.40676 |
| 631551.54 | 4175246.05 | 2.41281 | 631579.95 | 4175222.15 | 2.32856 |
| 631592.55 | 4175208.34 | 2.24471 | 631605.15 | 4175194.53 | 2.16323 |
| 631617.74 | 4175180.72 | 2.08057 | 631630.34 | 4175166.91 | 2.00271 |
| 631642.94 | 4175153.10 | 1.92557 | 631655.54 | 4175139.29 | 1.84871 |
| 631668.14 | 4175125.47 | 1.77434 | 631680.74 | 4175111.66 | 1.70194 |
| 631693.34 | 4175097.85 | 1.63302 | 631705.94 | 4175084.04 | 1.56566 |
| 631718.53 | 4175070.23 | 1.50055 | 631731.13 | 4175056.42 | 1.43808 |
| 631743.73 | 4175042.61 | 1.37781 | 631773.29 | 4175020.32 | 1.29586 |
| 631790.26 | 4175011.84 | 1.27045 | 631822.21 | 4174999.50 | 1.23455 |
| 631837.20 | 4174995.64 | 1.22574 | 631852.19 | 4174991.77 | 1.21441 |
| 631866.84 | 4175007.53 | 1.28856 | 631866.50 | 4175027.14 | 1.38267 |
| 631866.16 | 4175046.76 | 1.48395 | 631865.83 | 4175066.37 | 1.59417 |
| 631865.49 | 4175085.99 | 1.71334 | 631865.15 | 4175105.60 | 1.84052 |
| 631864.81 | 4175125.22 | 1.97735 | 631864.47 | 4175144.83 | 2.12310 |
| 631864.13 | 4175164.45 | 2.27875 | 631863.80 | 4175184.06 | 2.44507 |
| 631863.46 | 4175203.68 | 2.62237 | 631863.12 | 4175223.29 | 2.81223 |
| 631862.78 | 4175242.91 | 3.01732 | 631862.44 | 4175262.52 | 3.24000 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK26 ***

INCLUDING SOURCE(S): STCK26 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 3.48402 | 631861.77 | 4175301.75 | 3.75378 |
| 631861.43 | 4175321.37 | 4.05557 | 631861.09 | 4175340.98 | 4.39560 |
| 631860.75 | 4175360.60 | 4.78378 | 631860.41 | 4175380.21 | 5.22996 |
| 631860.07 | 4175399.83 | 5.74298 | 631859.73 | 4175419.44 | 6.32832 |
| 631859.40 | 4175439.06 | 6.98546 | 631859.06 | 4175458.67 | 7.70729 |
| 631858.72 | 4175478.29 | 8.48012 | 631858.38 | 4175497.90 | 9.26892 |
| 631858.04 | 4175517.52 | 10.00633 | 631857.70 | 4175537.13 | 10.59968 |
| 631857.37 | 4175556.75 | 10.97202 | 631857.03 | 4175576.36 | 11.10341 |
| 631856.69 | 4175595.98 | 11.02379 | 631856.35 | 4175615.59 | 10.76129 |
| 631856.01 | 4175635.21 | 10.31563 | 631855.67 | 4175654.82 | 9.68366 |
| 631855.33 | 4175674.44 | 8.88511 | 631855.00 | 4175694.05 | 7.98100 |
| 631854.66 | 4175713.67 | 7.05918 | 631854.32 | 4175733.28 | 6.20200 |
| 631853.98 | 4175752.90 | 5.44440 | 631853.64 | 4175772.51 | 4.78944 |
| 631853.30 | 4175792.13 | 4.22748 | 631852.97 | 4175811.74 | 3.75123 |
| 631852.63 | 4175831.36 | 3.35487 | 631852.29 | 4175850.97 | 3.03076 |
| 631851.95 | 4175870.59 | 2.76778 | 631851.61 | 4175890.20 | 2.55185 |
| 631851.27 | 4175909.82 | 2.37436 | 631850.94 | 4175929.43 | 2.22185 |
| 631850.60 | 4175949.05 | 2.08875 | 631850.26 | 4175968.66 | 1.96960 |
| 631830.54 | 4175988.13 | 1.87950 | 631811.15 | 4175987.98 | 1.89300 |
| 631791.77 | 4175987.83 | 1.90804 | 631772.39 | 4175987.67 | 1.92093 |
| 631753.00 | 4175987.52 | 1.92853 | 631733.62 | 4175987.37 | 1.92921 |
| 631714.24 | 4175987.22 | 1.92724 | 631694.85 | 4175987.07 | 1.92387 |
| 631675.47 | 4175986.92 | 1.92188 | 631656.09 | 4175986.77 | 1.93242 |
| 631636.70 | 4175986.62 | 1.95023 | 631617.32 | 4175986.46 | 1.98765 |
| 631597.94 | 4175986.31 | 2.03309 | 631578.55 | 4175986.16 | 2.08266 |
| 631559.17 | 4175986.01 | 2.13449 | 631539.79 | 4175985.86 | 2.17238 |
| 631520.40 | 4175985.71 | 2.21854 | 631501.02 | 4175985.56 | 2.29304 |
| 631481.64 | 4175985.40 | 2.41789 | 631462.25 | 4175985.25 | 2.57887 |
| 631442.87 | 4175985.10 | 2.69566 | 631423.49 | 4175984.95 | 2.71789 |
| 631404.10 | 4175984.80 | 2.72332 | 631384.72 | 4175984.65 | 2.73032 |
| 631365.34 | 4175984.50 | 2.69510 | 631345.95 | 4175984.35 | 2.64341 |
| 631326.57 | 4175984.19 | 2.59948 | 631307.19 | 4175984.04 | 2.58381 |
| 631287.80 | 4175983.89 | 2.57193 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK27 ***

INCLUDING SOURCE(S): STCK27 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.69698 | 632304.44 | 4174354.52 | 0.24126 |
| 632192.15 | 4174956.32 | 0.65105 | 632420.62 | 4175510.15 | 1.45546 |
| 632418.97 | 4175552.92 | 1.52714 | 631187.00 | 4175727.00 | 7.20754 |
| 631166.00 | 4175729.00 | 5.92590 | 631121.00 | 4175719.00 | 3.86267 |

| | | | | | |
|---|---|---|---|---|---|
| 631035.00 | 4174830.00 | 0.31188 | 631106.00 | 4174825.00 | 0.32286 |
| 631937.00 | 4174528.00 | 0.30282 | 631322.00 | 4174522.00 | 0.20396 |
| 629800.63 | 4173850.44 | 0.05834 | 630150.63 | 4173850.44 | 0.06869 |
| 630500.63 | 4173850.44 | 0.08064 | 630850.63 | 4173850.44 | 0.08942 |
| 631200.63 | 4173850.44 | 0.09113 | 631550.63 | 4173850.44 | 0.10362 |
| 631900.63 | 4173850.44 | 0.11946 | 632250.63 | 4173850.44 | 0.12813 |
| 632600.63 | 4173850.44 | 0.13574 | 632950.63 | 4173850.44 | 0.13283 |
| 633300.63 | 4173850.44 | 0.12033 | 629800.63 | 4174200.44 | 0.06930 |
| 630150.63 | 4174200.44 | 0.08374 | 630500.63 | 4174200.44 | 0.10303 |
| 630850.63 | 4174200.44 | 0.12314 | 631200.63 | 4174200.44 | 0.12926 |
| 631550.63 | 4174200.44 | 0.15243 | 631900.63 | 4174200.44 | 0.17841 |
| 632250.63 | 4174200.44 | 0.19410 | 632600.63 | 4174200.44 | 0.19421 |
| 632950.63 | 4174200.44 | 0.17304 | 633300.63 | 4174200.44 | 0.15378 |
| 629800.63 | 4174550.44 | 0.08477 | 630150.63 | 4174550.44 | 0.10504 |
| 630500.63 | 4174550.44 | 0.13640 | 630850.63 | 4174550.44 | 0.18079 |
| 631200.63 | 4174550.44 | 0.20522 | 631550.63 | 4174550.44 | 0.25979 |
| 631900.63 | 4174550.44 | 0.31251 | 632250.63 | 4174550.44 | 0.32356 |
| 632600.63 | 4174550.44 | 0.27752 | 632950.63 | 4174550.44 | 0.23927 |
| 633300.63 | 4174550.44 | 0.21612 | 629800.63 | 4174900.44 | 0.10497 |
| 630150.63 | 4174900.44 | 0.13747 | 630500.63 | 4174900.44 | 0.18960 |
| 630850.63 | 4174900.44 | 0.28687 | 631200.63 | 4174900.44 | 0.38962 |
| 631550.63 | 4174900.44 | 0.57403 | 631900.63 | 4174900.44 | 0.71534 |
| 632250.63 | 4174900.44 | 0.55836 | 632600.63 | 4174900.44 | 0.43864 |
| 632950.63 | 4174900.44 | 0.37722 | 633300.63 | 4174900.44 | 0.32778 |
| 629800.63 | 4175250.44 | 0.12390 | 630150.63 | 4175250.44 | 0.17722 |
| 630500.63 | 4175250.44 | 0.27892 | 630850.63 | 4175250.44 | 0.50977 |
| 631200.63 | 4175250.44 | 0.98666 | 631550.63 | 4175250.44 | 2.04487 |
| 631900.63 | 4175250.44 | 1.85590 | 632250.63 | 4175250.44 | 1.12658 |
| 632600.63 | 4175250.44 | 0.80610 | 632950.63 | 4175250.44 | 0.61548 |
| 633300.63 | 4175250.44 | 0.48249 | 629800.63 | 4175600.44 | 0.13726 |
| 630150.63 | 4175600.44 | 0.20669 | 630500.63 | 4175600.44 | 0.36106 |
| 630850.63 | 4175600.44 | 0.87232 | 631200.63 | 4175600.44 | 5.34712 |
| 631550.63 | 4175600.44 | 29.16895 | 631900.63 | 4175600.44 | 5.45667 |
| 632250.63 | 4175600.44 | 2.09509 | 632600.63 | 4175600.44 | 1.23025 |
| 632950.63 | 4175600.44 | 0.82377 | 633300.63 | 4175600.44 | 0.59732 |
| 629800.63 | 4175950.44 | 0.14265 | 630150.63 | 4175950.44 | 0.22031 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK27 ***

INCLUDING SOURCE(S): STCK27 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.41010 | 630850.63 | 4175950.44 | 1.20843 |
| 631200.63 | 4175950.44 | 4.44305 | 631550.63 | 4175950.44 | 3.34686 |
| 631900.63 | 4175950.44 | 2.78256 | 632250.63 | 4175950.44 | 1.58701 |
| 632600.63 | 4175950.44 | 1.03399 | 632950.63 | 4175950.44 | 0.73109 |

| | | | | | |
|---|---|---|---|---|---|
| 633300.63 | 4175950.44 | 0.54656 | 629800.63 | 4176300.44 | 0.15534 |
| 630150.63 | 4176300.44 | 0.25028 | 630500.63 | 4176300.44 | 0.46944 |
| 630850.63 | 4176300.44 | 1.02390 | 631200.63 | 4176300.44 | 1.44450 |
| 631550.63 | 4176300.44 | 1.23724 | 631900.63 | 4176300.44 | 1.08642 |
| 632250.63 | 4176300.44 | 0.78707 | 632600.63 | 4176300.44 | 0.60562 |
| 632950.63 | 4176300.44 | 0.48495 | 633300.63 | 4176300.44 | 0.39507 |
| 629800.63 | 4176650.44 | 0.16722 | 630150.63 | 4176650.44 | 0.25345 |
| 630500.63 | 4176650.44 | 0.40584 | 630850.63 | 4176650.44 | 0.60506 |
| 631200.63 | 4176650.44 | 0.74820 | 631550.63 | 4176650.44 | 0.70627 |
| 631900.63 | 4176650.44 | 0.60897 | 632250.63 | 4176650.44 | 0.49219 |
| 632600.63 | 4176650.44 | 0.38988 | 632950.63 | 4176650.44 | 0.32227 |
| 633300.63 | 4176650.44 | 0.27823 | 629800.63 | 4177000.44 | 0.16378 |
| 630150.63 | 4177000.44 | 0.22741 | 630500.63 | 4177000.44 | 0.30445 |
| 630850.63 | 4177000.44 | 0.38255 | 631200.63 | 4177000.44 | 0.43518 |
| 631550.63 | 4177000.44 | 0.42678 | 631900.63 | 4177000.44 | 0.36641 |
| 632250.63 | 4177000.44 | 0.34132 | 632600.63 | 4177000.44 | 0.28532 |
| 632950.63 | 4177000.44 | 0.24175 | 633300.63 | 4177000.44 | 0.20627 |
| 629800.63 | 4177350.44 | 0.15068 | 630150.63 | 4177350.44 | 0.18915 |
| 630500.63 | 4177350.44 | 0.22899 | 630850.63 | 4177350.44 | 0.26941 |
| 631200.63 | 4177350.44 | 0.28555 | 631550.63 | 4177350.44 | 0.28436 |
| 631900.63 | 4177350.44 | 0.25720 | 632250.63 | 4177350.44 | 0.23770 |
| 632600.63 | 4177350.44 | 0.22007 | 632950.63 | 4177350.44 | 0.19122 |
| 633300.63 | 4177350.44 | 0.16801 | 631670.70 | 4175493.59 | 6.41588 |
| 631669.80 | 4175641.41 | 17.57994 | 631665.32 | 4175796.39 | 9.87300 |
| 631417.17 | 4175826.85 | 7.19681 | 631417.17 | 4175673.66 | 83.98880 |
| 631422.55 | 4175484.63 | 5.06333 | 631268.42 | 4175983.74 | 3.80591 |
| 631275.69 | 4175523.99 | 4.83354 | 631345.65 | 4175419.50 | 2.59701 |
| 631384.72 | 4175441.30 | 4.26432 | 631491.93 | 4175442.21 | 11.68175 |
| 631491.93 | 4175414.95 | 4.80576 | 631385.63 | 4175413.14 | 3.18891 |
| 631358.37 | 4175395.87 | 2.39523 | 631409.25 | 4175336.81 | 2.11472 |
| 631567.35 | 4175235.96 | 1.96470 | 631756.33 | 4175028.80 | 1.03624 |
| 631807.22 | 4175003.36 | 0.96743 | 631867.18 | 4174987.91 | 0.92257 |
| 631849.92 | 4175988.28 | 2.48968 | 631268.74 | 4175963.75 | 4.21347 |
| 631269.05 | 4175943.76 | 4.73702 | 631269.37 | 4175923.77 | 6.07951 |
| 631269.68 | 4175903.78 | 8.01857 | 631270.00 | 4175883.79 | 7.90854 |
| 631270.32 | 4175863.81 | 8.38789 | 631270.63 | 4175843.82 | 10.03400 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK27 ***

INCLUDING SOURCE(S): STCK27 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 12.35618 | 631271.26 | 4175803.84 | 15.13205 |
| 631271.58 | 4175783.85 | 18.34279 | 631271.90 | 4175763.86 | 22.19423 |
| 631272.21 | 4175743.87 | 26.57681 | 631272.53 | 4175723.88 | 28.19009 |
| 631272.85 | 4175703.89 | 27.87743 | 631273.16 | 4175683.90 | 24.94755 |

| | | | | | |
|---|---|---|---|---|---|
| 631273.48 | 4175663.91 | 19.51150 | 631273.79 | 4175643.92 | 14.37557 |
| 631274.11 | 4175623.94 | 11.94346 | 631274.43 | 4175603.95 | 9.62098 |
| 631274.74 | 4175583.96 | 7.76374 | 631275.06 | 4175563.97 | 6.49953 |
| 631275.37 | 4175543.98 | 5.63275 | 631285.68 | 4175509.06 | 4.18202 |
| 631295.68 | 4175494.14 | 4.02573 | 631305.67 | 4175479.21 | 4.15835 |
| 631315.67 | 4175464.28 | 3.83400 | 631325.66 | 4175449.35 | 3.37944 |
| 631335.66 | 4175434.43 | 2.79088 | 631358.67 | 4175426.77 | 2.92099 |
| 631371.70 | 4175434.03 | 3.56065 | 631402.59 | 4175441.45 | 4.69277 |
| 631420.46 | 4175441.60 | 5.66921 | 631438.33 | 4175441.76 | 7.02198 |
| 631456.19 | 4175441.91 | 9.09244 | 631474.06 | 4175442.06 | 10.54480 |
| 631491.93 | 4175428.58 | 5.63061 | 631474.21 | 4175414.65 | 4.70474 |
| 631456.50 | 4175414.35 | 5.14750 | 631438.78 | 4175414.05 | 5.22057 |
| 631421.06 | 4175413.74 | 4.73264 | 631403.35 | 4175413.44 | 3.93664 |
| 631372.00 | 4175404.51 | 2.71707 | 631371.09 | 4175381.11 | 2.34124 |
| 631383.81 | 4175366.34 | 2.26245 | 631396.53 | 4175351.58 | 2.18398 |
| 631425.06 | 4175326.73 | 2.13150 | 631440.87 | 4175316.64 | 2.13661 |
| 631456.68 | 4175306.56 | 2.13583 | 631472.49 | 4175296.47 | 2.12435 |
| 631488.30 | 4175286.39 | 2.11184 | 631504.11 | 4175276.30 | 2.09392 |
| 631519.92 | 4175266.22 | 2.06816 | 631535.73 | 4175256.13 | 2.04080 |
| 631551.54 | 4175246.05 | 2.00309 | 631579.95 | 4175222.15 | 1.87931 |
| 631592.55 | 4175208.34 | 1.79856 | 631605.15 | 4175194.53 | 1.72221 |
| 631617.74 | 4175180.72 | 1.64912 | 631630.34 | 4175166.91 | 1.58127 |
| 631642.94 | 4175153.10 | 1.51487 | 631655.54 | 4175139.29 | 1.45144 |
| 631668.14 | 4175125.47 | 1.39060 | 631680.74 | 4175111.66 | 1.33295 |
| 631693.34 | 4175097.85 | 1.27767 | 631705.94 | 4175084.04 | 1.22488 |
| 631718.53 | 4175070.23 | 1.17448 | 631731.13 | 4175056.42 | 1.12632 |
| 631743.73 | 4175042.61 | 1.08027 | 631773.29 | 4175020.32 | 1.01396 |
| 631790.26 | 4175011.84 | 0.99036 | 631822.21 | 4174999.50 | 0.95719 |
| 631837.20 | 4174995.64 | 0.94642 | 631852.19 | 4174991.77 | 0.93449 |
| 631866.84 | 4175007.53 | 0.97757 | 631866.50 | 4175027.14 | 1.03622 |
| 631866.16 | 4175046.76 | 1.09804 | 631865.83 | 4175066.37 | 1.16322 |
| 631865.49 | 4175085.99 | 1.23193 | 631865.15 | 4175105.60 | 1.30453 |
| 631864.81 | 4175125.22 | 1.38143 | 631864.47 | 4175144.83 | 1.46100 |
| 631864.13 | 4175164.45 | 1.54452 | 631863.80 | 4175184.06 | 1.63212 |
| 631863.46 | 4175203.68 | 1.72423 | 631863.12 | 4175223.29 | 1.82193 |
| 631862.78 | 4175242.91 | 1.92574 | 631862.44 | 4175262.52 | 2.03647 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK27 ***

INCLUDING SOURCE(S): STCK27 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.15577 | 631861.77 | 4175301.75 | 2.28497 |
| 631861.43 | 4175321.37 | 2.42641 | 631861.09 | 4175340.98 | 2.58155 |
| 631860.75 | 4175360.60 | 2.75268 | 631860.41 | 4175380.21 | 2.94190 |
| 631860.07 | 4175399.83 | 3.15234 | 631859.73 | 4175419.44 | 3.38599 |

| | | | | | |
|---|---|---|---|---|---|
| 631859.40 | 4175439.06 | 3.64566 | 631859.06 | 4175458.67 | 3.93301 |
| 631858.72 | 4175478.29 | 4.24848 | 631858.38 | 4175497.90 | 4.58963 |
| 631858.04 | 4175517.52 | 4.95291 | 631857.70 | 4175537.13 | 5.33133 |
| 631857.37 | 4175556.75 | 5.71495 | 631857.03 | 4175576.36 | 6.08929 |
| 631856.69 | 4175595.98 | 6.43672 | 631856.35 | 4175615.59 | 6.73791 |
| 631856.01 | 4175635.21 | 6.97620 | 631855.67 | 4175654.82 | 7.13668 |
| 631855.33 | 4175674.44 | 7.20697 | 631855.00 | 4175694.05 | 7.17661 |
| 631854.66 | 4175713.67 | 7.04253 | 631854.32 | 4175733.28 | 6.81206 |
| 631853.98 | 4175752.90 | 6.50448 | 631853.64 | 4175772.51 | 6.14455 |
| 631853.30 | 4175792.13 | 5.75141 | 631852.97 | 4175811.74 | 5.33953 |
| 631852.63 | 4175831.36 | 4.92452 | 631852.29 | 4175850.97 | 4.52444 |
| 631851.95 | 4175870.59 | 4.15229 | 631851.61 | 4175890.20 | 3.81207 |
| 631851.27 | 4175909.82 | 3.49968 | 631850.94 | 4175929.43 | 3.21090 |
| 631850.60 | 4175949.05 | 2.94463 | 631850.26 | 4175968.66 | 2.70339 |
| 631830.54 | 4175988.13 | 2.51458 | 631811.15 | 4175987.98 | 2.53548 |
| 631791.77 | 4175987.83 | 2.55389 | 631772.39 | 4175987.67 | 2.57115 |
| 631753.00 | 4175987.52 | 2.58842 | 631733.62 | 4175987.37 | 2.60661 |
| 631714.24 | 4175987.22 | 2.62625 | 631694.85 | 4175987.07 | 2.64632 |
| 631675.47 | 4175986.92 | 2.66661 | 631656.09 | 4175986.77 | 2.68662 |
| 631636.70 | 4175986.62 | 2.70755 | 631617.32 | 4175986.46 | 2.73043 |
| 631597.94 | 4175986.31 | 2.75453 | 631578.55 | 4175986.16 | 2.78131 |
| 631559.17 | 4175986.01 | 2.80727 | 631539.79 | 4175985.86 | 2.82794 |
| 631520.40 | 4175985.71 | 2.85053 | 631501.02 | 4175985.56 | 2.88857 |
| 631481.64 | 4175985.40 | 2.95563 | 631462.25 | 4175985.25 | 3.06481 |
| 631442.87 | 4175985.10 | 3.29766 | 631423.49 | 4175984.95 | 3.50956 |
| 631404.10 | 4175984.80 | 3.69865 | 631384.72 | 4175984.65 | 3.69240 |
| 631365.34 | 4175984.50 | 3.61922 | 631345.95 | 4175984.35 | 3.61786 |
| 631326.57 | 4175984.19 | 3.68139 | 631307.19 | 4175984.04 | 3.74043 |
| 631287.80 | 4175983.89 | 3.79335 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK28 ***

INCLUDING SOURCE(S): STCK28 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.82386 | 632304.44 | 4174354.52 | 0.27653 |
| 632192.15 | 4174956.32 | 0.76938 | 632420.62 | 4175510.15 | 1.59140 |
| 632418.97 | 4175552.92 | 1.62324 | 631187.00 | 4175727.00 | 6.24249 |
| 631166.00 | 4175729.00 | 5.72443 | 631121.00 | 4175719.00 | 4.07630 |
| 631035.00 | 4174830.00 | 0.37226 | 631106.00 | 4174825.00 | 0.39104 |
| 631937.00 | 4174528.00 | 0.36301 | 631322.00 | 4174522.00 | 0.23745 |
| 629800.63 | 4173850.44 | 0.06112 | 630150.63 | 4173850.44 | 0.07253 |
| 630500.63 | 4173850.44 | 0.08618 | 630850.63 | 4173850.44 | 0.09733 |
| 631200.63 | 4173850.44 | 0.09976 | 631550.63 | 4173850.44 | 0.11425 |
| 631900.63 | 4173850.44 | 0.13221 | 632250.63 | 4173850.44 | 0.14269 |
| 632600.63 | 4173850.44 | 0.15016 | 632950.63 | 4173850.44 | 0.14324 |

| | | | | | |
|---|---|---|---|---|---|
| 633300.63 | 4173850.44 | 0.12815 | 629800.63 | 4174200.44 | 0.07319 |
| 630150.63 | 4174200.44 | 0.08899 | 630500.63 | 4174200.44 | 0.11110 |
| 630850.63 | 4174200.44 | 0.13605 | 631200.63 | 4174200.44 | 0.14493 |
| 631550.63 | 4174200.44 | 0.17272 | 631900.63 | 4174200.44 | 0.20368 |
| 632250.63 | 4174200.44 | 0.22207 | 632600.63 | 4174200.44 | 0.21480 |
| 632950.63 | 4174200.44 | 0.18770 | 633300.63 | 4174200.44 | 0.16770 |
| 629800.63 | 4174550.44 | 0.09017 | 630150.63 | 4174550.44 | 0.11298 |
| 630500.63 | 4174550.44 | 0.14867 | 630850.63 | 4174550.44 | 0.20346 |
| 631200.63 | 4174550.44 | 0.23906 | 631550.63 | 4174550.44 | 0.30803 |
| 631900.63 | 4174550.44 | 0.37613 | 632250.63 | 4174550.44 | 0.37345 |
| 632600.63 | 4174550.44 | 0.31004 | 632950.63 | 4174550.44 | 0.26902 |
| 633300.63 | 4174550.44 | 0.24224 | 629800.63 | 4174900.44 | 0.11096 |
| 630150.63 | 4174900.44 | 0.14885 | 630500.63 | 4174900.44 | 0.21057 |
| 630850.63 | 4174900.44 | 0.33125 | 631200.63 | 4174900.44 | 0.48792 |
| 631550.63 | 4174900.44 | 0.74938 | 631900.63 | 4174900.44 | 0.90424 |
| 632250.63 | 4174900.44 | 0.65345 | 632600.63 | 4174900.44 | 0.51737 |
| 632950.63 | 4174900.44 | 0.43623 | 633300.63 | 4174900.44 | 0.36974 |
| 629800.63 | 4175250.44 | 0.12820 | 630150.63 | 4175250.44 | 0.18685 |
| 630500.63 | 4175250.44 | 0.30605 | 630850.63 | 4175250.44 | 0.61353 |
| 631200.63 | 4175250.44 | 1.45582 | 631550.63 | 4175250.44 | 3.38057 |
| 631900.63 | 4175250.44 | 2.39117 | 632250.63 | 4175250.44 | 1.39497 |
| 632600.63 | 4175250.44 | 0.94634 | 632950.63 | 4175250.44 | 0.68961 |
| 633300.63 | 4175250.44 | 0.52510 | 629800.63 | 4175600.44 | 0.13922 |
| 630150.63 | 4175600.44 | 0.21146 | 630500.63 | 4175600.44 | 0.37526 |
| 630850.63 | 4175600.44 | 0.93233 | 631200.63 | 4175600.44 | 7.15002 |
| 631550.63 | 4175600.44 | 57.58289 | 631900.63 | 4175600.44 | 5.73451 |
| 632250.63 | 4175600.44 | 2.16105 | 632600.63 | 4175600.44 | 1.25530 |
| 632950.63 | 4175600.44 | 0.83402 | 633300.63 | 4175600.44 | 0.60220 |
| 629800.63 | 4175950.44 | 0.14477 | 630150.63 | 4175950.44 | 0.22716 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK28 ***

INCLUDING SOURCE(S): STCK28 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.43839 | 630850.63 | 4175950.44 | 1.22653 |
| 631200.63 | 4175950.44 | 2.78582 | 631550.63 | 4175950.44 | 2.37167 |
| 631900.63 | 4175950.44 | 1.94584 | 632250.63 | 4175950.44 | 1.30267 |
| 632600.63 | 4175950.44 | 0.89401 | 632950.63 | 4175950.44 | 0.65871 |
| 633300.63 | 4175950.44 | 0.50546 | 629800.63 | 4176300.44 | 0.16041 |
| 630150.63 | 4176300.44 | 0.25542 | 630500.63 | 4176300.44 | 0.46512 |
| 630850.63 | 4176300.44 | 0.89237 | 631200.63 | 4176300.44 | 1.18234 |
| 631550.63 | 4176300.44 | 1.05299 | 631900.63 | 4176300.44 | 0.94671 |
| 632250.63 | 4176300.44 | 0.69047 | 632600.63 | 4176300.44 | 0.52299 |
| 632950.63 | 4176300.44 | 0.42915 | 633300.63 | 4176300.44 | 0.35645 |
| 629800.63 | 4176650.44 | 0.16734 | 630150.63 | 4176650.44 | 0.24890 |

| | | | | | |
|---|---|---|---|---|---|
| 630500.63 | 4176650.44 | 0.37845 | 630850.63 | 4176650.44 | 0.53199 |
| 631200.63 | 4176650.44 | 0.64576 | 631550.63 | 4176650.44 | 0.62115 |
| 631900.63 | 4176650.44 | 0.53091 | 632250.63 | 4176650.44 | 0.44526 |
| 632600.63 | 4176650.44 | 0.35619 | 632950.63 | 4176650.44 | 0.29277 |
| 633300.63 | 4176650.44 | 0.25308 | 629800.63 | 4177000.44 | 0.16105 |
| 630150.63 | 4177000.44 | 0.21689 | 630500.63 | 4177000.44 | 0.28126 |
| 630850.63 | 4177000.44 | 0.34558 | 631200.63 | 4177000.44 | 0.38631 |
| 631550.63 | 4177000.44 | 0.38297 | 631900.63 | 4177000.44 | 0.33121 |
| 632250.63 | 4177000.44 | 0.31055 | 632600.63 | 4177000.44 | 0.26360 |
| 632950.63 | 4177000.44 | 0.22600 | 633300.63 | 4177000.44 | 0.19318 |
| 629800.63 | 4177350.44 | 0.14552 | 630150.63 | 4177350.44 | 0.17871 |
| 630500.63 | 4177350.44 | 0.21234 | 630850.63 | 4177350.44 | 0.24813 |
| 631200.63 | 4177350.44 | 0.25927 | 631550.63 | 4177350.44 | 0.25928 |
| 631900.63 | 4177350.44 | 0.23736 | 632250.63 | 4177350.44 | 0.21630 |
| 632600.63 | 4177350.44 | 0.20563 | 632950.63 | 4177350.44 | 0.17950 |
| 633300.63 | 4177350.44 | 0.15923 | 631670.70 | 4175493.59 | 11.57099 |
| 631669.80 | 4175641.41 | 17.30775 | 631665.32 | 4175796.39 | 4.30199 |
| 631417.17 | 4175826.85 | 4.11603 | 631417.17 | 4175673.66 | 18.64767 |
| 631422.55 | 4175484.63 | 5.78041 | 631268.42 | 4175983.74 | 2.51386 |
| 631275.69 | 4175523.99 | 12.00794 | 631345.65 | 4175419.50 | 5.53196 |
| 631384.72 | 4175441.30 | 9.04721 | 631491.93 | 4175442.21 | 15.83328 |
| 631491.93 | 4175414.95 | 9.78841 | 631385.63 | 4175413.14 | 6.31758 |
| 631358.37 | 4175395.87 | 4.70632 | 631409.25 | 4175336.81 | 3.82956 |
| 631567.35 | 4175235.96 | 3.18935 | 631756.33 | 4175028.80 | 1.41035 |
| 631807.22 | 4175003.36 | 1.27959 | 631867.18 | 4174987.91 | 1.18071 |
| 631849.92 | 4175988.28 | 1.81905 | 631268.74 | 4175963.75 | 2.69924 |
| 631269.05 | 4175943.76 | 2.91692 | 631269.37 | 4175923.77 | 3.41489 |
| 631269.68 | 4175903.78 | 3.80100 | 631270.00 | 4175883.79 | 2.97021 |
| 631270.32 | 4175863.81 | 2.64907 | 631270.63 | 4175843.82 | 2.68152 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK28 ***

INCLUDING SOURCE(S): STCK28 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 2.94338 | 631271.26 | 4175803.84 | 3.19175 |
| 631271.58 | 4175783.85 | 3.53527 | 631271.90 | 4175763.86 | 4.09634 |
| 631272.21 | 4175743.87 | 4.84377 | 631272.53 | 4175723.88 | 5.65615 |
| 631272.85 | 4175703.89 | 6.41041 | 631273.16 | 4175683.90 | 7.64845 |
| 631273.48 | 4175663.91 | 9.77610 | 631273.79 | 4175643.92 | 12.70020 |
| 631274.11 | 4175623.94 | 16.83669 | 631274.43 | 4175603.95 | 21.45340 |
| 631274.74 | 4175583.96 | 21.45314 | 631275.06 | 4175563.97 | 18.20460 |
| 631275.37 | 4175543.98 | 15.14943 | 631285.68 | 4175509.06 | 11.46777 |
| 631295.68 | 4175494.14 | 10.71885 | 631305.67 | 4175479.21 | 9.92374 |
| 631315.67 | 4175464.28 | 9.45075 | 631325.66 | 4175449.35 | 7.70434 |
| 631335.66 | 4175434.43 | 6.17789 | 631358.67 | 4175426.77 | 6.32809 |

| | | | | | |
|---|---|---|---|---|---|
| 631371.70 | 4175434.03 | 7.65870 | 631402.59 | 4175441.45 | 8.54650 |
| 631420.46 | 4175441.60 | 8.69370 | 631438.33 | 4175441.76 | 7.26274 |
| 631456.19 | 4175441.91 | 12.54554 | 631474.06 | 4175442.06 | 15.73379 |
| 631491.93 | 4175428.58 | 11.62075 | 631474.21 | 4175414.65 | 10.14107 |
| 631456.50 | 4175414.35 | 10.53666 | 631438.78 | 4175414.05 | 9.87888 |
| 631421.06 | 4175413.74 | 8.77112 | 631403.35 | 4175413.44 | 7.46233 |
| 631372.00 | 4175404.51 | 5.32388 | 631371.09 | 4175381.11 | 4.43301 |
| 631383.81 | 4175366.34 | 4.19958 | 631396.53 | 4175351.58 | 4.00794 |
| 631425.06 | 4175326.73 | 3.82452 | 631440.87 | 4175316.64 | 3.81840 |
| 631456.68 | 4175306.56 | 3.79034 | 631472.49 | 4175296.47 | 3.74632 |
| 631488.30 | 4175286.39 | 3.68044 | 631504.11 | 4175276.30 | 3.60363 |
| 631519.92 | 4175266.22 | 3.51225 | 631535.73 | 4175256.13 | 3.41059 |
| 631551.54 | 4175246.05 | 3.30181 | 631579.95 | 4175222.15 | 3.00390 |
| 631592.55 | 4175208.34 | 2.83235 | 631605.15 | 4175194.53 | 2.67256 |
| 631617.74 | 4175180.72 | 2.52428 | 631630.34 | 4175166.91 | 2.38721 |
| 631642.94 | 4175153.10 | 2.25805 | 631655.54 | 4175139.29 | 2.13761 |
| 631668.14 | 4175125.47 | 2.02491 | 631680.74 | 4175111.66 | 1.91944 |
| 631693.34 | 4175097.85 | 1.82069 | 631705.94 | 4175084.04 | 1.72804 |
| 631718.53 | 4175070.23 | 1.64099 | 631731.13 | 4175056.42 | 1.55929 |
| 631743.73 | 4175042.61 | 1.48252 | 631773.29 | 4175020.32 | 1.36671 |
| 631790.26 | 4175011.84 | 1.32264 | 631822.21 | 4174999.50 | 1.25610 |
| 631837.20 | 4174995.64 | 1.23160 | 631852.19 | 4174991.77 | 1.20649 |
| 631866.84 | 4175007.53 | 1.24954 | 631866.50 | 4175027.14 | 1.32210 |
| 631866.16 | 4175046.76 | 1.39833 | 631865.83 | 4175066.37 | 1.47829 |
| 631865.49 | 4175085.99 | 1.56247 | 631865.15 | 4175105.60 | 1.65186 |
| 631864.81 | 4175125.22 | 1.74737 | 631864.47 | 4175144.83 | 1.84755 |
| 631864.13 | 4175164.45 | 1.95477 | 631863.80 | 4175184.06 | 2.07044 |
| 631863.46 | 4175203.68 | 2.19482 | 631863.12 | 4175223.29 | 2.33130 |
| 631862.78 | 4175242.91 | 2.48048 | 631862.44 | 4175262.52 | 2.64419 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK28 ***

INCLUDING SOURCE(S): STCK28 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.82490 | 631861.77 | 4175301.75 | 3.02486 |
| 631861.43 | 4175321.37 | 3.24625 | 631861.09 | 4175340.98 | 3.49279 |
| 631860.75 | 4175360.60 | 3.76417 | 631860.41 | 4175380.21 | 4.06140 |
| 631860.07 | 4175399.83 | 4.38447 | 631859.73 | 4175419.44 | 4.73195 |
| 631859.40 | 4175439.06 | 5.09618 | 631859.06 | 4175458.67 | 5.47074 |
| 631858.72 | 4175478.29 | 5.84136 | 631858.38 | 4175497.90 | 6.19218 |
| 631858.04 | 4175517.52 | 6.50687 | 631857.70 | 4175537.13 | 6.77048 |
| 631857.37 | 4175556.75 | 6.96710 | 631857.03 | 4175576.36 | 7.07890 |
| 631856.69 | 4175595.98 | 7.09084 | 631856.35 | 4175615.59 | 6.99545 |
| 631856.01 | 4175635.21 | 6.79952 | 631855.67 | 4175654.82 | 6.52126 |
| 631855.33 | 4175674.44 | 6.18252 | 631855.00 | 4175694.05 | 5.80082 |

| | | | | | |
|---|---|---|---|---|---|
| 631854.66 | 4175713.67 | 5.39114 | 631854.32 | 4175733.28 | 4.97269 |
| 631853.98 | 4175752.90 | 4.56744 | 631853.64 | 4175772.51 | 4.19204 |
| 631853.30 | 4175792.13 | 3.84965 | 631852.97 | 4175811.74 | 3.53507 |
| 631852.63 | 4175831.36 | 3.24176 | 631852.29 | 4175850.97 | 2.96883 |
| 631851.95 | 4175870.59 | 2.71966 | 631851.61 | 4175890.20 | 2.49893 |
| 631851.27 | 4175909.82 | 2.30911 | 631850.94 | 4175929.43 | 2.15017 |
| 631850.60 | 4175949.05 | 2.01886 | 631850.26 | 4175968.66 | 1.91035 |
| 631830.54 | 4175988.13 | 1.84873 | 631811.15 | 4175987.98 | 1.87609 |
| 631791.77 | 4175987.83 | 1.89977 | 631772.39 | 4175987.67 | 1.91975 |
| 631753.00 | 4175987.52 | 1.93573 | 631733.62 | 4175987.37 | 1.95018 |
| 631714.24 | 4175987.22 | 1.96505 | 631694.85 | 4175987.07 | 1.98121 |
| 631675.47 | 4175986.92 | 1.99813 | 631656.09 | 4175986.77 | 2.01430 |
| 631636.70 | 4175986.62 | 2.02686 | 631617.32 | 4175986.46 | 2.03359 |
| 631597.94 | 4175986.31 | 2.03331 | 631578.55 | 4175986.16 | 2.02895 |
| 631559.17 | 4175986.01 | 2.02376 | 631539.79 | 4175985.86 | 2.02618 |
| 631520.40 | 4175985.71 | 2.04494 | 631501.02 | 4175985.56 | 2.08218 |
| 631481.64 | 4175985.40 | 2.14205 | 631462.25 | 4175985.25 | 2.22103 |
| 631442.87 | 4175985.10 | 2.30143 | 631423.49 | 4175984.95 | 2.39980 |
| 631404.10 | 4175984.80 | 2.48815 | 631384.72 | 4175984.65 | 2.48959 |
| 631365.34 | 4175984.50 | 2.44551 | 631345.95 | 4175984.35 | 2.42885 |
| 631326.57 | 4175984.19 | 2.44527 | 631307.19 | 4175984.04 | 2.47440 |
| 631287.80 | 4175983.89 | 2.49821 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK3 ***

INCLUDING SOURCE(S): STCK3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.03053 | 632304.44 | 4174354.52 | 0.26130 |
| 632192.15 | 4174956.32 | 1.09723 | 632420.62 | 4175510.15 | 3.99939 |
| 632418.97 | 4175552.92 | 4.04845 | 631187.00 | 4175727.00 | 0.77624 |
| 631166.00 | 4175729.00 | 0.72700 | 631121.00 | 4175719.00 | 0.62755 |
| 631035.00 | 4174830.00 | 0.20948 | 631106.00 | 4174825.00 | 0.22496 |
| 631937.00 | 4174528.00 | 0.27787 | 631322.00 | 4174522.00 | 0.18885 |
| 629800.63 | 4173850.44 | 0.04789 | 630150.63 | 4173850.44 | 0.05479 |
| 630500.63 | 4173850.44 | 0.06441 | 630850.63 | 4173850.44 | 0.07726 |
| 631200.63 | 4173850.44 | 0.08933 | 631550.63 | 4173850.44 | 0.09090 |
| 631900.63 | 4173850.44 | 0.10265 | 632250.63 | 4173850.44 | 0.12522 |
| 632600.63 | 4173850.44 | 0.13689 | 632950.63 | 4173850.44 | 0.14750 |
| 633300.63 | 4173850.44 | 0.14493 | 629800.63 | 4174200.44 | 0.05653 |
| 630150.63 | 4174200.44 | 0.06586 | 630500.63 | 4174200.44 | 0.07884 |
| 630850.63 | 4174200.44 | 0.09835 | 631200.63 | 4174200.44 | 0.12305 |
| 631550.63 | 4174200.44 | 0.13279 | 631900.63 | 4174200.44 | 0.15652 |
| 632250.63 | 4174200.44 | 0.19798 | 632600.63 | 4174200.44 | 0.22063 |
| 632950.63 | 4174200.44 | 0.22014 | 633300.63 | 4174200.44 | 0.19321 |
| 629800.63 | 4174550.44 | 0.06703 | 630150.63 | 4174550.44 | 0.08110 |

| | | | | | |
|---|---|---|---|---|---|
| 630500.63 | 4174550.44 | 0.10082 | 630850.63 | 4174550.44 | 0.13140 |
| 631200.63 | 4174550.44 | 0.17832 | 631550.63 | 4174550.44 | 0.21638 |
| 631900.63 | 4174550.44 | 0.27682 | 632250.63 | 4174550.44 | 0.37715 |
| 632600.63 | 4174550.44 | 0.40164 | 632950.63 | 4174550.44 | 0.33055 |
| 633300.63 | 4174550.44 | 0.27786 | 629800.63 | 4174900.44 | 0.07693 |
| 630150.63 | 4174900.44 | 0.09835 | 630500.63 | 4174900.44 | 0.13219 |
| 630850.63 | 4174900.44 | 0.18721 | 631200.63 | 4174900.44 | 0.27671 |
| 631550.63 | 4174900.44 | 0.40533 | 631900.63 | 4174900.44 | 0.61521 |
| 632250.63 | 4174900.44 | 0.94014 | 632600.63 | 4174900.44 | 0.75127 |
| 632950.63 | 4174900.44 | 0.55711 | 633300.63 | 4174900.44 | 0.45471 |
| 629800.63 | 4175250.44 | 0.08476 | 630150.63 | 4175250.44 | 0.11198 |
| 630500.63 | 4175250.44 | 0.16017 | 630850.63 | 4175250.44 | 0.26361 |
| 631200.63 | 4175250.44 | 0.48525 | 631550.63 | 4175250.44 | 1.07498 |
| 631900.63 | 4175250.44 | 2.57030 | 632250.63 | 4175250.44 | 2.65221 |
| 632600.63 | 4175250.44 | 1.63486 | 632950.63 | 4175250.44 | 1.03052 |
| 633300.63 | 4175250.44 | 0.73354 | 629800.63 | 4175600.44 | 0.08984 |
| 630150.63 | 4175600.44 | 0.12134 | 630500.63 | 4175600.44 | 0.17738 |
| 630850.63 | 4175600.44 | 0.30168 | 631200.63 | 4175600.44 | 0.72465 |
| 631550.63 | 4175600.44 | 7.93156 | 631900.63 | 4175600.44 | 69.19602 |
| 632250.63 | 4175600.44 | 7.28670 | 632600.63 | 4175600.44 | 2.49412 |
| 632950.63 | 4175600.44 | 1.37340 | 633300.63 | 4175600.44 | 0.89933 |
| 629800.63 | 4175950.44 | 0.09285 | 630150.63 | 4175950.44 | 0.12755 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK3 ***

INCLUDING SOURCE(S): STCK3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.19615 | 630850.63 | 4175950.44 | 0.38113 |
| 631200.63 | 4175950.44 | 0.95421 | 631550.63 | 4175950.44 | 3.75148 |
| 631900.63 | 4175950.44 | 1.83515 | 632250.63 | 4175950.44 | 1.69554 |
| 632600.63 | 4175950.44 | 1.38587 | 632950.63 | 4175950.44 | 0.95705 |
| 633300.63 | 4175950.44 | 0.70191 | 629800.63 | 4176300.44 | 0.10010 |
| 630150.63 | 4176300.44 | 0.14434 | 630500.63 | 4176300.44 | 0.23345 |
| 630850.63 | 4176300.44 | 0.42636 | 631200.63 | 4176300.44 | 0.78285 |
| 631550.63 | 4176300.44 | 0.95010 | 631900.63 | 4176300.44 | 0.88842 |
| 632250.63 | 4176300.44 | 0.80572 | 632600.63 | 4176300.44 | 0.68485 |
| 632950.63 | 4176300.44 | 0.54418 | 633300.63 | 4176300.44 | 0.45090 |
| 629800.63 | 4176650.44 | 0.11082 | 630150.63 | 4176650.44 | 0.15559 |
| 630500.63 | 4176650.44 | 0.23441 | 630850.63 | 4176650.44 | 0.36760 |
| 631200.63 | 4176650.44 | 0.49534 | 631550.63 | 4176650.44 | 0.57694 |
| 631900.63 | 4176650.44 | 0.54249 | 632250.63 | 4176650.44 | 0.48244 |
| 632600.63 | 4176650.44 | 0.44745 | 632950.63 | 4176650.44 | 0.37050 |
| 633300.63 | 4176650.44 | 0.30560 | 629800.63 | 4177000.44 | 0.11282 |
| 630150.63 | 4177000.44 | 0.15177 | 630500.63 | 4177000.44 | 0.20880 |
| 630850.63 | 4177000.44 | 0.27609 | 631200.63 | 4177000.44 | 0.33201 |

| | | | | | |
|---|---|---|---|---|---|
| 631550.63 | 4177000.44 | 0.37741 | 631900.63 | 4177000.44 | 0.35848 |
| 632250.63 | 4177000.44 | 0.33076 | 632600.63 | 4177000.44 | 0.30972 |
| 632950.63 | 4177000.44 | 0.27392 | 633300.63 | 4177000.44 | 0.23629 |
| 629800.63 | 4177350.44 | 0.10939 | 630150.63 | 4177350.44 | 0.13916 |
| 630500.63 | 4177350.44 | 0.17348 | 630850.63 | 4177350.44 | 0.20841 |
| 631200.63 | 4177350.44 | 0.24215 | 631550.63 | 4177350.44 | 0.26124 |
| 631900.63 | 4177350.44 | 0.25345 | 632250.63 | 4177350.44 | 0.24241 |
| 632600.63 | 4177350.44 | 0.21779 | 632950.63 | 4177350.44 | 0.21196 |
| 633300.63 | 4177350.44 | 0.18750 | 631670.70 | 4175493.59 | 4.62314 |
| 631669.80 | 4175641.41 | 35.07432 | 631665.32 | 4175796.39 | 4.52579 |
| 631417.17 | 4175826.85 | 2.00103 | 631417.17 | 4175673.66 | 1.87106 |
| 631422.55 | 4175484.63 | 1.37755 | 631268.42 | 4175983.74 | 1.15470 |
| 631275.69 | 4175523.99 | 0.88674 | 631345.65 | 4175419.50 | 0.94386 |
| 631384.72 | 4175441.30 | 1.11335 | 631491.93 | 4175442.21 | 2.10505 |
| 631491.93 | 4175414.95 | 1.85323 | 631385.63 | 4175413.14 | 1.04760 |
| 631358.37 | 4175395.87 | 0.93457 | 631409.25 | 4175336.81 | 0.94742 |
| 631567.35 | 4175235.96 | 1.07992 | 631756.33 | 4175028.80 | 0.66492 |
| 631807.22 | 4175003.36 | 0.67526 | 631867.18 | 4174987.91 | 0.74142 |
| 631849.92 | 4175988.28 | 1.76755 | 631268.74 | 4175963.75 | 1.16077 |
| 631269.05 | 4175943.76 | 1.16530 | 631269.37 | 4175923.77 | 1.16754 |
| 631269.68 | 4175903.78 | 1.16733 | 631270.00 | 4175883.79 | 1.16485 |
| 631270.32 | 4175863.81 | 1.15961 | 631270.63 | 4175843.82 | 1.15055 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK3 ***

INCLUDING SOURCE(S): STCK3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.13804 | 631271.26 | 4175803.84 | 1.12238 |
| 631271.58 | 4175783.85 | 1.10431 | 631271.90 | 4175763.86 | 1.08452 |
| 631272.21 | 4175743.87 | 1.06539 | 631272.53 | 4175723.88 | 1.04225 |
| 631272.85 | 4175703.89 | 1.02028 | 631273.16 | 4175683.90 | 1.00024 |
| 631273.48 | 4175663.91 | 0.97869 | 631273.79 | 4175643.92 | 0.96653 |
| 631274.11 | 4175623.94 | 0.94942 | 631274.43 | 4175603.95 | 0.93889 |
| 631274.74 | 4175583.96 | 0.92587 | 631275.06 | 4175563.97 | 0.91204 |
| 631275.37 | 4175543.98 | 0.89817 | 631285.68 | 4175509.06 | 0.89921 |
| 631295.68 | 4175494.14 | 0.90871 | 631305.67 | 4175479.21 | 0.91784 |
| 631315.67 | 4175464.28 | 0.92307 | 631325.66 | 4175449.35 | 0.93413 |
| 631335.66 | 4175434.43 | 0.94322 | 631358.67 | 4175426.77 | 0.99615 |
| 631371.70 | 4175434.03 | 1.05740 | 631402.59 | 4175441.45 | 1.14861 |
| 631420.46 | 4175441.60 | 1.20876 | 631438.33 | 4175441.76 | 1.30726 |
| 631456.19 | 4175441.91 | 1.61791 | 631474.06 | 4175442.06 | 1.76586 |
| 631491.93 | 4175428.58 | 1.98158 | 631474.21 | 4175414.65 | 1.64365 |
| 631456.50 | 4175414.35 | 1.29964 | 631438.78 | 4175414.05 | 1.22853 |
| 631421.06 | 4175413.74 | 1.12888 | 631403.35 | 4175413.44 | 1.11779 |
| 631372.00 | 4175404.51 | 0.98502 | 631371.09 | 4175381.11 | 0.94187 |

| | | | | | |
|---|---|---|---|---|---|
| 631383.81 | 4175366.34 | 0.94426 | 631396.53 | 4175351.58 | 0.94289 |
| 631425.06 | 4175326.73 | 0.96953 | 631440.87 | 4175316.64 | 0.98987 |
| 631456.68 | 4175306.56 | 0.99539 | 631472.49 | 4175296.47 | 0.99479 |
| 631488.30 | 4175286.39 | 1.01158 | 631504.11 | 4175276.30 | 1.01266 |
| 631519.92 | 4175266.22 | 1.01797 | 631535.73 | 4175256.13 | 1.03347 |
| 631551.54 | 4175246.05 | 1.05613 | 631579.95 | 4175222.15 | 1.05480 |
| 631592.55 | 4175208.34 | 1.02015 | 631605.15 | 4175194.53 | 0.98015 |
| 631617.74 | 4175180.72 | 0.94326 | 631630.34 | 4175166.91 | 0.90540 |
| 631642.94 | 4175153.10 | 0.87633 | 631655.54 | 4175139.29 | 0.85061 |
| 631668.14 | 4175125.47 | 0.82044 | 631680.74 | 4175111.66 | 0.79197 |
| 631693.34 | 4175097.85 | 0.76500 | 631705.94 | 4175084.04 | 0.74282 |
| 631718.53 | 4175070.23 | 0.71814 | 631731.13 | 4175056.42 | 0.69973 |
| 631743.73 | 4175042.61 | 0.67855 | 631773.29 | 4175020.32 | 0.66545 |
| 631790.26 | 4175011.84 | 0.67125 | 631822.21 | 4174999.50 | 0.69041 |
| 631837.20 | 4174995.64 | 0.70486 | 631852.19 | 4174991.77 | 0.72329 |
| 631866.84 | 4175007.53 | 0.78970 | 631866.50 | 4175027.14 | 0.84336 |
| 631866.16 | 4175046.76 | 0.90302 | 631865.83 | 4175066.37 | 0.96771 |
| 631865.49 | 4175085.99 | 1.04178 | 631865.15 | 4175105.60 | 1.12451 |
| 631864.81 | 4175125.22 | 1.21604 | 631864.47 | 4175144.83 | 1.32227 |
| 631864.13 | 4175164.45 | 1.44267 | 631863.80 | 4175184.06 | 1.57573 |
| 631863.46 | 4175203.68 | 1.73272 | 631863.12 | 4175223.29 | 1.91379 |
| 631862.78 | 4175242.91 | 2.12980 | 631862.44 | 4175262.52 | 2.39628 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK3 ***

INCLUDING SOURCE(S): STCK3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.84538 | 631861.77 | 4175301.75 | 3.68829 |
| 631861.43 | 4175321.37 | 4.18130 | 631861.09 | 4175340.98 | 3.17574 |
| 631860.75 | 4175360.60 | 3.88259 | 631860.41 | 4175380.21 | 4.44474 |
| 631860.07 | 4175399.83 | 5.44152 | 631859.73 | 4175419.44 | 6.62902 |
| 631859.40 | 4175439.06 | 8.29293 | 631859.06 | 4175458.67 | 10.53574 |
| 631858.72 | 4175478.29 | 13.13406 | 631858.38 | 4175497.90 | 17.03623 |
| 631858.04 | 4175517.52 | 22.97847 | 631857.70 | 4175537.13 | 32.34582 |
| 631857.37 | 4175556.75 | 49.28817 | 631857.03 | 4175576.36 | 78.55349 |
| 631856.69 | 4175595.98 | 118.38626 | 631856.35 | 4175615.59 | 81.64816 |
| 631856.01 | 4175635.21 | 39.63827 | 631855.67 | 4175654.82 | 21.33316 |
| 631855.33 | 4175674.44 | 12.70706 | 631855.00 | 4175694.05 | 8.31376 |
| 631854.66 | 4175713.67 | 5.76929 | 631854.32 | 4175733.28 | 4.34243 |
| 631853.98 | 4175752.90 | 3.32507 | 631853.64 | 4175772.51 | 2.70687 |
| 631853.30 | 4175792.13 | 2.26374 | 631852.97 | 4175811.74 | 2.01037 |
| 631852.63 | 4175831.36 | 1.77148 | 631852.29 | 4175850.97 | 1.63233 |
| 631851.95 | 4175870.59 | 1.52787 | 631851.61 | 4175890.20 | 1.49220 |
| 631851.27 | 4175909.82 | 1.86086 | 631850.94 | 4175929.43 | 2.34325 |
| 631850.60 | 4175949.05 | 2.05449 | 631850.26 | 4175968.66 | 1.88698 |

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|---|---|---|---|---|---|
| 631830.54 | 4175988.13 | 1.81988 | 631811.15 | 4175987.98 | 1.87003 |
| 631791.77 | 4175987.83 | 1.93331 | 631772.39 | 4175987.67 | 2.03668 |
| 631753.00 | 4175987.52 | 2.09186 | 631733.62 | 4175987.37 | 2.06965 |
| 631714.24 | 4175987.22 | 2.18644 | 631694.85 | 4175987.07 | 2.28335 |
| 631675.47 | 4175986.92 | 2.24611 | 631656.09 | 4175986.77 | 2.33126 |
| 631636.70 | 4175986.62 | 2.56466 | 631617.32 | 4175986.46 | 2.68016 |
| 631597.94 | 4175986.31 | 2.77416 | 631578.55 | 4175986.16 | 2.47254 |
| 631559.17 | 4175986.01 | 2.17265 | 631539.79 | 4175985.86 | 2.08491 |
| 631520.40 | 4175985.71 | 2.03494 | 631501.02 | 4175985.56 | 1.99292 |
| 631481.64 | 4175985.40 | 1.94470 | 631462.25 | 4175985.25 | 1.88768 |
| 631442.87 | 4175985.10 | 1.82285 | 631423.49 | 4175984.95 | 1.75070 |
| 631404.10 | 4175984.80 | 1.67499 | 631384.72 | 4175984.65 | 1.59602 |
| 631365.34 | 4175984.50 | 1.51640 | 631345.95 | 4175984.35 | 1.43780 |
| 631326.57 | 4175984.19 | 1.36158 | 631307.19 | 4175984.04 | 1.28859 |
| 631287.80 | 4175983.89 | 1.21979 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK4 ***

INCLUDING SOURCE(S): STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.46734 | 632304.44 | 4174354.52 | 0.31126 |
| 632192.15 | 4174956.32 | 1.51469 | 632420.62 | 4175510.15 | 3.91597 |
| 632418.97 | 4175552.92 | 3.78508 | 631187.00 | 4175727.00 | 0.86153 |
| 631166.00 | 4175729.00 | 0.80661 | 631121.00 | 4175719.00 | 0.69340 |
| 631035.00 | 4174830.00 | 0.23350 | 631106.00 | 4174825.00 | 0.25200 |
| 631937.00 | 4174528.00 | 0.33661 | 631322.00 | 4174522.00 | 0.21208 |
| 629800.63 | 4173850.44 | 0.05013 | 630150.63 | 4173850.44 | 0.05752 |
| 630500.63 | 4173850.44 | 0.06784 | 630850.63 | 4173850.44 | 0.08203 |
| 631200.63 | 4173850.44 | 0.09672 | 631550.63 | 4173850.44 | 0.09978 |
| 631900.63 | 4173850.44 | 0.11354 | 632250.63 | 4173850.44 | 0.13948 |
| 632600.63 | 4173850.44 | 0.15380 | 632950.63 | 4173850.44 | 0.16463 |
| 633300.63 | 4173850.44 | 0.15704 | 629800.63 | 4174200.44 | 0.05940 |
| 630150.63 | 4174200.44 | 0.06968 | 630500.63 | 4174200.44 | 0.08381 |
| 630850.63 | 4174200.44 | 0.10531 | 631200.63 | 4174200.44 | 0.13447 |
| 631550.63 | 4174200.44 | 0.14942 | 631900.63 | 4174200.44 | 0.17897 |
| 632250.63 | 4174200.44 | 0.22929 | 632600.63 | 4174200.44 | 0.25670 |
| 632950.63 | 4174200.44 | 0.24549 | 633300.63 | 4174200.44 | 0.21119 |
| 629800.63 | 4174550.44 | 0.07005 | 630150.63 | 4174550.44 | 0.08596 |
| 630500.63 | 4174550.44 | 0.10825 | 630850.63 | 4174550.44 | 0.14250 |
| 631200.63 | 4174550.44 | 0.19748 | 631550.63 | 4174550.44 | 0.25286 |
| 631900.63 | 4174550.44 | 0.33576 | 632250.63 | 4174550.44 | 0.46796 |
| 632600.63 | 4174550.44 | 0.47367 | 632950.63 | 4174550.44 | 0.37357 |
| 633300.63 | 4174550.44 | 0.31584 | 629800.63 | 4174900.44 | 0.07923 |
| 630150.63 | 4174900.44 | 0.10262 | 630500.63 | 4174900.44 | 0.14051 |
| 630850.63 | 4174900.44 | 0.20588 | 631200.63 | 4174900.44 | 0.31579 |

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|---|---|---|---|---|---|
| 631550.63 | 4174900.44 | 0.50385 | 631900.63 | 4174900.44 | 0.84005 |
| 632250.63 | 4174900.44 | 1.25423 | 632600.63 | 4174900.44 | 0.90312 |
| 632950.63 | 4174900.44 | 0.66264 | 633300.63 | 4174900.44 | 0.52742 |
| 629800.63 | 4175250.44 | 0.08687 | 630150.63 | 4175250.44 | 0.11555 |
| 630500.63 | 4175250.44 | 0.16610 | 630850.63 | 4175250.44 | 0.27546 |
| 631200.63 | 4175250.44 | 0.55434 | 631550.63 | 4175250.44 | 1.55827 |
| 631900.63 | 4175250.44 | 5.05584 | 632250.63 | 4175250.44 | 3.83812 |
| 632600.63 | 4175250.44 | 2.02350 | 632950.63 | 4175250.44 | 1.18012 |
| 633300.63 | 4175250.44 | 0.80928 | 629800.63 | 4175600.44 | 0.09046 |
| 630150.63 | 4175600.44 | 0.12267 | 630500.63 | 4175600.44 | 0.18092 |
| 630850.63 | 4175600.44 | 0.31772 | 631200.63 | 4175600.44 | 0.79277 |
| 631550.63 | 4175600.44 | 11.36831 | 631900.63 | 4175600.44 | 4.47617 |
| 632250.63 | 4175600.44 | 5.57966 | 632600.63 | 4175600.44 | 2.31824 |
| 632950.63 | 4175600.44 | 1.31674 | 633300.63 | 4175600.44 | 0.87502 |
| 629800.63 | 4175950.44 | 0.09415 | 630150.63 | 4175950.44 | 0.13102 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK4 ***

INCLUDING SOURCE(S): STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.20799 | 630850.63 | 4175950.44 | 0.41274 |
| 631200.63 | 4175950.44 | 0.96794 | 631550.63 | 4175950.44 | 3.10085 |
| 631900.63 | 4175950.44 | 1.39169 | 632250.63 | 4175950.44 | 1.20153 |
| 632600.63 | 4175950.44 | 1.05729 | 632950.63 | 4175950.44 | 0.81062 |
| 633300.63 | 4175950.44 | 0.61990 | 629800.63 | 4176300.44 | 0.10351 |
| 630150.63 | 4176300.44 | 0.14994 | 630500.63 | 4176300.44 | 0.23962 |
| 630850.63 | 4176300.44 | 0.42798 | 631200.63 | 4176300.44 | 0.71085 |
| 631550.63 | 4176300.44 | 0.82409 | 631900.63 | 4176300.44 | 0.74975 |
| 632250.63 | 4176300.44 | 0.67041 | 632600.63 | 4176300.44 | 0.58695 |
| 632950.63 | 4176300.44 | 0.47430 | 633300.63 | 4176300.44 | 0.39799 |
| 629800.63 | 4176650.44 | 0.11240 | 630150.63 | 4176650.44 | 0.15591 |
| 630500.63 | 4176650.44 | 0.23236 | 630850.63 | 4176650.44 | 0.34910 |
| 631200.63 | 4176650.44 | 0.44877 | 631550.63 | 4176650.44 | 0.51639 |
| 631900.63 | 4176650.44 | 0.47426 | 632250.63 | 4176650.44 | 0.42592 |
| 632600.63 | 4176650.44 | 0.40194 | 632950.63 | 4176650.44 | 0.33736 |
| 633300.63 | 4176650.44 | 0.28172 | 629800.63 | 4177000.44 | 0.11224 |
| 630150.63 | 4177000.44 | 0.14949 | 630500.63 | 4177000.44 | 0.20077 |
| 630850.63 | 4177000.44 | 0.25834 | 631200.63 | 4177000.44 | 0.30513 |
| 631550.63 | 4177000.44 | 0.34210 | 631900.63 | 4177000.44 | 0.32173 |
| 632250.63 | 4177000.44 | 0.30294 | 632600.63 | 4177000.44 | 0.27904 |
| 632950.63 | 4177000.44 | 0.25456 | 633300.63 | 4177000.44 | 0.22066 |
| 629800.63 | 4177350.44 | 0.10777 | 630150.63 | 4177350.44 | 0.13478 |
| 630500.63 | 4177350.44 | 0.16492 | 630850.63 | 4177350.44 | 0.19525 |
| 631200.63 | 4177350.44 | 0.22620 | 631550.63 | 4177350.44 | 0.23991 |
| 631900.63 | 4177350.44 | 0.23198 | 632250.63 | 4177350.44 | 0.22478 |

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|---|---|---|---|---|---|
| 632600.63 | 4177350.44 | 0.20041 | 632950.63 | 4177350.44 | 0.19684 |
| 633300.63 | 4177350.44 | 0.17701 | 631670.70 | 4175493.59 | 32.04930 |
| 631669.80 | 4175641.41 | 14.16833 | 631665.32 | 4175796.39 | 3.36707 |
| 631417.17 | 4175826.85 | 2.47588 | 631417.17 | 4175673.66 | 2.93906 |
| 631422.55 | 4175484.63 | 1.58290 | 631268.42 | 4175983.74 | 1.13418 |
| 631275.69 | 4175523.99 | 0.95666 | 631345.65 | 4175419.50 | 1.11246 |
| 631384.72 | 4175441.30 | 1.30369 | 631491.93 | 4175442.21 | 2.08755 |
| 631491.93 | 4175414.95 | 2.05755 | 631385.63 | 4175413.14 | 1.25011 |
| 631358.37 | 4175395.87 | 1.11510 | 631409.25 | 4175336.81 | 1.18797 |
| 631567.35 | 4175235.96 | 1.57508 | 631756.33 | 4175028.80 | 0.93234 |
| 631807.22 | 4175003.36 | 0.94660 | 631867.18 | 4174987.91 | 1.05644 |
| 631849.92 | 4175988.28 | 1.32402 | 631268.74 | 4175963.75 | 1.14907 |
| 631269.05 | 4175943.76 | 1.16142 | 631269.37 | 4175923.77 | 1.17143 |
| 631269.68 | 4175903.78 | 1.17982 | 631270.00 | 4175883.79 | 1.18635 |
| 631270.32 | 4175863.81 | 1.19078 | 631270.63 | 4175843.82 | 1.19376 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK4 ***

INCLUDING SOURCE(S): STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.19458 | 631271.26 | 4175803.84 | 1.19261 |
| 631271.58 | 4175783.85 | 1.18873 | 631271.90 | 4175763.86 | 1.18181 |
| 631272.21 | 4175743.87 | 1.16861 | 631272.53 | 4175723.88 | 1.15351 |
| 631272.85 | 4175703.89 | 1.13141 | 631273.16 | 4175683.90 | 1.10499 |
| 631273.48 | 4175663.91 | 1.08355 | 631273.79 | 4175643.92 | 1.06611 |
| 631274.11 | 4175623.94 | 1.04663 | 631274.43 | 4175603.95 | 1.02494 |
| 631274.74 | 4175583.96 | 1.00309 | 631275.06 | 4175563.97 | 0.98281 |
| 631275.37 | 4175543.98 | 0.96800 | 631285.68 | 4175509.06 | 0.98157 |
| 631295.68 | 4175494.14 | 1.00251 | 631305.67 | 4175479.21 | 1.02210 |
| 631315.67 | 4175464.28 | 1.04446 | 631325.66 | 4175449.35 | 1.06964 |
| 631335.66 | 4175434.43 | 1.09329 | 631358.67 | 4175426.77 | 1.18283 |
| 631371.70 | 4175434.03 | 1.24907 | 631402.59 | 4175441.45 | 1.40527 |
| 631420.46 | 4175441.60 | 1.47565 | 631438.33 | 4175441.76 | 1.66514 |
| 631456.19 | 4175441.91 | 1.85136 | 631474.06 | 4175442.06 | 1.82986 |
| 631491.93 | 4175428.58 | 2.08406 | 631474.21 | 4175414.65 | 1.69755 |
| 631456.50 | 4175414.35 | 1.64499 | 631438.78 | 4175414.05 | 1.57198 |
| 631421.06 | 4175413.74 | 1.43039 | 631403.35 | 4175413.44 | 1.34687 |
| 631372.00 | 4175404.51 | 1.17126 | 631371.09 | 4175381.11 | 1.12192 |
| 631383.81 | 4175366.34 | 1.14885 | 631396.53 | 4175351.58 | 1.16844 |
| 631425.06 | 4175326.73 | 1.24097 | 631440.87 | 4175316.64 | 1.28740 |
| 631456.68 | 4175306.56 | 1.30205 | 631472.49 | 4175296.47 | 1.33499 |
| 631488.30 | 4175286.39 | 1.38081 | 631504.11 | 4175276.30 | 1.40082 |
| 631519.92 | 4175266.22 | 1.42897 | 631535.73 | 4175256.13 | 1.46793 |
| 631551.54 | 4175246.05 | 1.52363 | 631579.95 | 4175222.15 | 1.52241 |
| 631592.55 | 4175208.34 | 1.47502 | 631605.15 | 4175194.53 | 1.41743 |

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|---|---|---|---|---|---|
| 631617.74 | 4175180.72 | 1.37097 | 631630.34 | 4175166.91 | 1.30993 |
| 631642.94 | 4175153.10 | 1.26608 | 631655.54 | 4175139.29 | 1.22701 |
| 631668.14 | 4175125.47 | 1.18598 | 631680.74 | 4175111.66 | 1.14520 |
| 631693.34 | 4175097.85 | 1.10380 | 631705.94 | 4175084.04 | 1.06433 |
| 631718.53 | 4175070.23 | 1.02769 | 631731.13 | 4175056.42 | 0.99299 |
| 631743.73 | 4175042.61 | 0.96056 | 631773.29 | 4175020.32 | 0.93504 |
| 631790.26 | 4175011.84 | 0.93974 | 631822.21 | 4174999.50 | 0.97141 |
| 631837.20 | 4174995.64 | 0.99809 | 631852.19 | 4174991.77 | 1.02671 |
| 631866.84 | 4175007.53 | 1.14034 | 631866.50 | 4175027.14 | 1.23274 |
| 631866.16 | 4175046.76 | 1.33978 | 631865.83 | 4175066.37 | 1.45830 |
| 631865.49 | 4175085.99 | 1.59751 | 631865.15 | 4175105.60 | 1.75498 |
| 631864.81 | 4175125.22 | 1.94106 | 631864.47 | 4175144.83 | 2.15452 |
| 631864.13 | 4175164.45 | 2.41142 | 631863.80 | 4175184.06 | 2.71125 |
| 631863.46 | 4175203.68 | 3.07228 | 631863.12 | 4175223.29 | 3.52866 |
| 631862.78 | 4175242.91 | 4.07858 | 631862.44 | 4175262.52 | 4.78585 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK4 ***

INCLUDING SOURCE(S): STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 5.90982 | 631861.77 | 4175301.75 | 8.55365 |
| 631861.43 | 4175321.37 | 12.04011 | 631861.09 | 4175340.98 | 14.49184 |
| 631860.75 | 4175360.60 | 19.93009 | 631860.41 | 4175380.21 | 22.87187 |
| 631860.07 | 4175399.83 | 29.02112 | 631859.73 | 4175419.44 | 33.39683 |
| 631859.40 | 4175439.06 | 47.56123 | 631859.06 | 4175458.67 | 69.15486 |
| 631858.72 | 4175478.29 | 88.62533 | 631858.38 | 4175497.90 | 103.62968 |
| 631858.04 | 4175517.52 | 70.31358 | 631857.70 | 4175537.13 | 33.66356 |
| 631857.37 | 4175556.75 | 14.73386 | 631857.03 | 4175576.36 | 6.43603 |
| 631856.69 | 4175595.98 | 3.75963 | 631856.35 | 4175615.59 | 2.76432 |
| 631856.01 | 4175635.21 | 2.33684 | 631855.67 | 4175654.82 | 2.16976 |
| 631855.33 | 4175674.44 | 1.84729 | 631855.00 | 4175694.05 | 1.70723 |
| 631854.66 | 4175713.67 | 1.53942 | 631854.32 | 4175733.28 | 1.41113 |
| 631853.98 | 4175752.90 | 1.25816 | 631853.64 | 4175772.51 | 1.12287 |
| 631853.30 | 4175792.13 | 1.02509 | 631852.97 | 4175811.74 | 1.00930 |
| 631852.63 | 4175831.36 | 0.91491 | 631852.29 | 4175850.97 | 0.90297 |
| 631851.95 | 4175870.59 | 0.88879 | 631851.61 | 4175890.20 | 0.91242 |
| 631851.27 | 4175909.82 | 1.09703 | 631850.94 | 4175929.43 | 1.66165 |
| 631850.60 | 4175949.05 | 1.50607 | 631850.26 | 4175968.66 | 1.39706 |
| 631830.54 | 4175988.13 | 1.33015 | 631811.15 | 4175987.98 | 1.34555 |
| 631791.77 | 4175987.83 | 1.38965 | 631772.39 | 4175987.67 | 1.46866 |
| 631753.00 | 4175987.52 | 1.57970 | 631733.62 | 4175987.37 | 1.70836 |
| 631714.24 | 4175987.22 | 1.82297 | 631694.85 | 4175987.07 | 1.89333 |
| 631675.47 | 4175986.92 | 1.92662 | 631656.09 | 4175986.77 | 2.04367 |
| 631636.70 | 4175986.62 | 2.19819 | 631617.32 | 4175986.46 | 2.19494 |
| 631597.94 | 4175986.31 | 2.00431 | 631578.55 | 4175986.16 | 1.74622 |

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|---|---|---|---|---|---|
| 631559.17 | 4175986.01 | 1.66521 | 631539.79 | 4175985.86 | 1.62080 |
| 631520.40 | 4175985.71 | 1.58929 | 631501.02 | 4175985.56 | 1.57179 |
| 631481.64 | 4175985.40 | 1.55587 | 631462.25 | 4175985.25 | 1.53716 |
| 631442.87 | 4175985.10 | 1.51494 | 631423.49 | 4175984.95 | 1.48830 |
| 631404.10 | 4175984.80 | 1.45659 | 631384.72 | 4175984.65 | 1.42020 |
| 631365.34 | 4175984.50 | 1.37950 | 631345.95 | 4175984.35 | 1.33478 |
| 631326.57 | 4175984.19 | 1.28700 | 631307.19 | 4175984.04 | 1.23731 |
| 631287.80 | 4175983.89 | 1.18599 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK5 ***

INCLUDING SOURCE(S): STCK5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 2.23662 | 632304.44 | 4174354.52 | 0.38426 |
| 632192.15 | 4174956.32 | 2.15069 | 632420.62 | 4175510.15 | 3.37046 |
| 632418.97 | 4175552.92 | 3.01986 | 631187.00 | 4175727.00 | 0.89979 |
| 631166.00 | 4175729.00 | 0.84710 | 631121.00 | 4175719.00 | 0.74029 |
| 631035.00 | 4174830.00 | 0.26373 | 631106.00 | 4174825.00 | 0.28699 |
| 631937.00 | 4174528.00 | 0.42378 | 631322.00 | 4174522.00 | 0.24115 |
| 629800.63 | 4173850.44 | 0.05254 | 630150.63 | 4173850.44 | 0.06056 |
| 630500.63 | 4173850.44 | 0.07165 | 630850.63 | 4173850.44 | 0.08737 |
| 631200.63 | 4173850.44 | 0.10519 | 631550.63 | 4173850.44 | 0.11028 |
| 631900.63 | 4173850.44 | 0.12697 | 632250.63 | 4173850.44 | 0.15796 |
| 632600.63 | 4173850.44 | 0.17515 | 632950.63 | 4173850.44 | 0.18429 |
| 633300.63 | 4173850.44 | 0.17013 | 629800.63 | 4174200.44 | 0.06240 |
| 630150.63 | 4174200.44 | 0.07388 | 630500.63 | 4174200.44 | 0.08951 |
| 630850.63 | 4174200.44 | 0.11339 | 631200.63 | 4174200.44 | 0.14790 |
| 631550.63 | 4174200.44 | 0.16997 | 631900.63 | 4174200.44 | 0.20870 |
| 632250.63 | 4174200.44 | 0.27360 | 632600.63 | 4174200.44 | 0.30336 |
| 632950.63 | 4174200.44 | 0.27401 | 633300.63 | 4174200.44 | 0.23314 |
| 629800.63 | 4174550.44 | 0.07297 | 630150.63 | 4174550.44 | 0.09090 |
| 630500.63 | 4174550.44 | 0.11661 | 630850.63 | 4174550.44 | 0.15603 |
| 631200.63 | 4174550.44 | 0.22175 | 631550.63 | 4174550.44 | 0.30092 |
| 631900.63 | 4174550.44 | 0.42243 | 632250.63 | 4174550.44 | 0.61019 |
| 632600.63 | 4174550.44 | 0.56134 | 632950.63 | 4174550.44 | 0.42933 |
| 633300.63 | 4174550.44 | 0.36310 | 629800.63 | 4174900.44 | 0.08143 |
| 630150.63 | 4174900.44 | 0.10646 | 630500.63 | 4174900.44 | 0.14853 |
| 630850.63 | 4174900.44 | 0.22567 | 631200.63 | 4174900.44 | 0.36746 |
| 631550.63 | 4174900.44 | 0.64854 | 631900.63 | 4174900.44 | 1.26576 |
| 632250.63 | 4174900.44 | 1.70730 | 632600.63 | 4174900.44 | 1.11302 |
| 632950.63 | 4174900.44 | 0.79186 | 633300.63 | 4174900.44 | 0.60828 |
| 629800.63 | 4175250.44 | 0.08850 | 630150.63 | 4175250.44 | 0.11862 |
| 630500.63 | 4175250.44 | 0.17187 | 630850.63 | 4175250.44 | 0.28737 |
| 631200.63 | 4175250.44 | 0.61892 | 631550.63 | 4175250.44 | 2.23699 |
| 631900.63 | 4175250.44 | 12.47667 | 632250.63 | 4175250.44 | 5.70186 |

| | | | | | |
|---|---|---|---|---|---|
| 632600.63 | 4175250.44 | 2.33850 | 632950.63 | 4175250.44 | 1.30552 |
| 633300.63 | 4175250.44 | 0.86798 | 629800.63 | 4175600.44 | 0.09127 |
| 630150.63 | 4175600.44 | 0.12431 | 630500.63 | 4175600.44 | 0.18576 |
| 630850.63 | 4175600.44 | 0.33669 | 631200.63 | 4175600.44 | 0.84774 |
| 631550.63 | 4175600.44 | 7.86364 | 631900.63 | 4175600.44 | 1.00613 |
| 632250.63 | 4175600.44 | 3.15484 | 632600.63 | 4175600.44 | 1.93870 |
| 632950.63 | 4175600.44 | 1.19166 | 633300.63 | 4175600.44 | 0.81924 |
| 629800.63 | 4175950.44 | 0.09599 | 630150.63 | 4175950.44 | 0.13590 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK5 ***

INCLUDING SOURCE(S): STCK5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.22074 | 630850.63 | 4175950.44 | 0.42844 |
| 631200.63 | 4175950.44 | 0.92847 | 631550.63 | 4175950.44 | 2.30368 |
| 631900.63 | 4175950.44 | 1.14085 | 632250.63 | 4175950.44 | 0.96775 |
| 632600.63 | 4175950.44 | 0.84352 | 632950.63 | 4175950.44 | 0.68664 |
| 633300.63 | 4175950.44 | 0.54526 | 629800.63 | 4176300.44 | 0.10693 |
| 630150.63 | 4176300.44 | 0.15406 | 630500.63 | 4176300.44 | 0.24135 |
| 630850.63 | 4176300.44 | 0.41849 | 631200.63 | 4176300.44 | 0.63125 |
| 631550.63 | 4176300.44 | 0.72494 | 631900.63 | 4176300.44 | 0.64465 |
| 632250.63 | 4176300.44 | 0.57758 | 632600.63 | 4176300.44 | 0.52021 |
| 632950.63 | 4176300.44 | 0.42604 | 633300.63 | 4176300.44 | 0.35441 |
| 629800.63 | 4176650.44 | 0.11313 | 630150.63 | 4176650.44 | 0.15541 |
| 630500.63 | 4176650.44 | 0.22761 | 630850.63 | 4176650.44 | 0.32665 |
| 631200.63 | 4176650.44 | 0.40570 | 631550.63 | 4176650.44 | 0.46438 |
| 631900.63 | 4176650.44 | 0.41927 | 632250.63 | 4176650.44 | 0.38601 |
| 632600.63 | 4176650.44 | 0.36558 | 632950.63 | 4176650.44 | 0.31020 |
| 633300.63 | 4176650.44 | 0.26238 | 629800.63 | 4177000.44 | 0.11139 |
| 630150.63 | 4177000.44 | 0.14644 | 630500.63 | 4177000.44 | 0.19180 |
| 630850.63 | 4177000.44 | 0.24147 | 631200.63 | 4177000.44 | 0.28232 |
| 631550.63 | 4177000.44 | 0.31145 | 631900.63 | 4177000.44 | 0.29087 |
| 632250.63 | 4177000.44 | 0.28049 | 632600.63 | 4177000.44 | 0.25348 |
| 632950.63 | 4177000.44 | 0.23785 | 633300.63 | 4177000.44 | 0.20653 |
| 629800.63 | 4177350.44 | 0.10580 | 630150.63 | 4177350.44 | 0.13013 |
| 630500.63 | 4177350.44 | 0.15663 | 630850.63 | 4177350.44 | 0.18290 |
| 631200.63 | 4177350.44 | 0.21205 | 631550.63 | 4177350.44 | 0.22113 |
| 631900.63 | 4177350.44 | 0.21336 | 632250.63 | 4177350.44 | 0.20950 |
| 632600.63 | 4177350.44 | 0.18602 | 632950.63 | 4177350.44 | 0.18268 |
| 633300.63 | 4177350.44 | 0.16770 | 631670.70 | 4175493.59 | 20.80322 |
| 631669.80 | 4175641.41 | 9.01857 | 631665.32 | 4175796.39 | 2.54448 |
| 631417.17 | 4175826.85 | 2.94607 | 631417.17 | 4175673.66 | 2.71057 |
| 631422.55 | 4175484.63 | 1.41525 | 631268.42 | 4175983.74 | 1.02951 |
| 631275.69 | 4175523.99 | 1.00554 | 631345.65 | 4175419.50 | 1.20937 |
| 631384.72 | 4175441.30 | 1.26171 | 631491.93 | 4175442.21 | 1.49857 |

| | | | | | |
|---|---|---|---|---|---|
| 631491.93 | 4175414.95 | 1.64877 | 631385.63 | 4175413.14 | 1.28817 |
| 631358.37 | 4175395.87 | 1.20553 | 631409.25 | 4175336.81 | 1.41166 |
| 631567.35 | 4175235.96 | 2.27477 | 631756.33 | 4175028.80 | 1.40838 |
| 631807.22 | 4175003.36 | 1.45753 | 631867.18 | 4174987.91 | 1.69142 |
| 631849.92 | 4175988.28 | 1.03715 | 631268.74 | 4175963.75 | 1.05317 |
| 631269.05 | 4175943.76 | 1.07541 | 631269.37 | 4175923.77 | 1.09579 |
| 631269.68 | 4175903.78 | 1.11336 | 631270.00 | 4175883.79 | 1.12819 |
| 631270.32 | 4175863.81 | 1.14026 | 631270.63 | 4175843.82 | 1.14961 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK5 ***

INCLUDING SOURCE(S): STCK5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1.15654 | 631271.26 | 4175803.84 | 1.16118 |
| 631271.58 | 4175783.85 | 1.16514 | 631271.90 | 4175763.86 | 1.16675 |
| 631272.21 | 4175743.87 | 1.16152 | 631272.53 | 4175723.88 | 1.15888 |
| 631272.85 | 4175703.89 | 1.14628 | 631273.16 | 4175683.90 | 1.13084 |
| 631273.48 | 4175663.91 | 1.12397 | 631273.79 | 4175643.92 | 1.12969 |
| 631274.11 | 4175623.94 | 1.13164 | 631274.43 | 4175603.95 | 1.08305 |
| 631274.74 | 4175583.96 | 1.04461 | 631275.06 | 4175563.97 | 1.02409 |
| 631275.37 | 4175543.98 | 1.01265 | 631285.68 | 4175509.06 | 1.04597 |
| 631295.68 | 4175494.14 | 1.05023 | 631305.67 | 4175479.21 | 1.03053 |
| 631315.67 | 4175464.28 | 1.06773 | 631325.66 | 4175449.35 | 1.10411 |
| 631335.66 | 4175434.43 | 1.15154 | 631358.67 | 4175426.77 | 1.26806 |
| 631371.70 | 4175434.03 | 1.29947 | 631402.59 | 4175441.45 | 1.35931 |
| 631420.46 | 4175441.60 | 1.45672 | 631438.33 | 4175441.76 | 1.74285 |
| 631456.19 | 4175441.91 | 1.89829 | 631474.06 | 4175442.06 | 1.42636 |
| 631491.93 | 4175428.58 | 1.56943 | 631474.21 | 4175414.65 | 1.52317 |
| 631456.50 | 4175414.35 | 1.88445 | 631438.78 | 4175414.05 | 1.74808 |
| 631421.06 | 4175413.74 | 1.49762 | 631403.35 | 4175413.44 | 1.39009 |
| 631372.00 | 4175404.51 | 1.21627 | 631371.09 | 4175381.11 | 1.22275 |
| 631383.81 | 4175366.34 | 1.28923 | 631396.53 | 4175351.58 | 1.34788 |
| 631425.06 | 4175326.73 | 1.51123 | 631440.87 | 4175316.64 | 1.57362 |
| 631456.68 | 4175306.56 | 1.59380 | 631472.49 | 4175296.47 | 1.70083 |
| 631488.30 | 4175286.39 | 1.80443 | 631504.11 | 4175276.30 | 1.90339 |
| 631519.92 | 4175266.22 | 1.99351 | 631535.73 | 4175256.13 | 2.09407 |
| 631551.54 | 4175246.05 | 2.19971 | 631579.95 | 4175222.15 | 2.24228 |
| 631592.55 | 4175208.34 | 2.20208 | 631605.15 | 4175194.53 | 2.14408 |
| 631617.74 | 4175180.72 | 2.09320 | 631630.34 | 4175166.91 | 2.03410 |
| 631642.94 | 4175153.10 | 1.97840 | 631655.54 | 4175139.29 | 1.91507 |
| 631668.14 | 4175125.47 | 1.84683 | 631680.74 | 4175111.66 | 1.77811 |
| 631693.34 | 4175097.85 | 1.71316 | 631705.94 | 4175084.04 | 1.64175 |
| 631718.53 | 4175070.23 | 1.57315 | 631731.13 | 4175056.42 | 1.51582 |
| 631743.73 | 4175042.61 | 1.45610 | 631773.29 | 4175020.32 | 1.42286 |
| 631790.26 | 4175011.84 | 1.43442 | 631822.21 | 4174999.50 | 1.50920 |

| | | | | | |
|---|---|---|---|---|---|
| 631837.20 | 4174995.64 | 1.56994 | 631852.19 | 4174991.77 | 1.63152 |
| 631866.84 | 4175007.53 | 1.86391 | 631866.50 | 4175027.14 | 2.06815 |
| 631866.16 | 4175046.76 | 2.30384 | 631865.83 | 4175066.37 | 2.58205 |
| 631865.49 | 4175085.99 | 2.91786 | 631865.15 | 4175105.60 | 3.32947 |
| 631864.81 | 4175125.22 | 3.82628 | 631864.47 | 4175144.83 | 4.43861 |
| 631864.13 | 4175164.45 | 5.20751 | 631863.80 | 4175184.06 | 6.18349 |
| 631863.46 | 4175203.68 | 7.41258 | 631863.12 | 4175223.29 | 9.02309 |
| 631862.78 | 4175242.91 | 11.08725 | 631862.44 | 4175262.52 | 13.72538 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK5 ***

INCLUDING SOURCE(S): STCK5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 17.26183 | 631861.77 | 4175301.75 | 24.08532 |
| 631861.43 | 4175321.37 | 34.77788 | 631861.09 | 4175340.98 | 41.11948 |
| 631860.75 | 4175360.60 | 50.29488 | 631860.41 | 4175380.21 | 58.78541 |
| 631860.07 | 4175399.83 | 62.60845 | 631859.73 | 4175419.44 | 29.60531 |
| 631859.40 | 4175439.06 | 10.97302 | 631859.06 | 4175458.67 | 5.20372 |
| 631858.72 | 4175478.29 | 2.81141 | 631858.38 | 4175497.90 | 1.97047 |
| 631858.04 | 4175517.52 | 1.70972 | 631857.70 | 4175537.13 | 1.48016 |
| 631857.37 | 4175556.75 | 1.37185 | 631857.03 | 4175576.36 | 1.52222 |
| 631856.69 | 4175595.98 | 1.65253 | 631856.35 | 4175615.59 | 1.74577 |
| 631856.01 | 4175635.21 | 1.69050 | 631855.67 | 4175654.82 | 1.53466 |
| 631855.33 | 4175674.44 | 1.44647 | 631855.00 | 4175694.05 | 1.29494 |
| 631854.66 | 4175713.67 | 1.18229 | 631854.32 | 4175733.28 | 1.16935 |
| 631853.98 | 4175752.90 | 1.01470 | 631853.64 | 4175772.51 | 0.88034 |
| 631853.30 | 4175792.13 | 0.86777 | 631852.97 | 4175811.74 | 0.85275 |
| 631852.63 | 4175831.36 | 0.76062 | 631852.29 | 4175850.97 | 0.75239 |
| 631851.95 | 4175870.59 | 0.66944 | 631851.61 | 4175890.20 | 0.74057 |
| 631851.27 | 4175909.82 | 0.79870 | 631850.94 | 4175929.43 | 1.26158 |
| 631850.60 | 4175949.05 | 1.16215 | 631850.26 | 4175968.66 | 1.08740 |
| 631830.54 | 4175988.13 | 1.01843 | 631811.15 | 4175987.98 | 1.03075 |
| 631791.77 | 4175987.83 | 1.05650 | 631772.39 | 4175987.67 | 1.14204 |
| 631753.00 | 4175987.52 | 1.25250 | 631733.62 | 4175987.37 | 1.39465 |
| 631714.24 | 4175987.22 | 1.50787 | 631694.85 | 4175987.07 | 1.54873 |
| 631675.47 | 4175986.92 | 1.55870 | 631656.09 | 4175986.77 | 1.63503 |
| 631636.70 | 4175986.62 | 1.77339 | 631617.32 | 4175986.46 | 1.68319 |
| 631597.94 | 4175986.31 | 1.40621 | 631578.55 | 4175986.16 | 1.35639 |
| 631559.17 | 4175986.01 | 1.33228 | 631539.79 | 4175985.86 | 1.30022 |
| 631520.40 | 4175985.71 | 1.26554 | 631501.02 | 4175985.56 | 1.24701 |
| 631481.64 | 4175985.40 | 1.23930 | 631462.25 | 4175985.25 | 1.23056 |
| 631442.87 | 4175985.10 | 1.22163 | 631423.49 | 4175984.95 | 1.21024 |
| 631404.10 | 4175984.80 | 1.19651 | 631384.72 | 4175984.65 | 1.18041 |
| 631365.34 | 4175984.50 | 1.16147 | 631345.95 | 4175984.35 | 1.14014 |
| 631326.57 | 4175984.19 | 1.11594 | 631307.19 | 4175984.04 | 1.08924 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK6 ***

INCLUDING SOURCE(S): STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.71291 | 632304.44 | 4174354.52 | 0.21491 |
| 632192.15 | 4174956.32 | 0.72296 | 632420.62 | 4175510.15 | 1.94296 |
| 632418.97 | 4175552.92 | 2.11634 | 631187.00 | 4175727.00 | 1.32776 |
| 631166.00 | 4175729.00 | 1.21914 | 631121.00 | 4175719.00 | 1.01040 |
| 631035.00 | 4174830.00 | 0.20581 | 631106.00 | 4174825.00 | 0.21751 |
| 631937.00 | 4174528.00 | 0.24909 | 631322.00 | 4174522.00 | 0.15735 |
| 629800.63 | 4173850.44 | 0.04770 | 630150.63 | 4173850.44 | 0.05516 |
| 630500.63 | 4173850.44 | 0.06482 | 630850.63 | 4173850.44 | 0.07447 |
| 631200.63 | 4173850.44 | 0.07709 | 631550.63 | 4173850.44 | 0.08050 |
| 631900.63 | 4173850.44 | 0.09893 | 632250.63 | 4173850.44 | 0.11014 |
| 632600.63 | 4173850.44 | 0.11786 | 632950.63 | 4173850.44 | 0.12383 |
| 633300.63 | 4173850.44 | 0.11929 | 629800.63 | 4174200.44 | 0.05613 |
| 630150.63 | 4174200.44 | 0.06567 | 630500.63 | 4174200.44 | 0.07949 |
| 630850.63 | 4174200.44 | 0.09742 | 631200.63 | 4174200.44 | 0.10746 |
| 631550.63 | 4174200.44 | 0.11420 | 631900.63 | 4174200.44 | 0.14817 |
| 632250.63 | 4174200.44 | 0.16730 | 632600.63 | 4174200.44 | 0.18014 |
| 632950.63 | 4174200.44 | 0.17298 | 633300.63 | 4174200.44 | 0.15235 |
| 629800.63 | 4174550.44 | 0.06767 | 630150.63 | 4174550.44 | 0.08088 |
| 630500.63 | 4174550.44 | 0.10088 | 630850.63 | 4174550.44 | 0.13163 |
| 631200.63 | 4174550.44 | 0.16093 | 631550.63 | 4174550.44 | 0.17773 |
| 631900.63 | 4174550.44 | 0.25298 | 632250.63 | 4174550.44 | 0.30021 |
| 632600.63 | 4174550.44 | 0.29602 | 632950.63 | 4174550.44 | 0.24200 |
| 633300.63 | 4174550.44 | 0.20737 | 629800.63 | 4174900.44 | 0.08194 |
| 630150.63 | 4174900.44 | 0.10283 | 630500.63 | 4174900.44 | 0.13419 |
| 630850.63 | 4174900.44 | 0.18586 | 631200.63 | 4174900.44 | 0.25885 |
| 631550.63 | 4174900.44 | 0.31094 | 631900.63 | 4174900.44 | 0.52407 |
| 632250.63 | 4174900.44 | 0.63013 | 632600.63 | 4174900.44 | 0.48421 |
| 632950.63 | 4174900.44 | 0.37151 | 633300.63 | 4174900.44 | 0.31448 |
| 629800.63 | 4175250.44 | 0.09490 | 630150.63 | 4175250.44 | 0.12754 |
| 630500.63 | 4175250.44 | 0.18394 | 630850.63 | 4175250.44 | 0.28385 |
| 631200.63 | 4175250.44 | 0.46973 | 631550.63 | 4175250.44 | 0.72608 |
| 631900.63 | 4175250.44 | 1.63175 | 632250.63 | 4175250.44 | 1.28291 |
| 632600.63 | 4175250.44 | 0.88737 | 632950.63 | 4175250.44 | 0.63175 |
| 633300.63 | 4175250.44 | 0.49372 | 629800.63 | 4175600.44 | 0.10535 |
| 630150.63 | 4175600.44 | 0.14680 | 630500.63 | 4175600.44 | 0.22705 |
| 630850.63 | 4175600.44 | 0.42577 | 631200.63 | 4175600.44 | 1.09169 |
| 631550.63 | 4175600.44 | 2.16396 | 631900.63 | 4175600.44 | 6.45047 |
| 632250.63 | 4175600.44 | 3.32649 | 632600.63 | 4175600.44 | 1.57366 |
| 632950.63 | 4175600.44 | 0.95718 | 633300.63 | 4175600.44 | 0.67956 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK6 ***

INCLUDING SOURCE(S): STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.25467 | 630850.63 | 4175950.44 | 0.53029 |
| 631200.63 | 4175950.44 | 1.91809 | 631550.63 | 4175950.44 | 7.89625 |
| 631900.63 | 4175950.44 | 4.12310 | 632250.63 | 4175950.44 | 2.85050 |
| 632600.63 | 4175950.44 | 1.49536 | 632950.63 | 4175950.44 | 0.96221 |
| 633300.63 | 4175950.44 | 0.68501 | 629800.63 | 4176300.44 | 0.11732 |
| 630150.63 | 4176300.44 | 0.17613 | 630500.63 | 4176300.44 | 0.31170 |
| 630850.63 | 4176300.44 | 0.68442 | 631200.63 | 4176300.44 | 1.53387 |
| 631550.63 | 4176300.44 | 1.46563 | 631900.63 | 4176300.44 | 1.11366 |
| 632250.63 | 4176300.44 | 0.97445 | 632600.63 | 4176300.44 | 0.81690 |
| 632950.63 | 4176300.44 | 0.63271 | 633300.63 | 4176300.44 | 0.50036 |
| 629800.63 | 4176650.44 | 0.13234 | 630150.63 | 4176650.44 | 0.19834 |
| 630500.63 | 4176650.44 | 0.32723 | 630850.63 | 4176650.44 | 0.56610 |
| 631200.63 | 4176650.44 | 0.77655 | 631550.63 | 4176650.44 | 0.76698 |
| 631900.63 | 4176650.44 | 0.64217 | 632250.63 | 4176650.44 | 0.58514 |
| 632600.63 | 4176650.44 | 0.48131 | 632950.63 | 4176650.44 | 0.39614 |
| 633300.63 | 4176650.44 | 0.34006 | 629800.63 | 4177000.44 | 0.13775 |
| 630150.63 | 4177000.44 | 0.19466 | 630500.63 | 4177000.44 | 0.28238 |
| 630850.63 | 4177000.44 | 0.38706 | 631200.63 | 4177000.44 | 0.47564 |
| 631550.63 | 4177000.44 | 0.47066 | 631900.63 | 4177000.44 | 0.42749 |
| 632250.63 | 4177000.44 | 0.39012 | 632600.63 | 4177000.44 | 0.34061 |
| 632950.63 | 4177000.44 | 0.28815 | 633300.63 | 4177000.44 | 0.24411 |
| 629800.63 | 4177350.44 | 0.13335 | 630150.63 | 4177350.44 | 0.17490 |
| 630500.63 | 4177350.44 | 0.22329 | 630850.63 | 4177350.44 | 0.27065 |
| 631200.63 | 4177350.44 | 0.31859 | 631550.63 | 4177350.44 | 0.31357 |
| 631900.63 | 4177350.44 | 0.29923 | 632250.63 | 4177350.44 | 0.26503 |
| 632600.63 | 4177350.44 | 0.25534 | 632950.63 | 4177350.44 | 0.22269 |
| 633300.63 | 4177350.44 | 0.19565 | 631670.70 | 4175493.59 | 3.47216 |
| 631669.80 | 4175641.41 | 9.88980 | 631665.32 | 4175796.39 | 10.41440 |
| 631417.17 | 4175826.85 | 7.30812 | 631417.17 | 4175673.66 | 2.43356 |
| 631422.55 | 4175484.63 | 1.09446 | 631268.42 | 4175983.74 | 2.88315 |
| 631275.69 | 4175523.99 | 1.27898 | 631345.65 | 4175419.50 | 1.09112 |
| 631384.72 | 4175441.30 | 1.02775 | 631491.93 | 4175442.21 | 1.01479 |
| 631491.93 | 4175414.95 | 0.89699 | 631385.63 | 4175413.14 | 0.94770 |
| 631358.37 | 4175395.87 | 0.97716 | 631409.25 | 4175336.81 | 1.00617 |
| 631567.35 | 4175235.96 | 0.70373 | 631756.33 | 4175028.80 | 0.60747 |
| 631807.22 | 4175003.36 | 0.61361 | 631867.18 | 4174987.91 | 0.63728 |
| 631849.92 | 4175988.28 | 2.85510 | 631268.74 | 4175963.75 | 2.84796 |
| 631269.05 | 4175943.76 | 2.78832 | 631269.37 | 4175923.77 | 2.70652 |
| 631269.68 | 4175903.78 | 2.61106 | 631270.00 | 4175883.79 | 2.51155 |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK6 ***

INCLUDING SOURCE(S): STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 2.28234 | 631271.26 | 4175803.84 | 2.23895 |
| 631271.58 | 4175783.85 | 2.20144 | 631271.90 | 4175763.86 | 2.15957 |
| 631272.21 | 4175743.87 | 2.08958 | 631272.53 | 4175723.88 | 2.00789 |
| 631272.85 | 4175703.89 | 1.87919 | 631273.16 | 4175683.90 | 1.76202 |
| 631273.48 | 4175663.91 | 1.60095 | 631273.79 | 4175643.92 | 1.74955 |
| 631274.11 | 4175623.94 | 1.60249 | 631274.43 | 4175603.95 | 1.46374 |
| 631274.74 | 4175583.96 | 1.33102 | 631275.06 | 4175563.97 | 1.22600 |
| 631275.37 | 4175543.98 | 1.31533 | 631285.68 | 4175509.06 | 1.23003 |
| 631295.68 | 4175494.14 | 1.13572 | 631305.67 | 4175479.21 | 1.08388 |
| 631315.67 | 4175464.28 | 1.03062 | 631325.66 | 4175449.35 | 1.00779 |
| 631335.66 | 4175434.43 | 1.16101 | 631358.67 | 4175426.77 | 0.95769 |
| 631371.70 | 4175434.03 | 1.03163 | 631402.59 | 4175441.45 | 1.01712 |
| 631420.46 | 4175441.60 | 1.04086 | 631438.33 | 4175441.76 | 1.09496 |
| 631456.19 | 4175441.91 | 0.99449 | 631474.06 | 4175442.06 | 0.97632 |
| 631491.93 | 4175428.58 | 0.91045 | 631474.21 | 4175414.65 | 0.92708 |
| 631456.50 | 4175414.35 | 0.90694 | 631438.78 | 4175414.05 | 0.97616 |
| 631421.06 | 4175413.74 | 1.03574 | 631403.35 | 4175413.44 | 0.94244 |
| 631372.00 | 4175404.51 | 1.02459 | 631371.09 | 4175381.11 | 0.90604 |
| 631383.81 | 4175366.34 | 1.11133 | 631396.53 | 4175351.58 | 1.06258 |
| 631425.06 | 4175326.73 | 0.90216 | 631440.87 | 4175316.64 | 0.91916 |
| 631456.68 | 4175306.56 | 0.87142 | 631472.49 | 4175296.47 | 0.81686 |
| 631488.30 | 4175286.39 | 0.77044 | 631504.11 | 4175276.30 | 0.76901 |
| 631519.92 | 4175266.22 | 0.72256 | 631535.73 | 4175256.13 | 0.73713 |
| 631551.54 | 4175246.05 | 0.70169 | 631579.95 | 4175222.15 | 0.68934 |
| 631592.55 | 4175208.34 | 0.69892 | 631605.15 | 4175194.53 | 0.68555 |
| 631617.74 | 4175180.72 | 0.69242 | 631630.34 | 4175166.91 | 0.69334 |
| 631642.94 | 4175153.10 | 0.68793 | 631655.54 | 4175139.29 | 0.68251 |
| 631668.14 | 4175125.47 | 0.67572 | 631680.74 | 4175111.66 | 0.66720 |
| 631693.34 | 4175097.85 | 0.65775 | 631705.94 | 4175084.04 | 0.64778 |
| 631718.53 | 4175070.23 | 0.63883 | 631731.13 | 4175056.42 | 0.62832 |
| 631743.73 | 4175042.61 | 0.61741 | 631773.29 | 4175020.32 | 0.61048 |
| 631790.26 | 4175011.84 | 0.61249 | 631822.21 | 4174999.50 | 0.62006 |
| 631837.20 | 4174995.64 | 0.62607 | 631852.19 | 4174991.77 | 0.63185 |
| 631866.84 | 4175007.53 | 0.67411 | 631866.50 | 4175027.14 | 0.71382 |
| 631866.16 | 4175046.76 | 0.75782 | 631865.83 | 4175066.37 | 0.80554 |
| 631865.49 | 4175085.99 | 0.85845 | 631865.15 | 4175105.60 | 0.91615 |
| 631864.81 | 4175125.22 | 0.98036 | 631864.47 | 4175144.83 | 1.05061 |
| 631864.13 | 4175164.45 | 1.12824 | 631863.80 | 4175184.06 | 1.21421 |
| 631863.46 | 4175203.68 | 1.30854 | 631863.12 | 4175223.29 | 1.41224 |

631862.78 4175242.91 1.52848 631862.44 4175262.52 1.65699



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK6 ***

INCLUDING SOURCE(S): STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 1.81775 | 631861.77 | 4175301.75 | 2.31256 |
| 631861.43 | 4175321.37 | 3.42265 | 631861.09 | 4175340.98 | 3.88821 |
| 631860.75 | 4175360.60 | 4.34491 | 631860.41 | 4175380.21 | 4.32621 |
| 631860.07 | 4175399.83 | 4.65369 | 631859.73 | 4175419.44 | 4.83854 |
| 631859.40 | 4175439.06 | 5.10414 | 631859.06 | 4175458.67 | 5.33855 |
| 631858.72 | 4175478.29 | 5.48567 | 631858.38 | 4175497.90 | 5.63414 |
| 631858.04 | 4175517.52 | 5.74368 | 631857.70 | 4175537.13 | 5.82186 |
| 631857.37 | 4175556.75 | 5.87755 | 631857.03 | 4175576.36 | 5.94267 |
| 631856.69 | 4175595.98 | 6.05388 | 631856.35 | 4175615.59 | 6.21952 |
| 631856.01 | 4175635.21 | 6.59056 | 631855.67 | 4175654.82 | 7.20471 |
| 631855.33 | 4175674.44 | 8.28699 | 631855.00 | 4175694.05 | 10.57841 |
| 631854.66 | 4175713.67 | 14.23327 | 631854.32 | 4175733.28 | 17.58606 |
| 631853.98 | 4175752.90 | 13.84060 | 631853.64 | 4175772.51 | 15.18750 |
| 631853.30 | 4175792.13 | 15.78339 | 631852.97 | 4175811.74 | 15.45452 |
| 631852.63 | 4175831.36 | 14.20427 | 631852.29 | 4175850.97 | 12.27492 |
| 631851.95 | 4175870.59 | 10.07258 | 631851.61 | 4175890.20 | 7.99415 |
| 631851.27 | 4175909.82 | 6.26078 | 631850.94 | 4175929.43 | 4.93521 |
| 631850.60 | 4175949.05 | 3.98246 | 631850.26 | 4175968.66 | 3.31646 |
| 631830.54 | 4175988.13 | 2.83653 | 631811.15 | 4175987.98 | 2.83864 |
| 631791.77 | 4175987.83 | 2.86293 | 631772.39 | 4175987.67 | 2.91755 |
| 631753.00 | 4175987.52 | 3.00682 | 631733.62 | 4175987.37 | 3.06158 |
| 631714.24 | 4175987.22 | 2.93222 | 631694.85 | 4175987.07 | 2.76697 |
| 631675.47 | 4175986.92 | 2.17849 | 631656.09 | 4175986.77 | 2.30168 |
| 631636.70 | 4175986.62 | 1.95226 | 631617.32 | 4175986.46 | 2.60346 |
| 631597.94 | 4175986.31 | 3.04802 | 631578.55 | 4175986.16 | 3.84607 |
| 631559.17 | 4175986.01 | 4.97718 | 631539.79 | 4175985.86 | 5.53417 |
| 631520.40 | 4175985.71 | 5.95092 | 631501.02 | 4175985.56 | 6.26562 |
| 631481.64 | 4175985.40 | 6.39426 | 631462.25 | 4175985.25 | 6.41524 |
| 631442.87 | 4175985.10 | 6.32117 | 631423.49 | 4175984.95 | 6.10817 |
| 631404.10 | 4175984.80 | 5.78605 | 631384.72 | 4175984.65 | 5.38205 |
| 631365.34 | 4175984.50 | 4.92589 | 631345.95 | 4175984.35 | 4.45647 |
| 631326.57 | 4175984.19 | 4.00647 | 631307.19 | 4175984.04 | 3.59127 |
| 631287.80 | 4175983.89 | 3.21726 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK7 ***

INCLUDING SOURCE(S): STCK7 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 0.90488 | 632304.44 | 4174354.52 | 0.24907 |
| 632192.15 | 4174956.32 | 0.88995 | 632420.62 | 4175510.15 | 2.30291 |
| 632418.97 | 4175552.92 | 2.41367 | 631187.00 | 4175727.00 | 1.55154 |
| 631166.00 | 4175729.00 | 1.40881 | 631121.00 | 4175719.00 | 1.14031 |
| 631035.00 | 4174830.00 | 0.23135 | 631106.00 | 4174825.00 | 0.24709 |
| 631937.00 | 4174528.00 | 0.29152 | 631322.00 | 4174522.00 | 0.17833 |
| 629800.63 | 4173850.44 | 0.04982 | 630150.63 | 4173850.44 | 0.05776 |
| 630500.63 | 4173850.44 | 0.06835 | 630850.63 | 4173850.44 | 0.07973 |
| 631200.63 | 4173850.44 | 0.08359 | 631550.63 | 4173850.44 | 0.08752 |
| 631900.63 | 4173850.44 | 0.10830 | 632250.63 | 4173850.44 | 0.12095 |
| 632600.63 | 4173850.44 | 0.13070 | 632950.63 | 4173850.44 | 0.13570 |
| 633300.63 | 4173850.44 | 0.12760 | 629800.63 | 4174200.44 | 0.05908 |
| 630150.63 | 4174200.44 | 0.06932 | 630500.63 | 4174200.44 | 0.08440 |
| 630850.63 | 4174200.44 | 0.10493 | 631200.63 | 4174200.44 | 0.11836 |
| 631550.63 | 4174200.44 | 0.12675 | 631900.63 | 4174200.44 | 0.16613 |
| 632250.63 | 4174200.44 | 0.18980 | 632600.63 | 4174200.44 | 0.20364 |
| 632950.63 | 4174200.44 | 0.18862 | 633300.63 | 4174200.44 | 0.16435 |
| 629800.63 | 4174550.44 | 0.07156 | 630150.63 | 4174550.44 | 0.08632 |
| 630500.63 | 4174550.44 | 0.10831 | 630850.63 | 4174550.44 | 0.14318 |
| 631200.63 | 4174550.44 | 0.18109 | 631550.63 | 4174550.44 | 0.20458 |
| 631900.63 | 4174550.44 | 0.29686 | 632250.63 | 4174550.44 | 0.35727 |
| 632600.63 | 4174550.44 | 0.33371 | 632950.63 | 4174550.44 | 0.26733 |
| 633300.63 | 4174550.44 | 0.23066 | 629800.63 | 4174900.44 | 0.08601 |
| 630150.63 | 4174900.44 | 0.11003 | 630500.63 | 4174900.44 | 0.14655 |
| 630850.63 | 4174900.44 | 0.20696 | 631200.63 | 4174900.44 | 0.30180 |
| 631550.63 | 4174900.44 | 0.38520 | 631900.63 | 4174900.44 | 0.67983 |
| 632250.63 | 4174900.44 | 0.76143 | 632600.63 | 4174900.44 | 0.55626 |
| 632950.63 | 4174900.44 | 0.42754 | 633300.63 | 4174900.44 | 0.35797 |
| 629800.63 | 4175250.44 | 0.09797 | 630150.63 | 4175250.44 | 0.13349 |
| 630500.63 | 4175250.44 | 0.19863 | 630850.63 | 4175250.44 | 0.32721 |
| 631200.63 | 4175250.44 | 0.58963 | 631550.63 | 4175250.44 | 1.10987 |
| 631900.63 | 4175250.44 | 2.36311 | 632250.63 | 4175250.44 | 1.60771 |
| 632600.63 | 4175250.44 | 1.06901 | 632950.63 | 4175250.44 | 0.72880 |
| 633300.63 | 4175250.44 | 0.55204 | 629800.63 | 4175600.44 | 0.10742 |
| 630150.63 | 4175600.44 | 0.15113 | 630500.63 | 4175600.44 | 0.23705 |
| 630850.63 | 4175600.44 | 0.46250 | 631200.63 | 4175600.44 | 1.40686 |
| 631550.63 | 4175600.44 | 9.28925 | 631900.63 | 4175600.44 | 15.61108 |
| 632250.63 | 4175600.44 | 3.96759 | 632600.63 | 4175600.44 | 1.66640 |
| 632950.63 | 4175600.44 | 1.01121 | 633300.63 | 4175600.44 | 0.70842 |
| 629800.63 | 4175950.44 | 0.11172 | 630150.63 | 4175950.44 | 0.16084 |



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*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK7 ***

INCLUDING SOURCE(S): STCK7 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.26667 | 630850.63 | 4175950.44 | 0.60164 |
| 631200.63 | 4175950.44 | 2.06712 | 631550.63 | 4175950.44 | 3.48762 |
| 631900.63 | 4175950.44 | 2.14172 | 632250.63 | 4175950.44 | 2.11413 |
| 632600.63 | 4175950.44 | 1.31417 | 632950.63 | 4175950.44 | 0.87756 |
| 633300.63 | 4175950.44 | 0.64125 | 629800.63 | 4176300.44 | 0.12120 |
| 630150.63 | 4176300.44 | 0.18471 | 630500.63 | 4176300.44 | 0.32568 |
| 630850.63 | 4176300.44 | 0.66714 | 631200.63 | 4176300.44 | 1.15498 |
| 631550.63 | 4176300.44 | 1.12267 | 631900.63 | 4176300.44 | 0.90964 |
| 632250.63 | 4176300.44 | 0.82111 | 632600.63 | 4176300.44 | 0.68612 |
| 632950.63 | 4176300.44 | 0.55305 | 633300.63 | 4176300.44 | 0.44747 |
| 629800.63 | 4176650.44 | 0.13546 | 630150.63 | 4176650.44 | 0.19955 |
| 630500.63 | 4176650.44 | 0.31895 | 630850.63 | 4176650.44 | 0.50254 |
| 631200.63 | 4176650.44 | 0.63046 | 631550.63 | 4176650.44 | 0.64301 |
| 631900.63 | 4176650.44 | 0.55699 | 632250.63 | 4176650.44 | 0.52224 |
| 632600.63 | 4176650.44 | 0.43659 | 632950.63 | 4176650.44 | 0.35644 |
| 633300.63 | 4176650.44 | 0.30607 | 629800.63 | 4177000.44 | 0.13716 |
| 630150.63 | 4177000.44 | 0.19053 | 630500.63 | 4177000.44 | 0.26501 |
| 630850.63 | 4177000.44 | 0.34392 | 631200.63 | 4177000.44 | 0.41085 |
| 631550.63 | 4177000.44 | 0.41267 | 631900.63 | 4177000.44 | 0.38439 |
| 632250.63 | 4177000.44 | 0.34748 | 632600.63 | 4177000.44 | 0.31393 |
| 632950.63 | 4177000.44 | 0.26786 | 633300.63 | 4177000.44 | 0.22766 |
| 629800.63 | 4177350.44 | 0.13095 | 630150.63 | 4177350.44 | 0.16778 |
| 630500.63 | 4177350.44 | 0.20824 | 630850.63 | 4177350.44 | 0.24607 |
| 631200.63 | 4177350.44 | 0.28607 | 631550.63 | 4177350.44 | 0.28306 |
| 631900.63 | 4177350.44 | 0.27341 | 632250.63 | 4177350.44 | 0.24190 |
| 632600.63 | 4177350.44 | 0.23549 | 632950.63 | 4177350.44 | 0.20870 |
| 633300.63 | 4177350.44 | 0.18454 | 631670.70 | 4175493.59 | 7.45924 |
| 631669.80 | 4175641.41 | 29.69476 | 631665.32 | 4175796.39 | 5.40613 |
| 631417.17 | 4175826.85 | 8.89294 | 631417.17 | 4175673.66 | 7.55761 |
| 631422.55 | 4175484.63 | 1.75094 | 631268.42 | 4175983.74 | 2.57184 |
| 631275.69 | 4175523.99 | 1.66457 | 631345.65 | 4175419.50 | 1.52688 |
| 631384.72 | 4175441.30 | 1.59478 | 631491.93 | 4175442.21 | 1.58283 |
| 631491.93 | 4175414.95 | 1.42023 | 631385.63 | 4175413.14 | 1.32128 |
| 631358.37 | 4175395.87 | 1.37701 | 631409.25 | 4175336.81 | 1.39203 |
| 631567.35 | 4175235.96 | 1.03535 | 631756.33 | 4175028.80 | 0.82156 |
| 631807.22 | 4175003.36 | 0.82513 | 631867.18 | 4174987.91 | 0.85588 |
| 631849.92 | 4175988.28 | 1.86938 | 631268.74 | 4175963.75 | 2.66342 |
| 631269.05 | 4175943.76 | 2.74404 | 631269.37 | 4175923.77 | 2.81149 |
| 631269.68 | 4175903.78 | 2.86218 | 631270.00 | 4175883.79 | 2.89655 |
| 631270.32 | 4175863.81 | 2.91554 | 631270.63 | 4175843.82 | 2.91995 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK7 ***

INCLUDING SOURCE(S): STCK7 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 2.90183 | 631271.26 | 4175803.84 | 2.86003 |
| 631271.58 | 4175783.85 | 2.80579 | 631271.90 | 4175763.86 | 2.72128 |
| 631272.21 | 4175743.87 | 2.60667 | 631272.53 | 4175723.88 | 2.48989 |
| 631272.85 | 4175703.89 | 2.36738 | 631273.16 | 4175683.90 | 2.26936 |
| 631273.48 | 4175663.91 | 2.21126 | 631273.79 | 4175643.92 | 2.21930 |
| 631274.11 | 4175623.94 | 2.16413 | 631274.43 | 4175603.95 | 1.99845 |
| 631274.74 | 4175583.96 | 1.81560 | 631275.06 | 4175563.97 | 1.70791 |
| 631275.37 | 4175543.98 | 1.71282 | 631285.68 | 4175509.06 | 1.62671 |
| 631295.68 | 4175494.14 | 1.55144 | 631305.67 | 4175479.21 | 1.45480 |
| 631315.67 | 4175464.28 | 1.38066 | 631325.66 | 4175449.35 | 1.42482 |
| 631335.66 | 4175434.43 | 1.55539 | 631358.67 | 4175426.77 | 1.46130 |
| 631371.70 | 4175434.03 | 1.54439 | 631402.59 | 4175441.45 | 1.53029 |
| 631420.46 | 4175441.60 | 1.53997 | 631438.33 | 4175441.76 | 1.69691 |
| 631456.19 | 4175441.91 | 1.61453 | 631474.06 | 4175442.06 | 1.55365 |
| 631491.93 | 4175428.58 | 1.49136 | 631474.21 | 4175414.65 | 1.35793 |
| 631456.50 | 4175414.35 | 1.37431 | 631438.78 | 4175414.05 | 1.51131 |
| 631421.06 | 4175413.74 | 1.49481 | 631403.35 | 4175413.44 | 1.43347 |
| 631372.00 | 4175404.51 | 1.46293 | 631371.09 | 4175381.11 | 1.26778 |
| 631383.81 | 4175366.34 | 1.33775 | 631396.53 | 4175351.58 | 1.41847 |
| 631425.06 | 4175326.73 | 1.27019 | 631440.87 | 4175316.64 | 1.27539 |
| 631456.68 | 4175306.56 | 1.24851 | 631472.49 | 4175296.47 | 1.19953 |
| 631488.30 | 4175286.39 | 1.16378 | 631504.11 | 4175276.30 | 1.10666 |
| 631519.92 | 4175266.22 | 1.09450 | 631535.73 | 4175256.13 | 1.08323 |
| 631551.54 | 4175246.05 | 1.05939 | 631579.95 | 4175222.15 | 1.02364 |
| 631592.55 | 4175208.34 | 1.02908 | 631605.15 | 4175194.53 | 0.98392 |
| 631617.74 | 4175180.72 | 0.99364 | 631630.34 | 4175166.91 | 0.98748 |
| 631642.94 | 4175153.10 | 0.97868 | 631655.54 | 4175139.29 | 0.96674 |
| 631668.14 | 4175125.47 | 0.94893 | 631680.74 | 4175111.66 | 0.93133 |
| 631693.34 | 4175097.85 | 0.91311 | 631705.94 | 4175084.04 | 0.89420 |
| 631718.53 | 4175070.23 | 0.87712 | 631731.13 | 4175056.42 | 0.85864 |
| 631743.73 | 4175042.61 | 0.84013 | 631773.29 | 4175020.32 | 0.82438 |
| 631790.26 | 4175011.84 | 0.82536 | 631822.21 | 4174999.50 | 0.83415 |
| 631837.20 | 4174995.64 | 0.84202 | 631852.19 | 4174991.77 | 0.84897 |
| 631866.84 | 4175007.53 | 0.91341 | 631866.50 | 4175027.14 | 0.97650 |
| 631866.16 | 4175046.76 | 1.04647 | 631865.83 | 4175066.37 | 1.12360 |
| 631865.49 | 4175085.99 | 1.20877 | 631865.15 | 4175105.60 | 1.30288 |
| 631864.81 | 4175125.22 | 1.40657 | 631864.47 | 4175144.83 | 1.52132 |
| 631864.13 | 4175164.45 | 1.64771 | 631863.80 | 4175184.06 | 1.78676 |
| 631863.46 | 4175203.68 | 1.94002 | 631863.12 | 4175223.29 | 2.10754 |
| 631862.78 | 4175242.91 | 2.29142 | 631862.44 | 4175262.52 | 2.49349 |

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK7 ***

INCLUDING SOURCE(S): STCK7 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 2.72672 | 631861.77 | 4175301.75 | 3.17526 |
| 631861.43 | 4175321.37 | 4.92131 | 631861.09 | 4175340.98 | 6.03129 |
| 631860.75 | 4175360.60 | 7.84769 | 631860.41 | 4175380.21 | 7.80476 |
| 631860.07 | 4175399.83 | 8.70430 | 631859.73 | 4175419.44 | 8.63321 |
| 631859.40 | 4175439.06 | 9.09333 | 631859.06 | 4175458.67 | 9.78194 |
| 631858.72 | 4175478.29 | 10.04449 | 631858.38 | 4175497.90 | 10.89779 |
| 631858.04 | 4175517.52 | 12.03658 | 631857.70 | 4175537.13 | 13.40234 |
| 631857.37 | 4175556.75 | 14.94183 | 631857.03 | 4175576.36 | 16.92147 |
| 631856.69 | 4175595.98 | 22.31205 | 631856.35 | 4175615.59 | 27.07434 |
| 631856.01 | 4175635.21 | 30.37946 | 631855.67 | 4175654.82 | 31.15243 |
| 631855.33 | 4175674.44 | 29.15111 | 631855.00 | 4175694.05 | 25.93604 |
| 631854.66 | 4175713.67 | 21.80781 | 631854.32 | 4175733.28 | 18.54790 |
| 631853.98 | 4175752.90 | 14.82225 | 631853.64 | 4175772.51 | 11.25050 |
| 631853.30 | 4175792.13 | 8.90017 | 631852.97 | 4175811.74 | 7.00556 |
| 631852.63 | 4175831.36 | 5.32584 | 631852.29 | 4175850.97 | 4.27508 |
| 631851.95 | 4175870.59 | 3.51682 | 631851.61 | 4175890.20 | 3.00338 |
| 631851.27 | 4175909.82 | 2.65737 | 631850.94 | 4175929.43 | 2.38654 |
| 631850.60 | 4175949.05 | 2.17553 | 631850.26 | 4175968.66 | 2.00684 |
| 631830.54 | 4175988.13 | 1.89665 | 631811.15 | 4175987.98 | 1.92815 |
| 631791.77 | 4175987.83 | 1.96248 | 631772.39 | 4175987.67 | 2.00070 |
| 631753.00 | 4175987.52 | 2.04632 | 631733.62 | 4175987.37 | 2.12289 |
| 631714.24 | 4175987.22 | 2.34396 | 631694.85 | 4175987.07 | 2.40047 |
| 631675.47 | 4175986.92 | 2.33211 | 631656.09 | 4175986.77 | 2.21003 |
| 631636.70 | 4175986.62 | 2.04421 | 631617.32 | 4175986.46 | 2.28338 |
| 631597.94 | 4175986.31 | 2.39653 | 631578.55 | 4175986.16 | 2.48670 |
| 631559.17 | 4175986.01 | 2.77328 | 631539.79 | 4175985.86 | 2.91852 |
| 631520.40 | 4175985.71 | 2.99604 | 631501.02 | 4175985.56 | 3.05334 |
| 631481.64 | 4175985.40 | 3.11820 | 631462.25 | 4175985.25 | 3.15946 |
| 631442.87 | 4175985.10 | 3.18897 | 631423.49 | 4175984.95 | 3.20970 |
| 631404.10 | 4175984.80 | 3.21350 | 631384.72 | 4175984.65 | 3.20233 |
| 631365.34 | 4175984.50 | 3.16325 | 631345.95 | 4175984.35 | 3.09243 |
| 631326.57 | 4175984.19 | 2.99267 | 631307.19 | 4175984.04 | 2.86759 |
| 631287.80 | 4175983.89 | 2.72456 | | | |



*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK8 ***

INCLUDING SOURCE(S): STCK8 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.12021 | 632304.44 | 4174354.52 | 0.29112 |
| 632192.15 | 4174956.32 | 1.06825 | 632420.62 | 4175510.15 | 2.43410 |
| 632418.97 | 4175552.92 | 2.43487 | 631187.00 | 4175727.00 | 1.81903 |
| 631166.00 | 4175729.00 | 1.65074 | 631121.00 | 4175719.00 | 1.33471 |
| 631035.00 | 4174830.00 | 0.26512 | 631106.00 | 4174825.00 | 0.28585 |
| 631937.00 | 4174528.00 | 0.34865 | 631322.00 | 4174522.00 | 0.20488 |
| 629800.63 | 4173850.44 | 0.05215 | 630150.63 | 4173850.44 | 0.06063 |
| 630500.63 | 4173850.44 | 0.07224 | 630850.63 | 4173850.44 | 0.08558 |
| 631200.63 | 4173850.44 | 0.09109 | 631550.63 | 4173850.44 | 0.09568 |
| 631900.63 | 4173850.44 | 0.11933 | 632250.63 | 4173850.44 | 0.13390 |
| 632600.63 | 4173850.44 | 0.14576 | 632950.63 | 4173850.44 | 0.14853 |
| 633300.63 | 4173850.44 | 0.13648 | 629800.63 | 4174200.44 | 0.06229 |
| 630150.63 | 4174200.44 | 0.07344 | 630500.63 | 4174200.44 | 0.08998 |
| 630850.63 | 4174200.44 | 0.11356 | 631200.63 | 4174200.44 | 0.13137 |
| 631550.63 | 4174200.44 | 0.14193 | 631900.63 | 4174200.44 | 0.18833 |
| 632250.63 | 4174200.44 | 0.21793 | 632600.63 | 4174200.44 | 0.23012 |
| 632950.63 | 4174200.44 | 0.20544 | 633300.63 | 4174200.44 | 0.17860 |
| 629800.63 | 4174550.44 | 0.07565 | 630150.63 | 4174550.44 | 0.09234 |
| 630500.63 | 4174550.44 | 0.11709 | 630850.63 | 4174550.44 | 0.15727 |
| 631200.63 | 4174550.44 | 0.20630 | 631550.63 | 4174550.44 | 0.23939 |
| 631900.63 | 4174550.44 | 0.35620 | 632250.63 | 4174550.44 | 0.42730 |
| 632600.63 | 4174550.44 | 0.37389 | 632950.63 | 4174550.44 | 0.29819 |
| 633300.63 | 4174550.44 | 0.25908 | 629800.63 | 4174900.44 | 0.08983 |
| 630150.63 | 4174900.44 | 0.11727 | 630500.63 | 4174900.44 | 0.16104 |
| 630850.63 | 4174900.44 | 0.23470 | 631200.63 | 4174900.44 | 0.36004 |
| 631550.63 | 4174900.44 | 0.49368 | 631900.63 | 4174900.44 | 0.90838 |
| 632250.63 | 4174900.44 | 0.90095 | 632600.63 | 4174900.44 | 0.64641 |
| 632950.63 | 4174900.44 | 0.49518 | 633300.63 | 4174900.44 | 0.40806 |
| 629800.63 | 4175250.44 | 0.10103 | 630150.63 | 4175250.44 | 0.13894 |
| 630500.63 | 4175250.44 | 0.21170 | 630850.63 | 4175250.44 | 0.37657 |
| 631200.63 | 4175250.44 | 0.77415 | 631550.63 | 4175250.44 | 1.70414 |
| 631900.63 | 4175250.44 | 3.22691 | 632250.63 | 4175250.44 | 2.08454 |
| 632600.63 | 4175250.44 | 1.26921 | 632950.63 | 4175250.44 | 0.82495 |
| 633300.63 | 4175250.44 | 0.60846 | 629800.63 | 4175600.44 | 0.10871 |
| 630150.63 | 4175600.44 | 0.15403 | 630500.63 | 4175600.44 | 0.24405 |
| 630850.63 | 4175600.44 | 0.48139 | 631200.63 | 4175600.44 | 1.61012 |
| 631550.63 | 4175600.44 | 0.00000 | 631900.63 | 4175600.44 | 16.22002 |
| 632250.63 | 4175600.44 | 3.89987 | 632600.63 | 4175600.44 | 1.65593 |
| 632950.63 | 4175600.44 | 1.02443 | 633300.63 | 4175600.44 | 0.71599 |
| 629800.63 | 4175950.44 | 0.11345 | 630150.63 | 4175950.44 | 0.16551 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK8 ***

INCLUDING SOURCE(S): STCK8 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.28508 | 630850.63 | 4175950.44 | 0.65141 |
| 631200.63 | 4175950.44 | 1.82584 | 631550.63 | 4175950.44 | 2.11246 |
| 631900.63 | 4175950.44 | 1.62634 | 632250.63 | 4175950.44 | 1.55353 |
| 632600.63 | 4175950.44 | 1.11493 | 632950.63 | 4175950.44 | 0.77885 |
| 633300.63 | 4175950.44 | 0.58676 | 629800.63 | 4176300.44 | 0.12581 |
| 630150.63 | 4176300.44 | 0.19256 | 630500.63 | 4176300.44 | 0.33182 |
| 630850.63 | 4176300.44 | 0.63167 | 631200.63 | 4176300.44 | 0.92458 |
| 631550.63 | 4176300.44 | 0.91477 | 631900.63 | 4176300.44 | 0.76836 |
| 632250.63 | 4176300.44 | 0.72925 | 632600.63 | 4176300.44 | 0.59344 |
| 632950.63 | 4176300.44 | 0.48550 | 633300.63 | 4176300.44 | 0.40089 |
| 629800.63 | 4176650.44 | 0.13730 | 630150.63 | 4176650.44 | 0.19916 |
| 630500.63 | 4176650.44 | 0.30812 | 630850.63 | 4176650.44 | 0.45056 |
| 631200.63 | 4176650.44 | 0.54824 | 631550.63 | 4176650.44 | 0.55735 |
| 631900.63 | 4176650.44 | 0.49711 | 632250.63 | 4176650.44 | 0.47364 |
| 632600.63 | 4176650.44 | 0.40002 | 632950.63 | 4176650.44 | 0.32739 |
| 633300.63 | 4176650.44 | 0.27754 | 629800.63 | 4177000.44 | 0.13608 |
| 630150.63 | 4177000.44 | 0.18543 | 630500.63 | 4177000.44 | 0.24892 |
| 630850.63 | 4177000.44 | 0.31203 | 631200.63 | 4177000.44 | 0.37002 |
| 631550.63 | 4177000.44 | 0.36908 | 631900.63 | 4177000.44 | 0.34992 |
| 632250.63 | 4177000.44 | 0.31284 | 632600.63 | 4177000.44 | 0.29237 |
| 632950.63 | 4177000.44 | 0.24949 | 633300.63 | 4177000.44 | 0.21414 |
| 629800.63 | 4177350.44 | 0.12807 | 630150.63 | 4177350.44 | 0.16060 |
| 630500.63 | 4177350.44 | 0.19512 | 630850.63 | 4177350.44 | 0.22733 |
| 631200.63 | 4177350.44 | 0.26203 | 631550.63 | 4177350.44 | 0.25834 |
| 631900.63 | 4177350.44 | 0.25155 | 632250.63 | 4177350.44 | 0.22310 |
| 632600.63 | 4177350.44 | 0.21731 | 632950.63 | 4177350.44 | 0.19669 |
| 633300.63 | 4177350.44 | 0.17402 | 631670.70 | 4175493.59 | 14.02439 |
| 631669.80 | 4175641.41 | 31.57105 | 631665.32 | 4175796.39 | 2.82085 |
| 631417.17 | 4175826.85 | 3.65238 | 631417.17 | 4175673.66 | 9.73056 |
| 631422.55 | 4175484.63 | 4.70111 | 631268.42 | 4175983.74 | 1.95348 |
| 631275.69 | 4175523.99 | 2.23079 | 631345.65 | 4175419.50 | 2.31882 |
| 631384.72 | 4175441.30 | 3.05120 | 631491.93 | 4175442.21 | 3.89900 |
| 631491.93 | 4175414.95 | 3.09692 | 631385.63 | 4175413.14 | 2.39923 |
| 631358.37 | 4175395.87 | 2.14732 | 631409.25 | 4175336.81 | 2.10752 |
| 631567.35 | 4175235.96 | 1.60781 | 631756.33 | 4175028.80 | 1.16732 |
| 631807.22 | 4175003.36 | 1.15697 | 631867.18 | 4174987.91 | 1.18646 |
| 631849.92 | 4175988.28 | 1.48930 | 631268.74 | 4175963.75 | 2.05736 |
| 631269.05 | 4175943.76 | 2.16428 | 631269.37 | 4175923.77 | 2.27157 |
| 631269.68 | 4175903.78 | 2.37556 | 631270.00 | 4175883.79 | 2.47510 |
| 631270.32 | 4175863.81 | 2.56630 | 631270.63 | 4175843.82 | 2.64838 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK8 ***

INCLUDING SOURCE(S): STCK8 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 2.71978 | 631271.26 | 4175803.84 | 2.78021 |
| 631271.58 | 4175783.85 | 2.83269 | 631271.90 | 4175763.86 | 2.85477 |
| 631272.21 | 4175743.87 | 2.87095 | 631272.53 | 4175723.88 | 2.88963 |
| 631272.85 | 4175703.89 | 2.83220 | 631273.16 | 4175683.90 | 2.74648 |
| 631273.48 | 4175663.91 | 2.70386 | 631273.79 | 4175643.92 | 2.65656 |
| 631274.11 | 4175623.94 | 2.60393 | 631274.43 | 4175603.95 | 2.47749 |
| 631274.74 | 4175583.96 | 2.36378 | 631275.06 | 4175563.97 | 2.31737 |
| 631275.37 | 4175543.98 | 2.29339 | 631285.68 | 4175509.06 | 2.28344 |
| 631295.68 | 4175494.14 | 2.27294 | 631305.67 | 4175479.21 | 2.22712 |
| 631315.67 | 4175464.28 | 2.17501 | 631325.66 | 4175449.35 | 2.21941 |
| 631335.66 | 4175434.43 | 2.28255 | 631358.67 | 4175426.77 | 2.39714 |
| 631371.70 | 4175434.03 | 2.79486 | 631402.59 | 4175441.45 | 3.08992 |
| 631420.46 | 4175441.60 | 3.37596 | 631438.33 | 4175441.76 | 3.63468 |
| 631456.19 | 4175441.91 | 3.84477 | 631474.06 | 4175442.06 | 3.67958 |
| 631491.93 | 4175428.58 | 3.47467 | 631474.21 | 4175414.65 | 2.97227 |
| 631456.50 | 4175414.35 | 3.04190 | 631438.78 | 4175414.05 | 3.07716 |
| 631421.06 | 4175413.74 | 2.78116 | 631403.35 | 4175413.44 | 2.84370 |
| 631372.00 | 4175404.51 | 2.35130 | 631371.09 | 4175381.11 | 1.96718 |
| 631383.81 | 4175366.34 | 1.98984 | 631396.53 | 4175351.58 | 2.11587 |
| 631425.06 | 4175326.73 | 2.13464 | 631440.87 | 4175316.64 | 2.10638 |
| 631456.68 | 4175306.56 | 1.99841 | 631472.49 | 4175296.47 | 1.90837 |
| 631488.30 | 4175286.39 | 1.84501 | 631504.11 | 4175276.30 | 1.75812 |
| 631519.92 | 4175266.22 | 1.69975 | 631535.73 | 4175256.13 | 1.63248 |
| 631551.54 | 4175246.05 | 1.63025 | 631579.95 | 4175222.15 | 1.62301 |
| 631592.55 | 4175208.34 | 1.58659 | 631605.15 | 4175194.53 | 1.53966 |
| 631617.74 | 4175180.72 | 1.55689 | 631630.34 | 4175166.91 | 1.49427 |
| 631642.94 | 4175153.10 | 1.48069 | 631655.54 | 4175139.29 | 1.45356 |
| 631668.14 | 4175125.47 | 1.41805 | 631680.74 | 4175111.66 | 1.38051 |
| 631693.34 | 4175097.85 | 1.34497 | 631705.94 | 4175084.04 | 1.30873 |
| 631718.53 | 4175070.23 | 1.27315 | 631731.13 | 4175056.42 | 1.23777 |
| 631743.73 | 4175042.61 | 1.20202 | 631773.29 | 4175020.32 | 1.16663 |
| 631790.26 | 4175011.84 | 1.16288 | 631822.21 | 4174999.50 | 1.16654 |
| 631837.20 | 4174995.64 | 1.17493 | 631852.19 | 4174991.77 | 1.18183 |
| 631866.84 | 4175007.53 | 1.27689 | 631866.50 | 4175027.14 | 1.37578 |
| 631866.16 | 4175046.76 | 1.48462 | 631865.83 | 4175066.37 | 1.60468 |
| 631865.49 | 4175085.99 | 1.73662 | 631865.15 | 4175105.60 | 1.88121 |
| 631864.81 | 4175125.22 | 2.03959 | 631864.47 | 4175144.83 | 2.21223 |
| 631864.13 | 4175164.45 | 2.39945 | 631863.80 | 4175184.06 | 2.60083 |
| 631863.46 | 4175203.68 | 2.81886 | 631863.12 | 4175223.29 | 3.05064 |
| 631862.78 | 4175242.91 | 3.29739 | 631862.44 | 4175262.52 | 3.56304 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK8 ***

INCLUDING SOURCE(S): STCK8 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 3.85647 | 631861.77 | 4175301.75 | 4.20833 |
| 631861.43 | 4175321.37 | 4.40724 | 631861.09 | 4175340.98 | 5.42413 |
| 631860.75 | 4175360.60 | 7.04017 | 631860.41 | 4175380.21 | 8.48367 |
| 631860.07 | 4175399.83 | 9.68462 | 631859.73 | 4175419.44 | 9.50682 |
| 631859.40 | 4175439.06 | 13.33004 | 631859.06 | 4175458.67 | 15.60111 |
| 631858.72 | 4175478.29 | 15.84181 | 631858.38 | 4175497.90 | 17.14202 |
| 631858.04 | 4175517.52 | 18.29762 | 631857.70 | 4175537.13 | 19.35751 |
| 631857.37 | 4175556.75 | 25.22231 | 631857.03 | 4175576.36 | 26.80137 |
| 631856.69 | 4175595.98 | 25.98617 | 631856.35 | 4175615.59 | 22.49612 |
| 631856.01 | 4175635.21 | 18.36456 | 631855.67 | 4175654.82 | 15.64965 |
| 631855.33 | 4175674.44 | 13.49699 | 631855.00 | 4175694.05 | 11.69859 |
| 631854.66 | 4175713.67 | 10.16996 | 631854.32 | 4175733.28 | 8.76093 |
| 631853.98 | 4175752.90 | 7.73598 | 631853.64 | 4175772.51 | 5.47908 |
| 631853.30 | 4175792.13 | 5.14721 | 631852.97 | 4175811.74 | 4.63209 |
| 631852.63 | 4175831.36 | 3.63147 | 631852.29 | 4175850.97 | 3.00913 |
| 631851.95 | 4175870.59 | 2.51143 | 631851.61 | 4175890.20 | 2.07312 |
| 631851.27 | 4175909.82 | 1.96329 | 631850.94 | 4175929.43 | 1.80833 |
| 631850.60 | 4175949.05 | 1.68653 | 631850.26 | 4175968.66 | 1.58127 |
| 631830.54 | 4175988.13 | 1.50053 | 631811.15 | 4175987.98 | 1.51085 |
| 631791.77 | 4175987.83 | 1.52053 | 631772.39 | 4175987.67 | 1.53136 |
| 631753.00 | 4175987.52 | 1.54484 | 631733.62 | 4175987.37 | 1.57563 |
| 631714.24 | 4175987.22 | 1.75276 | 631694.85 | 4175987.07 | 1.95215 |
| 631675.47 | 4175986.92 | 2.03732 | 631656.09 | 4175986.77 | 1.93817 |
| 631636.70 | 4175986.62 | 1.89015 | 631617.32 | 4175986.46 | 1.93951 |
| 631597.94 | 4175986.31 | 1.96276 | 631578.55 | 4175986.16 | 1.89623 |
| 631559.17 | 4175986.01 | 1.93529 | 631539.79 | 4175985.86 | 1.95960 |
| 631520.40 | 4175985.71 | 1.97583 | 631501.02 | 4175985.56 | 1.99203 |
| 631481.64 | 4175985.40 | 2.01057 | 631462.25 | 4175985.25 | 2.02517 |
| 631442.87 | 4175985.10 | 2.03716 | 631423.49 | 4175984.95 | 2.04147 |
| 631404.10 | 4175984.80 | 2.04640 | 631384.72 | 4175984.65 | 2.05378 |
| 631365.34 | 4175984.50 | 2.05936 | 631345.95 | 4175984.35 | 2.05853 |
| 631326.57 | 4175984.19 | 2.04774 | 631307.19 | 4175984.04 | 2.02716 |
| 631287.80 | 4175983.89 | 1.99563 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK9 ***

INCLUDING SOURCE(S): STCK9 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 1.36696 | 632304.44 | 4174354.52 | 0.34306 |
| 632192.15 | 4174956.32 | 1.28147 | 632420.62 | 4175510.15 | 2.37838 |
| 632418.97 | 4175552.92 | 2.33979 | 631187.00 | 4175727.00 | 1.79893 |
| 631166.00 | 4175729.00 | 1.65493 | 631121.00 | 4175719.00 | 1.38821 |

| | | | | | |
|---|---|---|---|---|---|
| 631035.00 | 4174830.00 | 0.30979 | 631106.00 | 4174825.00 | 0.33796 |
| 631937.00 | 4174528.00 | 0.42761 | 631322.00 | 4174522.00 | 0.23970 |
| 629800.63 | 4173850.44 | 0.05473 | 630150.63 | 4173850.44 | 0.06379 |
| 630500.63 | 4173850.44 | 0.07654 | 630850.63 | 4173850.44 | 0.09213 |
| 631200.63 | 4173850.44 | 0.09984 | 631550.63 | 4173850.44 | 0.10527 |
| 631900.63 | 4173850.44 | 0.13250 | 632250.63 | 4173850.44 | 0.14967 |
| 632600.63 | 4173850.44 | 0.16349 | 632950.63 | 4173850.44 | 0.16236 |
| 633300.63 | 4173850.44 | 0.14626 | 629800.63 | 4174200.44 | 0.06577 |
| 630150.63 | 4174200.44 | 0.07808 | 630500.63 | 4174200.44 | 0.09633 |
| 630850.63 | 4174200.44 | 0.12368 | 631200.63 | 4174200.44 | 0.14722 |
| 631550.63 | 4174200.44 | 0.16068 | 631900.63 | 4174200.44 | 0.21650 |
| 632250.63 | 4174200.44 | 0.25357 | 632600.63 | 4174200.44 | 0.25968 |
| 632950.63 | 4174200.44 | 0.22445 | 633300.63 | 4174200.44 | 0.19586 |
| 629800.63 | 4174550.44 | 0.07982 | 630150.63 | 4174550.44 | 0.09898 |
| 630500.63 | 4174550.44 | 0.12743 | 630850.63 | 4174550.44 | 0.17450 |
| 631200.63 | 4174550.44 | 0.23902 | 631550.63 | 4174550.44 | 0.28582 |
| 631900.63 | 4174550.44 | 0.43835 | 632250.63 | 4174550.44 | 0.51233 |
| 632600.63 | 4174550.44 | 0.42038 | 632950.63 | 4174550.44 | 0.33713 |
| 633300.63 | 4174550.44 | 0.29325 | 629800.63 | 4174900.44 | 0.09329 |
| 630150.63 | 4174900.44 | 0.12420 | 630500.63 | 4174900.44 | 0.17650 |
| 630850.63 | 4174900.44 | 0.26884 | 631200.63 | 4174900.44 | 0.44226 |
| 631550.63 | 4174900.44 | 0.65725 | 631900.63 | 4174900.44 | 1.24412 |
| 632250.63 | 4174900.44 | 1.06743 | 632600.63 | 4174900.44 | 0.76300 |
| 632950.63 | 4174900.44 | 0.57598 | 633300.63 | 4174900.44 | 0.46371 |
| 629800.63 | 4175250.44 | 0.10402 | 630150.63 | 4175250.44 | 0.14432 |
| 630500.63 | 4175250.44 | 0.22233 | 630850.63 | 4175250.44 | 0.41957 |
| 631200.63 | 4175250.44 | 1.03324 | 631550.63 | 4175250.44 | 3.01447 |
| 631900.63 | 4175250.44 | 4.28395 | 632250.63 | 4175250.44 | 2.74359 |
| 632600.63 | 4175250.44 | 1.45451 | 632950.63 | 4175250.44 | 0.91578 |
| 633300.63 | 4175250.44 | 0.65877 | 629800.63 | 4175600.44 | 0.10974 |
| 630150.63 | 4175600.44 | 0.15640 | 630500.63 | 4175600.44 | 0.25154 |
| 630850.63 | 4175600.44 | 0.51990 | 631200.63 | 4175600.44 | 1.79628 |
| 631550.63 | 4175600.44 | 8.48631 | 631900.63 | 4175600.44 | 11.12431 |
| 632250.63 | 4175600.44 | 3.45757 | 632600.63 | 4175600.44 | 1.58665 |
| 632950.63 | 4175600.44 | 0.99338 | 633300.63 | 4175600.44 | 0.70055 |
| 629800.63 | 4175950.44 | 0.11580 | 630150.63 | 4175950.44 | 0.17236 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK9 ***

INCLUDING SOURCE(S): STCK9 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 0.30433 | 630850.63 | 4175950.44 | 0.66128 |
| 631200.63 | 4175950.44 | 1.50461 | 631550.63 | 4175950.44 | 1.59354 |
| 631900.63 | 4175950.44 | 1.31289 | 632250.63 | 4175950.44 | 1.15092 |
| 632600.63 | 4175950.44 | 0.93773 | 632950.63 | 4175950.44 | 0.68249 |

| | | | | | |
|---|---|---|---|---|---|
| 633300.63 | 4175950.44 | 0.52889 | 629800.63 | 4176300.44 | 0.13041 |
| 630150.63 | 4176300.44 | 0.19774 | 630500.63 | 4176300.44 | 0.33086 |
| 630850.63 | 4176300.44 | 0.58521 | 631200.63 | 4176300.44 | 0.77351 |
| 631550.63 | 4176300.44 | 0.77092 | 631900.63 | 4176300.44 | 0.66473 |
| 632250.63 | 4176300.44 | 0.64651 | 632600.63 | 4176300.44 | 0.52821 |
| 632950.63 | 4176300.44 | 0.42691 | 633300.63 | 4176300.44 | 0.36004 |
| 629800.63 | 4176650.44 | 0.13795 | 630150.63 | 4176650.44 | 0.19738 |
| 630500.63 | 4176650.44 | 0.29461 | 630850.63 | 4176650.44 | 0.40782 |
| 631200.63 | 4176650.44 | 0.48852 | 631550.63 | 4176650.44 | 0.49159 |
| 631900.63 | 4176650.44 | 0.45397 | 632250.63 | 4176650.44 | 0.42989 |
| 632600.63 | 4176650.44 | 0.36659 | 632950.63 | 4176650.44 | 0.30422 |
| 633300.63 | 4176650.44 | 0.25454 | 629800.63 | 4177000.44 | 0.13454 |
| 630150.63 | 4177000.44 | 0.17940 | 630500.63 | 4177000.44 | 0.23371 |
| 630850.63 | 4177000.44 | 0.28562 | 631200.63 | 4177000.44 | 0.33729 |
| 631550.63 | 4177000.44 | 0.33352 | 631900.63 | 4177000.44 | 0.32180 |
| 632250.63 | 4177000.44 | 0.28426 | 632600.63 | 4177000.44 | 0.27244 |
| 632950.63 | 4177000.44 | 0.23276 | 633300.63 | 4177000.44 | 0.20211 |
| 629800.63 | 4177350.44 | 0.12475 | 630150.63 | 4177350.44 | 0.15343 |
| 630500.63 | 4177350.44 | 0.18324 | 630850.63 | 4177350.44 | 0.21145 |
| 631200.63 | 4177350.44 | 0.24142 | 631550.63 | 4177350.44 | 0.23728 |
| 631900.63 | 4177350.44 | 0.23300 | 632250.63 | 4177350.44 | 0.20779 |
| 632600.63 | 4177350.44 | 0.20066 | 632950.63 | 4177350.44 | 0.18590 |
| 633300.63 | 4177350.44 | 0.16427 | 631670.70 | 4175493.59 | 40.29938 |
| 631669.80 | 4175641.41 | 6.15426 | 631665.32 | 4175796.39 | 2.14083 |
| 631417.17 | 4175826.85 | 1.33014 | 631417.17 | 4175673.66 | 2.44666 |
| 631422.55 | 4175484.63 | 8.56621 | 631268.42 | 4175983.74 | 1.47961 |
| 631275.69 | 4175523.99 | 2.47564 | 631345.65 | 4175419.50 | 3.43337 |
| 631384.72 | 4175441.30 | 5.03772 | 631491.93 | 4175442.21 | 14.27064 |
| 631491.93 | 4175414.95 | 9.92155 | 631385.63 | 4175413.14 | 4.33166 |
| 631358.37 | 4175395.87 | 3.36360 | 631409.25 | 4175336.81 | 3.48247 |
| 631567.35 | 4175235.96 | 2.77436 | 631756.33 | 4175028.80 | 1.74135 |
| 631807.22 | 4175003.36 | 1.68795 | 631867.18 | 4174987.91 | 1.68238 |
| 631849.92 | 4175988.28 | 1.20310 | 631268.74 | 4175963.75 | 1.55655 |
| 631269.05 | 4175943.76 | 1.63913 | 631269.37 | 4175923.77 | 1.72752 |
| 631269.68 | 4175903.78 | 1.82081 | 631270.00 | 4175883.79 | 1.91842 |
| 631270.32 | 4175863.81 | 2.01948 | 631270.63 | 4175843.82 | 2.12102 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK9 ***

INCLUDING SOURCE(S): STCK9 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 2.22302 | 631271.26 | 4175803.84 | 2.32949 |
| 631271.58 | 4175783.85 | 2.43740 | 631271.90 | 4175763.86 | 2.50818 |
| 631272.21 | 4175743.87 | 2.57870 | 631272.53 | 4175723.88 | 2.72011 |
| 631272.85 | 4175703.89 | 2.67507 | 631273.16 | 4175683.90 | 2.45141 |

| | | | | | |
|---|---|---|---|---|---|
| 631273.48 | 4175663.91 | 2.55516 | 631273.79 | 4175643.92 | 2.70971 |
| 631274.11 | 4175623.94 | 2.74728 | 631274.43 | 4175603.95 | 2.63890 |
| 631274.74 | 4175583.96 | 2.49224 | 631275.06 | 4175563.97 | 2.50983 |
| 631275.37 | 4175543.98 | 2.50777 | 631285.68 | 4175509.06 | 2.60663 |
| 631295.68 | 4175494.14 | 2.69763 | 631305.67 | 4175479.21 | 2.77467 |
| 631315.67 | 4175464.28 | 2.93270 | 631325.66 | 4175449.35 | 3.08510 |
| 631335.66 | 4175434.43 | 3.24018 | 631358.67 | 4175426.77 | 3.78649 |
| 631371.70 | 4175434.03 | 4.35429 | 631402.59 | 4175441.45 | 5.80536 |
| 631420.46 | 4175441.60 | 7.29704 | 631438.33 | 4175441.76 | 8.50366 |
| 631456.19 | 4175441.91 | 11.44434 | 631474.06 | 4175442.06 | 12.27131 |
| 631491.93 | 4175428.58 | 11.83033 | 631474.21 | 4175414.65 | 9.59170 |
| 631456.50 | 4175414.35 | 8.26843 | 631438.78 | 4175414.05 | 7.53907 |
| 631421.06 | 4175413.74 | 5.86354 | 631403.35 | 4175413.44 | 5.45630 |
| 631372.00 | 4175404.51 | 3.83045 | 631371.09 | 4175381.11 | 3.32711 |
| 631383.81 | 4175366.34 | 3.35051 | 631396.53 | 4175351.58 | 3.45624 |
| 631425.06 | 4175326.73 | 3.65190 | 631440.87 | 4175316.64 | 3.71542 |
| 631456.68 | 4175306.56 | 3.60520 | 631472.49 | 4175296.47 | 3.41806 |
| 631488.30 | 4175286.39 | 3.38716 | 631504.11 | 4175276.30 | 3.17746 |
| 631519.92 | 4175266.22 | 3.00217 | 631535.73 | 4175256.13 | 2.96696 |
| 631551.54 | 4175246.05 | 2.89729 | 631579.95 | 4175222.15 | 2.74987 |
| 631592.55 | 4175208.34 | 2.62070 | 631605.15 | 4175194.53 | 2.54683 |
| 631617.74 | 4175180.72 | 2.55104 | 631630.34 | 4175166.91 | 2.42989 |
| 631642.94 | 4175153.10 | 2.40660 | 631655.54 | 4175139.29 | 2.33913 |
| 631668.14 | 4175125.47 | 2.26676 | 631680.74 | 4175111.66 | 2.18904 |
| 631693.34 | 4175097.85 | 2.11036 | 631705.94 | 4175084.04 | 2.03362 |
| 631718.53 | 4175070.23 | 1.95771 | 631731.13 | 4175056.42 | 1.88263 |
| 631743.73 | 4175042.61 | 1.81169 | 631773.29 | 4175020.32 | 1.72773 |
| 631790.26 | 4175011.84 | 1.70974 | 631822.21 | 4174999.50 | 1.69150 |
| 631837.20 | 4174995.64 | 1.69204 | 631852.19 | 4174991.77 | 1.68853 |
| 631866.84 | 4175007.53 | 1.81667 | 631866.50 | 4175027.14 | 1.96368 |
| 631866.16 | 4175046.76 | 2.12313 | 631865.83 | 4175066.37 | 2.29573 |
| 631865.49 | 4175085.99 | 2.48198 | 631865.15 | 4175105.60 | 2.68148 |
| 631864.81 | 4175125.22 | 2.89441 | 631864.47 | 4175144.83 | 3.12013 |
| 631864.13 | 4175164.45 | 3.35949 | 631863.80 | 4175184.06 | 3.61088 |
| 631863.46 | 4175203.68 | 3.87812 | 631863.12 | 4175223.29 | 4.16203 |
| 631862.78 | 4175242.91 | 4.47028 | 631862.44 | 4175262.52 | 4.81806 |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK9 ***

INCLUDING SOURCE(S): STCK9 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 5.23478 | 631861.77 | 4175301.75 | 5.74307 |
| 631861.43 | 4175321.37 | 6.09129 | 631861.09 | 4175340.98 | 6.86488 |
| 631860.75 | 4175360.60 | 7.89063 | 631860.41 | 4175380.21 | 9.51342 |
| 631860.07 | 4175399.83 | 11.16668 | 631859.73 | 4175419.44 | 13.23420 |

| | | | | | |
|---|---|---|---|---|---|
| 631859.40 | 4175439.06 | 16.39219 | 631859.06 | 4175458.67 | 18.31262 |
| 631858.72 | 4175478.29 | 20.56445 | 631858.38 | 4175497.90 | 23.66494 |
| 631858.04 | 4175517.52 | 26.54224 | 631857.70 | 4175537.13 | 27.84799 |
| 631857.37 | 4175556.75 | 26.19544 | 631857.03 | 4175576.36 | 19.89462 |
| 631856.69 | 4175595.98 | 13.25500 | 631856.35 | 4175615.59 | 9.81857 |
| 631856.01 | 4175635.21 | 8.38141 | 631855.67 | 4175654.82 | 7.24768 |
| 631855.33 | 4175674.44 | 6.25174 | 631855.00 | 4175694.05 | 5.44537 |
| 631854.66 | 4175713.67 | 4.83593 | 631854.32 | 4175733.28 | 4.35189 |
| 631853.98 | 4175752.90 | 4.07877 | 631853.64 | 4175772.51 | 3.78824 |
| 631853.30 | 4175792.13 | 3.53871 | 631852.97 | 4175811.74 | 3.32035 |
| 631852.63 | 4175831.36 | 3.13759 | 631852.29 | 4175850.97 | 2.73781 |
| 631851.95 | 4175870.59 | 2.62382 | 631851.61 | 4175890.20 | 1.87082 |
| 631851.27 | 4175909.82 | 1.68951 | 631850.94 | 4175929.43 | 1.46347 |
| 631850.60 | 4175949.05 | 1.35746 | 631850.26 | 4175968.66 | 1.27431 |
| 631830.54 | 4175988.13 | 1.20312 | 631811.15 | 4175987.98 | 1.20137 |
| 631791.77 | 4175987.83 | 1.20443 | 631772.39 | 4175987.67 | 1.21262 |
| 631753.00 | 4175987.52 | 1.22572 | 631733.62 | 4175987.37 | 1.25118 |
| 631714.24 | 4175987.22 | 1.31233 | 631694.85 | 4175987.07 | 1.48605 |
| 631675.47 | 4175986.92 | 1.64777 | 631656.09 | 4175986.77 | 1.60691 |
| 631636.70 | 4175986.62 | 1.59418 | 631617.32 | 4175986.46 | 1.62385 |
| 631597.94 | 4175986.31 | 1.61935 | 631578.55 | 4175986.16 | 1.54692 |
| 631559.17 | 4175986.01 | 1.49795 | 631539.79 | 4175985.86 | 1.47694 |
| 631520.40 | 4175985.71 | 1.45399 | 631501.02 | 4175985.56 | 1.46318 |
| 631481.64 | 4175985.40 | 1.47985 | 631462.25 | 4175985.25 | 1.49088 |
| 631442.87 | 4175985.10 | 1.49925 | 631423.49 | 4175984.95 | 1.50322 |
| 631404.10 | 4175984.80 | 1.50120 | 631384.72 | 4175984.65 | 1.49755 |
| 631365.34 | 4175984.50 | 1.49646 | 631345.95 | 4175984.35 | 1.49641 |
| 631326.57 | 4175984.19 | 1.49624 | 631307.19 | 4175984.04 | 1.49364 |
| 631287.80 | 4175983.89 | 1.48850 | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE1 ***

INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 94.90443 | (06011617) | 632304.44 | 4174354.52 | 39.89195 | (06020318) |
| 632192.15 | 4174956.32 | 92.90400 | (06011617) | 632420.62 | 4175510.15 | 44.55060 | (06011619) |
| 632418.97 | 4175552.92 | 43.97688 | (07011518) | 631187.00 | 4175727.00 | 163.29044 | (04021521) |
| 631166.00 | 4175729.00 | 153.36615 | (04021521) | 631121.00 | 4175719.00 | 134.63198 | (04021520) |
| 631035.00 | 4174830.00 | 50.24844 | (05012117) | 631106.00 | 4174825.00 | 48.59569 | (05012117) |
| 631937.00 | 4174528.00 | 50.88105 | (07012317) | 631322.00 | 4174522.00 | 40.22894 | (05122422) |
| 629800.63 | 4173850.44 | 14.58168 | (06011022) | 630150.63 | 4173850.44 | 16.77601 | (07121217) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4173850.44 | 24.08970 | (05012117) | 630850.63 | 4173850.44 | 23.21119 | (06121017) |
| 631200.63 | 4173850.44 | 24.54886 | (06121420) | 631550.63 | 4173850.44 | 25.03015 | (04122823) |
| 631900.63 | 4173850.44 | 25.92335 | (04122824) | 632250.63 | 4173850.44 | 27.45532 | (06020105) |
| 632600.63 | 4173850.44 | 27.23603 | (05122303) | 632950.63 | 4173850.44 | 26.39835 | (05122304) |
| 633300.63 | 4173850.44 | 23.09026 | (07012702) | 629800.63 | 4174200.44 | 16.95610 | (06121421) |
| 630150.63 | 4174200.44 | 18.42664 | (06011022) | 630500.63 | 4174200.44 | 23.41646 | (07011517) |
| 630850.63 | 4174200.44 | 27.25621 | (05012117) | 631200.63 | 4174200.44 | 31.15162 | (06121420) |
| 631550.63 | 4174200.44 | 34.20624 | (07012317) | 631900.63 | 4174200.44 | 36.46294 | (07011417) |
| 632250.63 | 4174200.44 | 35.66861 | (04122822) | 632600.63 | 4174200.44 | 35.11111 | (05122304) |
| 632950.63 | 4174200.44 | 30.93533 | (07012702) | 633300.63 | 4174200.44 | 28.78708 | (06011617) |
| 629800.63 | 4174550.44 | 41.16469 | (06020109) | 630150.63 | 4174550.44 | 28.21088 | (06020109) |
| 630500.63 | 4174550.44 | 24.13767 | (06011022) | 630850.63 | 4174550.44 | 38.24682 | (05012117) |
| 631200.63 | 4174550.44 | 39.68418 | (08022002) | 631550.63 | 4174550.44 | 50.01023 | (07012317) |
| 631900.63 | 4174550.44 | 51.53446 | (07012317) | 632250.63 | 4174550.44 | 50.96921 | (05011521) |
| 632600.63 | 4174550.44 | 42.95996 | (07012702) | 632950.63 | 4174550.44 | 34.77252 | (06011617) |
| 633300.63 | 4174550.44 | 27.65201 | (06120617) | 629800.63 | 4174900.44 | 71.87112 | (06020109) |
| 630150.63 | 4174900.44 | 62.76262 | (06020109) | 630500.63 | 4174900.44 | 53.79676 | (06020109) |
| 630850.63 | 4174900.44 | 45.05795 | (06020109) | 631200.63 | 4174900.44 | 54.96065 | (08022002) |
| 631550.63 | 4174900.44 | 75.32751 | (07012317) | 631900.63 | 4174900.44 | 94.19280 | (07012317) |
| 632250.63 | 4174900.44 | 82.22269 | (06011617) | 632600.63 | 4174900.44 | 48.51017 | (06120617) |
| 632950.63 | 4174900.44 | 33.65130 | (05021801) | 633300.63 | 4174900.44 | 35.23964 | (06100508) |
| 629800.63 | 4175250.44 | 51.20978 | (06020109) | 630150.63 | 4175250.44 | 69.91130 | (06020109) |
| 630500.63 | 4175250.44 | 79.32905 | (06020109) | 630850.63 | 4175250.44 | 87.53191 | (06020109) |
| 631200.63 | 4175250.44 | 92.41214 | (05012117) | 631550.63 | 4175250.44 | 209.67957 | (07011417) |
| 631900.63 | 4175250.44 | 237.76836 | (06120617) | 632250.63 | 4175250.44 | 67.20463 | (07020218) |
| 632600.63 | 4175250.44 | 43.37332 | (06100508) | 632950.63 | 4175250.44 | 37.52623 | (06100508) |
| 633300.63 | 4175250.44 | 32.48930 | (06100508) | 629800.63 | 4175600.44 | 24.48444 | (05122618) |
| 630150.63 | 4175600.44 | 29.89925 | (05122618) | 630500.63 | 4175600.44 | 39.35682 | (07020701) |
| 630850.63 | 4175600.44 | 72.97274 | (06020109) | 631200.63 | 4175600.44 | 199.05401 | (06122121) |
| 631550.63 | 4175600.44 | 217.72943 | (07022408) | 631900.63 | 4175600.44 | 150.81735 | (04021506) |
| 632250.63 | 4175600.44 | 52.73856 | (07012318) | 632600.63 | 4175600.44 | 36.85056 | (07012318) |
| 632950.63 | 4175600.44 | 29.10781 | (07011518) | 633300.63 | 4175600.44 | 24.19835 | (07011518) |
| 629800.63 | 4175950.44 | 24.06429 | (06011024) | 630150.63 | 4175950.44 | 32.04263 | (07120621) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE1 ***

INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
| 630500.63 | 4175950.44 | 44.11576 | (07120404) | 630850.63 | 4175950.44 | 69.97957 | (04021520) |
| 631200.63 | 4175950.44 | 151.51453 | (07021218) | 631550.63 | 4175950.44 | 144.42458 | (05122402) |
| 631900.63 | 4175950.44 | 139.37063 | (08021908) | 632250.63 | 4175950.44 | 48.46868 | (05011818) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 632600.63 | 4175950.44 | 35.04867 | (05122401) | 632950.63 | 4175950.44 | 27.55960 | (07120624) |
| 633300.63 | 4175950.44 | 23.03816 | (05012018) | 629800.63 | 4176300.44 | 25.60811 | (07120404) |
| 630150.63 | 4176300.44 | 33.79933 | (07013018) | 630500.63 | 4176300.44 | 43.76832 | (07120403) |
| 630850.63 | 4176300.44 | 58.32716 | (05021421) | 631200.63 | 4176300.44 | 85.49074 | (08011009) |
| 631550.63 | 4176300.44 | 70.11607 | (06020918) | 631900.63 | 4176300.44 | 76.15685 | (05022220) |
| 632250.63 | 4176300.44 | 50.13239 | (08021908) | 632600.63 | 4176300.44 | 36.35587 | (08021808) |
| 632950.63 | 4176300.44 | 32.78989 | (08031008) | 633300.63 | 4176300.44 | 26.34669 | (08031008) |
| 629800.63 | 4176650.44 | 26.29536 | (06022523) | 630150.63 | 4176650.44 | 31.13754 | (07012618) |
| 630500.63 | 4176650.44 | 37.83869 | (04120903) | 630850.63 | 4176650.44 | 47.89393 | (05011001) |
| 631200.63 | 4176650.44 | 50.44694 | (08011009) | 631550.63 | 4176650.44 | 46.60313 | (06020918) |
| 631900.63 | 4176650.44 | 43.93787 | (06011704) | 632250.63 | 4176650.44 | 39.79833 | (07091007) |
| 632600.63 | 4176650.44 | 33.43794 | (08021908) | 632950.63 | 4176650.44 | 28.85424 | (08021808) |
| 633300.63 | 4176650.44 | 31.06798 | (08031008) | 629800.63 | 4177000.44 | 24.27018 | (07012618) |
| 630150.63 | 4177000.44 | 27.31798 | (05122923) | 630500.63 | 4177000.44 | 31.05920 | (05022705) |
| 630850.63 | 4177000.44 | 36.26475 | (07122907) | 631200.63 | 4177000.44 | 36.81096 | (07021108) |
| 631550.63 | 4177000.44 | 35.11405 | (05010603) | 631900.63 | 4177000.44 | 52.03373 | (07091007) |
| 632250.63 | 4177000.44 | 48.55669 | (07091007) | 632600.63 | 4177000.44 | 26.95014 | (07022408) |
| 632950.63 | 4177000.44 | 25.47759 | (08021908) | 633300.63 | 4177000.44 | 22.15470 | (08021808) |
| 629800.63 | 4177350.44 | 21.81399 | (05122923) | 630150.63 | 4177350.44 | 24.30798 | (05022703) |
| 630500.63 | 4177350.44 | 29.18613 | (05011001) | 630850.63 | 4177350.44 | 29.27580 | (06020123) |
| 631200.63 | 4177350.44 | 28.15052 | (07122906) | 631550.63 | 4177350.44 | 28.45102 | (06011704) |
| 631900.63 | 4177350.44 | 54.35645 | (07091007) | 632250.63 | 4177350.44 | 44.70394 | (07091007) |
| 632600.63 | 4177350.44 | 25.01880 | (04102908) | 632950.63 | 4177350.44 | 21.95174 | (07022408) |
| 633300.63 | 4177350.44 | 20.44825 | (08021908) | 631670.70 | 4175493.59 | 140.79049 | (07012318) |
| 631669.80 | 4175641.41 | 120.72764 | (08021808) | 631665.32 | 4175796.39 | 97.06254 | (07022408) |
| 631417.17 | 4175826.85 | 156.44196 | (06011109) | 631417.17 | 4175673.66 | 189.86850 | (06011109) |
| 631422.55 | 4175484.63 | 426.61123 | (06011109) | 631268.42 | 4175983.74 | 200.62508 | (08011009) |
| 631275.69 | 4175523.99 | 310.35443 | (07120622) | 631345.65 | 4175419.50 | 314.39260 | (07012317) |
| 631384.72 | 4175441.30 | 514.90866 | (07011417) | 631491.93 | 4175442.21 | 467.94381 | (06011109) |
| 631491.93 | 4175414.95 | 343.67640 | (06011109) | 631385.63 | 4175413.14 | 348.77136 | (07011417) |
| 631358.37 | 4175395.87 | 295.81213 | (07012317) | 631409.25 | 4175336.81 | 205.62518 | (07011417) |
| 631567.35 | 4175235.96 | 188.58545 | (07011417) | 631756.33 | 4175028.80 | 149.68444 | (08022002) |
| 631807.22 | 4175003.36 | 176.99563 | (05122422) | 631867.18 | 4174987.91 | 141.47293 | (07012317) |
| 631849.92 | 4175988.28 | 377.30957 | (05122220) | 631268.74 | 4175963.75 | 218.70290 | (08011009) |
| 631269.05 | 4175943.76 | 239.14404 | (08011009) | 631269.37 | 4175923.77 | 263.00212 | (08011009) |
| 631269.68 | 4175903.78 | 289.22466 | (08011009) | 631270.00 | 4175883.79 | 309.20970 | (08011009) |
| 631270.32 | 4175863.81 | 314.77817 | (08011009) | 631270.63 | 4175843.82 | 317.19966 | (08011009) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE1 ***

INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 316.80757 | (05010917) | 631271.26 | 4175803.84 | 314.56577 | (05010917) |
| 631271.58 | 4175783.85 | 314.32309 | (07021218) | 631271.90 | 4175763.86 | 314.79449 | (07021218) |
| 631272.21 | 4175743.87 | 314.62323 | (07021218) | 631272.53 | 4175723.88 | 313.76853 | (07021218) |
| 631272.85 | 4175703.89 | 311.84616 | (07021218) | 631273.16 | 4175683.90 | 310.29835 | (07122917) |
| 631273.48 | 4175663.91 | 310.79204 | (04120908) | 631273.79 | 4175643.92 | 315.58054 | (04120903) |
| 631274.11 | 4175623.94 | 322.37794 | (04021521) | 631274.43 | 4175603.95 | 335.14958 | (04021521) |
| 631274.74 | 4175583.96 | 347.76001 | (04021521) | 631275.06 | 4175563.97 | 371.36915 | (04021520) |
| 631275.37 | 4175543.98 | 343.15672 | (06122121) | 631285.68 | 4175509.06 | 316.50693 | (07120622) |
| 631295.68 | 4175494.14 | 322.81459 | (06011024) | 631305.67 | 4175479.21 | 339.92936 | (06011024) |
| 631315.67 | 4175464.28 | 366.43333 | (04121304) | 631325.66 | 4175449.35 | 364.50970 | (08012221) |
| 631335.66 | 4175434.43 | 321.43788 | (06121217) | 631358.67 | 4175426.77 | 410.64483 | (07012317) |
| 631371.70 | 4175434.03 | 436.27397 | (07012317) | 631402.59 | 4175441.45 | 475.78407 | (04122822) |
| 631420.46 | 4175441.60 | 466.38220 | (06011617) | 631438.33 | 4175441.76 | 479.56155 | (06011617) |
| 631456.19 | 4175441.91 | 469.68502 | (06011617) | 631474.06 | 4175442.06 | 456.55437 | (06011617) |
| 631491.93 | 4175428.58 | 384.37038 | (06011109) | 631474.21 | 4175414.65 | 300.75526 | (06011617) |
| 631456.50 | 4175414.35 | 291.49033 | (04022018) | 631438.78 | 4175414.05 | 294.22106 | (05011521) |
| 631421.06 | 4175413.74 | 309.92599 | (04022318) | 631403.35 | 4175413.44 | 350.98432 | (07011417) |
| 631372.00 | 4175404.51 | 333.23811 | (07012317) | 631371.09 | 4175381.11 | 279.33957 | (07012317) |
| 631383.81 | 4175366.34 | 251.09018 | (07012317) | 631396.53 | 4175351.58 | 218.43213 | (07012317) |
| 631425.06 | 4175326.73 | 199.71789 | (07011417) | 631440.87 | 4175316.64 | 187.33925 | (07011417) |
| 631456.68 | 4175306.56 | 172.55295 | (07011417) | 631472.49 | 4175296.47 | 168.09814 | (06121420) |
| 631488.30 | 4175286.39 | 206.32470 | (06121420) | 631504.11 | 4175276.30 | 236.06723 | (05010417) |
| 631519.92 | 4175266.22 | 244.12689 | (07012317) | 631535.73 | 4175256.13 | 234.99524 | (07012317) |
| 631551.54 | 4175246.05 | 203.68877 | (07011417) | 631579.95 | 4175222.15 | 170.37253 | (07011417) |
| 631592.55 | 4175208.34 | 159.09720 | (04122822) | 631605.15 | 4175194.53 | 151.41925 | (04122822) |
| 631617.74 | 4175180.72 | 144.10412 | (04122822) | 631630.34 | 4175166.91 | 137.21695 | (04122822) |
| 631642.94 | 4175153.10 | 130.77263 | (04122822) | 631655.54 | 4175139.29 | 125.00738 | (05020818) |
| 631668.14 | 4175125.47 | 120.06239 | (05020818) | 631680.74 | 4175111.66 | 115.39045 | (05020818) |
| 631693.34 | 4175097.85 | 110.94040 | (05020818) | 631705.94 | 4175084.04 | 114.42442 | (05012117) |
| 631718.53 | 4175070.23 | 129.00469 | (05012117) | 631731.13 | 4175056.42 | 144.46502 | (05012117) |
| 631743.73 | 4175042.61 | 149.68939 | (05012117) | 631773.29 | 4175020.32 | 164.92151 | (05022218) |
| 631790.26 | 4175011.84 | 174.35533 | (05122422) | 631822.21 | 4174999.50 | 162.57047 | (05010417) |
| 631837.20 | 4174995.64 | 153.13774 | (07012317) | 631852.19 | 4174991.77 | 153.84296 | (07012317) |
| 631866.84 | 4175007.53 | 149.63439 | (07012317) | 631866.50 | 4175027.14 | 158.00979 | (07012317) |
| 631866.16 | 4175046.76 | 174.43386 | (07011417) | 631865.83 | 4175066.37 | 189.85449 | (07011417) |
| 631865.49 | 4175085.99 | 215.37173 | (05011521) | 631865.15 | 4175105.60 | 262.41822 | (04022018) |
| 631864.81 | 4175125.22 | 285.82356 | (06011617) | 631864.47 | 4175144.83 | 292.98841 | (06011617) |
| 631864.13 | 4175164.45 | 305.22198 | (06011617) | 631863.80 | 4175184.06 | 311.12986 | (06011617) |
| 631863.46 | 4175203.68 | 309.17357 | (06011617) | 631863.12 | 4175223.29 | 322.15377 | (06011617) |
| 631862.78 | 4175242.91 | 367.93705 | (07012317) | 631862.44 | 4175262.52 | 408.28851 | (07022408) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE1 ***

INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 412.55520 | (05022620) | 631861.77 | 4175301.75 | 402.45245 | (06012820) |
| 631861.43 | 4175321.37 | 395.80393 | (04021506) | 631861.09 | 4175340.98 | 392.19078 | (04121819) |
| 631860.75 | 4175360.60 | 390.67309 | (05021302) | 631860.41 | 4175380.21 | 389.83644 | (05021302) |
| 631860.07 | 4175399.83 | 391.82647 | (05122402) | 631859.73 | 4175419.44 | 394.07979 | (05122402) |
| 631859.40 | 4175439.06 | 395.66651 | (05122402) | 631859.06 | 4175458.67 | 396.69286 | (05122402) |
| 631858.72 | 4175478.29 | 396.84136 | (05122402) | 631858.38 | 4175497.90 | 396.21299 | (05122402) |
| 631858.04 | 4175517.52 | 395.00212 | (05122402) | 631857.70 | 4175537.13 | 393.39494 | (05122402) |
| 631857.37 | 4175556.75 | 391.37289 | (05122402) | 631857.03 | 4175576.36 | 390.77848 | (06020918) |
| 631856.69 | 4175595.98 | 390.86777 | (06020918) | 631856.35 | 4175615.59 | 390.80172 | (06020918) |
| 631856.01 | 4175635.21 | 390.62372 | (06020918) | 631855.67 | 4175654.82 | 390.36329 | (06020918) |
| 631855.33 | 4175674.44 | 390.04576 | (06020918) | 631855.00 | 4175694.05 | 389.50323 | (06020918) |
| 631854.66 | 4175713.67 | 389.12231 | (06020918) | 631854.32 | 4175733.28 | 388.73552 | (06020918) |
| 631853.98 | 4175752.90 | 388.33025 | (06020918) | 631853.64 | 4175772.51 | 388.07012 | (05122220) |
| 631853.30 | 4175792.13 | 387.88083 | (05122220) | 631852.97 | 4175811.74 | 387.44778 | (05122220) |
| 631852.63 | 4175831.36 | 387.15615 | (05122220) | 631852.29 | 4175850.97 | 386.80459 | (05122220) |
| 631851.95 | 4175870.59 | 386.34164 | (05122220) | 631851.61 | 4175890.20 | 385.72661 | (05122220) |
| 631851.27 | 4175909.82 | 384.88754 | (05122220) | 631850.94 | 4175929.43 | 383.89826 | (05122220) |
| 631850.60 | 4175949.05 | 386.25634 | (05122220) | 631850.26 | 4175968.66 | 388.00167 | (05122220) |
| 631830.54 | 4175988.13 | 290.95666 | (08011009) | 631811.15 | 4175987.98 | 172.75389 | (08011009) |
| 631791.77 | 4175987.83 | 126.67108 | (08011009) | 631772.39 | 4175987.67 | 101.78623 | (08011009) |
| 631753.00 | 4175987.52 | 86.01625 | (08011009) | 631733.62 | 4175987.37 | 78.44491 | (08021908) |
| 631714.24 | 4175987.22 | 81.43518 | (08021908) | 631694.85 | 4175987.07 | 84.91242 | (08021908) |
| 631675.47 | 4175986.92 | 88.74265 | (08021908) | 631656.09 | 4175986.77 | 92.75412 | (08021908) |
| 631636.70 | 4175986.62 | 97.07149 | (07022408) | 631617.32 | 4175986.46 | 103.04926 | (07022408) |
| 631597.94 | 4175986.31 | 108.28264 | (07022408) | 631578.55 | 4175986.16 | 112.92960 | (07022408) |
| 631559.17 | 4175986.01 | 124.37075 | (05122402) | 631539.79 | 4175985.86 | 143.94616 | (05122402) |
| 631520.40 | 4175985.71 | 167.06038 | (05122220) | 631501.02 | 4175985.56 | 194.35741 | (05122403) |
| 631481.64 | 4175985.40 | 231.88149 | (07022408) | 631462.25 | 4175985.25 | 477.08060 | (08011009) |
| 631442.87 | 4175985.10 | 277.07284 | (07021218) | 631423.49 | 4175984.95 | 161.40958 | (04120908) |
| 631404.10 | 4175984.80 | 126.79633 | (04020619) | 631384.72 | 4175984.65 | 139.50418 | (05122402) |
| 631365.34 | 4175984.50 | 154.96661 | (05122402) | 631345.95 | 4175984.35 | 168.75146 | (05122220) |
| 631326.57 | 4175984.19 | 178.83674 | (05121504) | 631307.19 | 4175984.04 | 179.40462 | (08122907) |
| 631287.80 | 4175983.89 | 187.14735 | (07021108) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE2 ***

INCLUDING SOURCE(S): L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 , L0000878 , L0000879 , L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 , L0000886 , L0000887 , L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 , L0000894 , L0000895 , L0000896 , L0000897 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|---|

(YYMMDDHH)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 26.65133 | (06011617) | 632304.44 | 4174354.52 | 17.34662 | (04022018) |
| 632192.15 | 4174956.32 | 27.60037 | (06011617) | 632420.62 | 4175510.15 | 49.69852 | (06100508) |
| 632418.97 | 4175552.92 | 58.65481 | (06100508) | 631187.00 | 4175727.00 | 84.61298 | (06011617) |
| 631166.00 | 4175729.00 | 85.24265 | (06011617) | 631121.00 | 4175719.00 | 83.09513 | (06011617) |
| 631035.00 | 4174830.00 | 24.11937 | (07012317) | 631106.00 | 4174825.00 | 24.02634 | (07012317) |
| 631937.00 | 4174528.00 | 18.63608 | (05011521) | 631322.00 | 4174522.00 | 20.09022 | (07012317) |
| 629800.63 | 4173850.44 | 16.28504 | (05012117) | 630150.63 | 4173850.44 | 13.79369 | (08022002) |
| 630500.63 | 4173850.44 | 14.13150 | (08022002) | 630850.63 | 4173850.44 | 14.08879 | (07012317) |
| 631200.63 | 4173850.44 | 15.13877 | (07012317) | 631550.63 | 4173850.44 | 14.80747 | (07011417) |
| 631900.63 | 4173850.44 | 13.97025 | (04022318) | 632250.63 | 4173850.44 | 13.65649 | (05020818) |
| 632600.63 | 4173850.44 | 13.73542 | (05011520) | 632950.63 | 4173850.44 | 13.98790 | (04022018) |
| 633300.63 | 4173850.44 | 13.32102 | (07012702) | 629800.63 | 4174200.44 | 18.63279 | (05012117) |
| 630150.63 | 4174200.44 | 18.40140 | (05012117) | 630500.63 | 4174200.44 | 16.24289 | (08022002) |
| 630850.63 | 4174200.44 | 16.96419 | (07012317) | 631200.63 | 4174200.44 | 17.33956 | (07012317) |
| 631550.63 | 4174200.44 | 16.98001 | (07011417) | 631900.63 | 4174200.44 | 15.79084 | (04122822) |
| 632250.63 | 4174200.44 | 15.89987 | (05011521) | 632600.63 | 4174200.44 | 16.40705 | (04022018) |
| 632950.63 | 4174200.44 | 15.50512 | (07012702) | 633300.63 | 4174200.44 | 17.06290 | (06011617) |
| 629800.63 | 4174550.44 | 21.15683 | (05012117) | 630150.63 | 4174550.44 | 22.08391 | (05012117) |
| 630500.63 | 4174550.44 | 20.21285 | (05012117) | 630850.63 | 4174550.44 | 20.39936 | (07012317) |
| 631200.63 | 4174550.44 | 20.44553 | (07012317) | 631550.63 | 4174550.44 | 19.98472 | (07011417) |
| 631900.63 | 4174550.44 | 18.85298 | (05011521) | 632250.63 | 4174550.44 | 19.61315 | (04022018) |
| 632600.63 | 4174550.44 | 18.66935 | (06011617) | 632950.63 | 4174550.44 | 21.20411 | (06011617) |
| 633300.63 | 4174550.44 | 17.81359 | (07012703) | 629800.63 | 4174900.44 | 21.88845 | (06121421) |
| 630150.63 | 4174900.44 | 27.07913 | (05012117) | 630500.63 | 4174900.44 | 27.38580 | (05012117) |
| 630850.63 | 4174900.44 | 25.29688 | (07012317) | 631200.63 | 4174900.44 | 25.24292 | (07012317) |
| 631550.63 | 4174900.44 | 24.50524 | (07011417) | 631900.63 | 4174900.44 | 24.38474 | (04022018) |
| 632250.63 | 4174900.44 | 26.19677 | (06011617) | 632600.63 | 4174900.44 | 26.26645 | (06011617) |
| 632950.63 | 4174900.44 | 23.65066 | (06120617) | 633300.63 | 4174900.44 | 22.01055 | (04022221) |
| 629800.63 | 4175250.44 | 32.50938 | (04011017) | 630150.63 | 4175250.44 | 35.63851 | (05012117) |
| 630500.63 | 4175250.44 | 36.63110 | (05012117) | 630850.63 | 4175250.44 | 36.64508 | (05012117) |
| 631200.63 | 4175250.44 | 33.85540 | (07012317) | 631550.63 | 4175250.44 | 32.96089 | (04022018) |
| 631900.63 | 4175250.44 | 36.95037 | (06011617) | 632250.63 | 4175250.44 | 33.91980 | (06120617) |
| 632600.63 | 4175250.44 | 32.12496 | (04022223) | 632950.63 | 4175250.44 | 29.09644 | (04022222) |
| 633300.63 | 4175250.44 | 38.14394 | (06100508) | 629800.63 | 4175600.44 | 131.26577 | (06020109) |
| 630150.63 | 4175600.44 | 108.78773 | (06020109) | 630500.63 | 4175600.44 | 58.84004 | (05012117) |
| 630850.63 | 4175600.44 | 60.42270 | (05012117) | 631200.63 | 4175600.44 | 62.19340 | (06011617) |
| 631550.63 | 4175600.44 | 60.20500 | (06011617) | 631900.63 | 4175600.44 | 56.88003 | (05021801) |
| 632250.63 | 4175600.44 | 61.94302 | (06100508) | 632600.63 | 4175600.44 | 65.58287 | (06100508) |
| 632950.63 | 4175600.44 | 51.07830 | (06100508) | 633300.63 | 4175600.44 | 33.35178 | (06100508) |
| 629800.63 | 4175950.44 | 112.80023 | (04121224) | 630150.63 | 4175950.44 | 241.41304 | (04121224) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE2 ***

INCLUDING SOURCE(S): L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 , L0000878 , L0000879 , L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 , L0000886 , L0000887 , L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 , L0000894 , L0000895 , L0000896 , L0000897 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 324.82753 | (04022207) | 630850.63 | 4175950.44 | 338.25964 | (07010217) |
| 631200.63 | 4175950.44 | 352.87273 | (07010217) | 631550.63 | 4175950.44 | 304.03403 | (05122420) |
| 631900.63 | 4175950.44 | 138.21624 | (07021102) | 632250.63 | 4175950.44 | 81.66114 | (07021102) |
| 632600.63 | 4175950.44 | 57.82910 | (06012822) | 632950.63 | 4175950.44 | 43.92668 | (06012822) |
| 633300.63 | 4175950.44 | 34.87576 | (06012822) | 629800.63 | 4176300.44 | 62.98418 | (07120621) |
| 630150.63 | 4176300.44 | 67.57800 | (07120622) | 630500.63 | 4176300.44 | 69.56060 | (08011009) |
| 630850.63 | 4176300.44 | 80.15018 | (08021908) | 631200.63 | 4176300.44 | 81.66048 | (08021808) |
| 631550.63 | 4176300.44 | 76.65092 | (08021808) | 631900.63 | 4176300.44 | 69.82515 | (05122401) |
| 632250.63 | 4176300.44 | 63.33869 | (06020208) | 632600.63 | 4176300.44 | 52.69052 | (06020205) |
| 632950.63 | 4176300.44 | 42.72568 | (04121118) | 633300.63 | 4176300.44 | 34.82318 | (07021221) |
| 629800.63 | 4176650.44 | 36.28280 | (04021520) | 630150.63 | 4176650.44 | 35.89892 | (04021521) |
| 630500.63 | 4176650.44 | 39.24492 | (08011009) | 630850.63 | 4176650.44 | 42.55109 | (07091007) |
| 631200.63 | 4176650.44 | 42.17577 | (07091007) | 631550.63 | 4176650.44 | 43.63821 | (08021908) |
| 631900.63 | 4176650.44 | 43.77073 | (08021808) | 632250.63 | 4176650.44 | 45.37702 | (08031008) |
| 632600.63 | 4176650.44 | 36.26345 | (05122323) | 632950.63 | 4176650.44 | 33.34095 | (05121218) |
| 633300.63 | 4176650.44 | 29.80013 | (05010918) | 629800.63 | 4177000.44 | 25.50979 | (04021521) |
| 630150.63 | 4177000.44 | 26.14808 | (07021218) | 630500.63 | 4177000.44 | 28.47309 | (08011009) |
| 630850.63 | 4177000.44 | 39.70327 | (07091007) | 631200.63 | 4177000.44 | 39.78329 | (07091007) |
| 631550.63 | 4177000.44 | 38.83977 | (07091007) | 631900.63 | 4177000.44 | 31.35689 | (08021908) |
| 632250.63 | 4177000.44 | 31.49530 | (08021808) | 632600.63 | 4177000.44 | 37.88063 | (08031008) |
| 632950.63 | 4177000.44 | 40.17877 | (08031008) | 633300.63 | 4177000.44 | 27.31736 | (08031008) |
| 629800.63 | 4177350.44 | 19.99572 | (04120908) | 630150.63 | 4177350.44 | 21.69163 | (05010917) |
| 630500.63 | 4177350.44 | 22.75520 | (08011009) | 630850.63 | 4177350.44 | 34.38905 | (07091007) |
| 631200.63 | 4177350.44 | 38.30868 | (07091007) | 631550.63 | 4177350.44 | 37.94780 | (07091007) |
| 631900.63 | 4177350.44 | 23.94119 | (07022408) | 632250.63 | 4177350.44 | 24.67906 | (08021908) |
| 632600.63 | 4177350.44 | 23.75850 | (08021908) | 632950.63 | 4177350.44 | 24.81060 | (08031008) |
| 633300.63 | 4177350.44 | 35.22628 | (08031008) | 631670.70 | 4175493.59 | 50.06206 | (06011617) |
| 631669.80 | 4175641.41 | 63.88409 | (06011617) | 631665.32 | 4175796.39 | 105.38358 | (07010217) |
| 631417.17 | 4175826.85 | 124.87357 | (07010217) | 631417.17 | 4175673.66 | 71.40414 | (06011617) |
| 631422.55 | 4175484.63 | 50.13625 | (06011617) | 631268.42 | 4175983.74 | 981.89703 | (05121217) |
| 631275.69 | 4175523.99 | 53.11299 | (06011617) | 631345.65 | 4175419.50 | 42.61957 | (06011617) |
| 631384.72 | 4175441.30 | 45.87984 | (06011617) | 631491.93 | 4175442.21 | 46.87714 | (06011617) |
| 631491.93 | 4175414.95 | 44.80683 | (06011617) | 631385.63 | 4175413.14 | 43.06927 | (06011617) |
| 631358.37 | 4175395.87 | 40.31215 | (06011617) | 631409.25 | 4175336.81 | 36.48515 | (04022018) |
| 631567.35 | 4175235.96 | 32.45975 | (04022018) | 631756.33 | 4175028.80 | 26.87936 | (04022018) |
| 631807.22 | 4175003.36 | 26.32993 | (04022018) | 631867.18 | 4174987.91 | 25.99034 | (04022018) |
| 631849.92 | 4175988.28 | 155.63210 | (04122902) | 631268.74 | 4175963.75 | 466.71280 | (08011001) |
| 631269.05 | 4175943.76 | 319.59004 | (07010217) | 631269.37 | 4175923.77 | 250.62057 | (07010217) |
| 631269.68 | 4175903.78 | 208.06004 | (07010217) | 631270.00 | 4175883.79 | 178.46684 | (07010217) |
| 631270.32 | 4175863.81 | 156.11925 | (07010217) | 631270.63 | 4175843.82 | 138.09820 | (07010217) |

*** AERMOD - VERSION 19191 *** *** C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C *** 06/06/22

*** AERMET - VERSION 18081 *** *** *** 12:14:02



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE2 ***

INCLUDING SOURCE(S): L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 , L0000878 , L0000879 , L0000880 , L0000881 , L0000882 ,

L0000883 , L0000884 , L0000885 , L0000886 , L0000887 , L0000888 , L0000889 , L0000890 ,
L0000891 , L0000892 , L0000893 , L0000894 , L0000895 , L0000896 , L0000897 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 122.78536 | (07010217) | 631271.26 | 4175803.84 | 109.20942 | (07010217) |
| 631271.58 | 4175783.85 | 100.33107 | (06011617) | 631271.90 | 4175763.86 | 93.70677 | (06011617) |
| 631272.21 | 4175743.87 | 88.01519 | (06011617) | 631272.53 | 4175723.88 | 83.06437 | (06011617) |
| 631272.85 | 4175703.89 | 78.71137 | (06011617) | 631273.16 | 4175683.90 | 74.84622 | (06011617) |
| 631273.48 | 4175663.91 | 71.38123 | (06011617) | 631273.79 | 4175643.92 | 68.24426 | (06011617) |
| 631274.11 | 4175623.94 | 65.37402 | (06011617) | 631274.43 | 4175603.95 | 62.71121 | (06011617) |
| 631274.74 | 4175583.96 | 60.20411 | (06011617) | 631275.06 | 4175563.97 | 57.80139 | (06011617) |
| 631275.37 | 4175543.98 | 55.45336 | (06011617) | 631285.68 | 4175509.06 | 51.50855 | (06011617) |
| 631295.68 | 4175494.14 | 49.94802 | (06011617) | 631305.67 | 4175479.21 | 48.42331 | (06011617) |
| 631315.67 | 4175464.28 | 46.93145 | (06011617) | 631325.66 | 4175449.35 | 45.46833 | (06011617) |
| 631335.66 | 4175434.43 | 44.03273 | (06011617) | 631358.67 | 4175426.77 | 43.82325 | (06011617) |
| 631371.70 | 4175434.03 | 44.90535 | (06011617) | 631402.59 | 4175441.45 | 46.15888 | (06011617) |
| 631420.46 | 4175441.60 | 46.38399 | (06011617) | 631438.33 | 4175441.76 | 46.56303 | (06011617) |
| 631456.19 | 4175441.91 | 46.70066 | (06011617) | 631474.06 | 4175442.06 | 46.80366 | (06011617) |
| 631491.93 | 4175428.58 | 45.84567 | (06011617) | 631474.21 | 4175414.65 | 44.64051 | (06011617) |
| 631456.50 | 4175414.35 | 44.43362 | (06011617) | 631438.78 | 4175414.05 | 44.17988 | (06011617) |
| 631421.06 | 4175413.74 | 43.87187 | (06011617) | 631403.35 | 4175413.44 | 43.50456 | (06011617) |
| 631372.00 | 4175404.51 | 41.76629 | (06011617) | 631371.09 | 4175381.11 | 39.07602 | (06011617) |
| 631383.81 | 4175366.34 | 37.88901 | (07012317) | 631396.53 | 4175351.58 | 37.15140 | (04022018) |
| 631425.06 | 4175326.73 | 36.03013 | (04022018) | 631440.87 | 4175316.64 | 35.58765 | (04022018) |
| 631456.68 | 4175306.56 | 35.15802 | (04022018) | 631472.49 | 4175296.47 | 34.73998 | (04022018) |
| 631488.30 | 4175286.39 | 34.33383 | (04022018) | 631504.11 | 4175276.30 | 33.93838 | (04022018) |
| 631519.92 | 4175266.22 | 33.55393 | (04022018) | 631535.73 | 4175256.13 | 33.17937 | (04022018) |
| 631551.54 | 4175246.05 | 32.81499 | (04022018) | 631579.95 | 4175222.15 | 32.00419 | (04022018) |
| 631592.55 | 4175208.34 | 31.56325 | (04022018) | 631605.15 | 4175194.53 | 31.13617 | (04022018) |
| 631617.74 | 4175180.72 | 30.72229 | (04022018) | 631630.34 | 4175166.91 | 30.32092 | (04022018) |
| 631642.94 | 4175153.10 | 29.93147 | (04022018) | 631655.54 | 4175139.29 | 29.55336 | (04022018) |
| 631668.14 | 4175125.47 | 29.18583 | (04022018) | 631680.74 | 4175111.66 | 28.82887 | (04022018) |
| 631693.34 | 4175097.85 | 28.48176 | (04022018) | 631705.94 | 4175084.04 | 28.14406 | (04022018) |
| 631718.53 | 4175070.23 | 27.81535 | (04022018) | 631731.13 | 4175056.42 | 27.49524 | (04022018) |
| 631743.73 | 4175042.61 | 27.18336 | (04022018) | 631773.29 | 4175020.32 | 26.69340 | (04022018) |
| 631790.26 | 4175011.84 | 26.51027 | (04022018) | 631822.21 | 4174999.50 | 26.24508 | (04022018) |
| 631837.20 | 4174995.64 | 26.16018 | (04022018) | 631852.19 | 4174991.77 | 26.07513 | (04022018) |
| 631866.84 | 4175007.53 | 26.37161 | (04022018) | 631866.50 | 4175027.14 | 26.76256 | (04022018) |
| 631866.16 | 4175046.76 | 27.16470 | (04022018) | 631865.83 | 4175066.37 | 27.76403 | (06011617) |
| 631865.49 | 4175085.99 | 28.92506 | (06011617) | 631865.15 | 4175105.60 | 30.03232 | (06011617) |
| 631864.81 | 4175125.22 | 31.08760 | (06011617) | 631864.47 | 4175144.83 | 32.09251 | (06011617) |
| 631864.13 | 4175164.45 | 33.05247 | (06011617) | 631863.80 | 4175184.06 | 33.97247 | (06011617) |
| 631863.46 | 4175203.68 | 34.86027 | (06011617) | 631863.12 | 4175223.29 | 35.72284 | (06011617) |
| 631862.78 | 4175242.91 | 36.56929 | (06011617) | 631862.44 | 4175262.52 | 37.40716 | (06011617) |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE2 ***

INCLUDING SOURCE(S): L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 , L0000878 , L0000879 , L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 , L0000886 , L0000887 , L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 , L0000894 , L0000895 , L0000896 , L0000897 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 38.24561 | (06011617) | 631861.77 | 4175301.75 | 39.09180 | (06011617) |
| 631861.43 | 4175321.37 | 39.95423 | (06011617) | 631861.09 | 4175340.98 | 40.83913 | (06011617) |
| 631860.75 | 4175360.60 | 41.75398 | (06011617) | 631860.41 | 4175380.21 | 42.70372 | (06011617) |
| 631860.07 | 4175399.83 | 43.69433 | (06011617) | 631859.73 | 4175419.44 | 44.72852 | (06011617) |
| 631859.40 | 4175439.06 | 45.80896 | (06011617) | 631859.06 | 4175458.67 | 46.93271 | (06011617) |
| 631858.72 | 4175478.29 | 48.09310 | (06011617) | 631858.38 | 4175497.90 | 49.27146 | (06011617) |
| 631858.04 | 4175517.52 | 50.43638 | (06011617) | 631857.70 | 4175537.13 | 51.53174 | (06011617) |
| 631857.37 | 4175556.75 | 52.96584 | (06120617) | 631857.03 | 4175576.36 | 54.71169 | (06120617) |
| 631856.69 | 4175595.98 | 56.50276 | (06120617) | 631856.35 | 4175615.59 | 58.73054 | (05021801) |
| 631856.01 | 4175635.21 | 61.36455 | (05021801) | 631855.67 | 4175654.82 | 64.55302 | (07010217) |
| 631855.33 | 4175674.44 | 69.25662 | (07010217) | 631855.00 | 4175694.05 | 74.01118 | (07010217) |
| 631854.66 | 4175713.67 | 78.79368 | (07010217) | 631854.32 | 4175733.28 | 83.49456 | (07010217) |
| 631853.98 | 4175752.90 | 87.86207 | (07010217) | 631853.64 | 4175772.51 | 91.39775 | (07010217) |
| 631853.30 | 4175792.13 | 93.78508 | (07020218) | 631852.97 | 4175811.74 | 99.60971 | (05011606) |
| 631852.63 | 4175831.36 | 107.95227 | (05011606) | 631852.29 | 4175850.97 | 115.40710 | (06121504) |
| 631851.95 | 4175870.59 | 123.89506 | (08011020) | 631851.61 | 4175890.20 | 130.59112 | (05122420) |
| 631851.27 | 4175909.82 | 139.21933 | (07012218) | 631850.94 | 4175929.43 | 146.09338 | (05020819) |
| 631850.60 | 4175949.05 | 150.92306 | (07021102) | 631850.26 | 4175968.66 | 152.57073 | (06012822) |
| 631830.54 | 4175988.13 | 162.09923 | (04122902) | 631811.15 | 4175987.98 | 169.12085 | (04122902) |
| 631791.77 | 4175987.83 | 176.76734 | (04122902) | 631772.39 | 4175987.67 | 185.13323 | (04122902) |
| 631753.00 | 4175987.52 | 194.34292 | (04122902) | 631733.62 | 4175987.37 | 204.68459 | (06012822) |
| 631714.24 | 4175987.22 | 216.26819 | (06012822) | 631694.85 | 4175987.07 | 229.28164 | (06012822) |
| 631675.47 | 4175986.92 | 244.01444 | (06012822) | 631656.09 | 4175986.77 | 260.87394 | (06012822) |
| 631636.70 | 4175986.62 | 280.41553 | (06012822) | 631617.32 | 4175986.46 | 303.38044 | (06012822) |
| 631597.94 | 4175986.31 | 330.87945 | (06012822) | 631578.55 | 4175986.16 | 364.60009 | (06012822) |
| 631559.17 | 4175986.01 | 407.16927 | (06012822) | 631539.79 | 4175985.86 | 463.14450 | (06012822) |
| 631520.40 | 4175985.71 | 540.99857 | (06012822) | 631501.02 | 4175985.56 | 659.50268 | (07021102) |
| 631481.64 | 4175985.40 | 866.85650 | (07021102) | 631462.25 | 4175985.25 | 1091.93959 | (05121217) |
| 631442.87 | 4175985.10 | 1130.92896 | (05121217) | 631423.49 | 4175984.95 | 1123.34025 | (05121217) |
| 631404.10 | 4175984.80 | 1107.16749 | (05121217) | 631384.72 | 4175984.65 | 1089.41625 | (05121217) |
| 631365.34 | 4175984.50 | 1071.03450 | (05121217) | 631345.95 | 4175984.35 | 1052.53612 | (05121217) |
| 631326.57 | 4175984.19 | 1033.81583 | (05121217) | 631307.19 | 4175984.04 | 1016.10892 | (05121217) |
| 631287.80 | 4175983.89 | 998.77198 | (05121217) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE3 ***

INCLUDING SOURCE(S): L0001296 , L0001297 , L0001298 , L0001299 , L0001300 ,

L0001301 , L0001302 , L0001303 , L0001304 , L0001305 , L0001306 , L0001307 , L0001308 ,
L0001309 , L0001310 , L0001311 , L0001312 , L0001313 , L0001314 , L0001315 , L0001316 ,
L0001317 , L0001318 , L0001319 , L0001320 , L0001321 , L0001322 , L0001323 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 22.39126 | (07012317) | 632304.44 | 4174354.52 | 15.78969 | (07012317) |
| 632192.15 | 4174956.32 | 22.45016 | (07012317) | 632420.62 | 4175510.15 | 44.08901 | (06011617) |
| 632418.97 | 4175552.92 | 48.26721 | (06011617) | 631187.00 | 4175727.00 | 124.27268 | (06020109) |
| 631166.00 | 4175729.00 | 124.18682 | (06020109) | 631121.00 | 4175719.00 | 123.52060 | (06020109) |
| 631035.00 | 4174830.00 | 20.78890 | (05012117) | 631106.00 | 4174825.00 | 21.62900 | (05012117) |
| 631937.00 | 4174528.00 | 16.99666 | (07012317) | 631322.00 | 4174522.00 | 18.58032 | (05012117) |
| 629800.63 | 4173850.44 | 10.77353 | (06121421) | 630150.63 | 4173850.44 | 10.69795 | (06011022) |
| 630500.63 | 4173850.44 | 11.82790 | (07011517) | 630850.63 | 4173850.44 | 13.91360 | (05012117) |
| 631200.63 | 4173850.44 | 13.85163 | (05012117) | 631550.63 | 4173850.44 | 12.06462 | (08022002) |
| 631900.63 | 4173850.44 | 12.04275 | (06121420) | 632250.63 | 4173850.44 | 12.84758 | (07012317) |
| 632600.63 | 4173850.44 | 12.82886 | (07012317) | 632950.63 | 4173850.44 | 12.54174 | (07011417) |
| 633300.63 | 4173850.44 | 11.77044 | (04022318) | 629800.63 | 4174200.44 | 12.26819 | (06121421) |
| 630150.63 | 4174200.44 | 12.84515 | (06121421) | 630500.63 | 4174200.44 | 12.31323 | (07121217) |
| 630850.63 | 4174200.44 | 15.66330 | (05012117) | 631200.63 | 4174200.44 | 15.99481 | (05012117) |
| 631550.63 | 4174200.44 | 15.44370 | (05012117) | 631900.63 | 4174200.44 | 13.85969 | (08022002) |
| 632250.63 | 4174200.44 | 14.74363 | (07012317) | 632600.63 | 4174200.44 | 14.69474 | (07012317) |
| 632950.63 | 4174200.44 | 14.34481 | (07011417) | 633300.63 | 4174200.44 | 13.42654 | (05011521) |
| 629800.63 | 4174550.44 | 16.22697 | (04011017) | 630150.63 | 4174550.44 | 14.57484 | (06121421) |
| 630500.63 | 4174550.44 | 15.56526 | (06121421) | 630850.63 | 4174550.44 | 16.28461 | (05012117) |
| 631200.63 | 4174550.44 | 18.79619 | (05012117) | 631550.63 | 4174550.44 | 18.92735 | (05012117) |
| 631900.63 | 4174550.44 | 17.01358 | (07012317) | 632250.63 | 4174550.44 | 17.41325 | (07012317) |
| 632600.63 | 4174550.44 | 17.32523 | (07012317) | 632950.63 | 4174550.44 | 16.83367 | (07011417) |
| 633300.63 | 4174550.44 | 16.45385 | (04022018) | 629800.63 | 4174900.44 | 52.07273 | (06020109) |
| 630150.63 | 4174900.44 | 25.78377 | (06020109) | 630500.63 | 4174900.44 | 20.50388 | (04011017) |
| 630850.63 | 4174900.44 | 19.48238 | (06121421) | 631200.63 | 4174900.44 | 22.98990 | (05012117) |
| 631550.63 | 4174900.44 | 23.33330 | (05012117) | 631900.63 | 4174900.44 | 23.41697 | (05012117) |
| 632250.63 | 4174900.44 | 21.55019 | (07012317) | 632600.63 | 4174900.44 | 21.36975 | (07012317) |
| 632950.63 | 4174900.44 | 20.64409 | (04022018) | 633300.63 | 4174900.44 | 21.17170 | (06011617) |
| 629800.63 | 4175250.44 | 96.03782 | (06020109) | 630150.63 | 4175250.44 | 99.66679 | (06020109) |
| 630500.63 | 4175250.44 | 79.63308 | (06020109) | 630850.63 | 4175250.44 | 45.53492 | (06020109) |
| 631200.63 | 4175250.44 | 28.64912 | (05012117) | 631550.63 | 4175250.44 | 31.07781 | (05012117) |
| 631900.63 | 4175250.44 | 31.60835 | (05012117) | 632250.63 | 4175250.44 | 30.40875 | (05012117) |
| 632600.63 | 4175250.44 | 28.56215 | (07012317) | 632950.63 | 4175250.44 | 31.18366 | (06011617) |
| 633300.63 | 4175250.44 | 30.94821 | (06011617) | 629800.63 | 4175600.44 | 34.01979 | (08012221) |
| 630150.63 | 4175600.44 | 36.46301 | (08012221) | 630500.63 | 4175600.44 | 89.10722 | (06020109) |
| 630850.63 | 4175600.44 | 118.19096 | (06020109) | 631200.63 | 4175600.44 | 113.50145 | (06020109) |
| 631550.63 | 4175600.44 | 88.37915 | (06020109) | 631900.63 | 4175600.44 | 51.25244 | (05012117) |
| 632250.63 | 4175600.44 | 51.78824 | (06011617) | 632600.63 | 4175600.44 | 52.36787 | (06011617) |
| 632950.63 | 4175600.44 | 49.55227 | (06011617) | 633300.63 | 4175600.44 | 49.04112 | (07010217) |
| 629800.63 | 4175950.44 | 37.45619 | (04010517) | 630150.63 | 4175950.44 | 47.71438 | (04010517) |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE3 ***

INCLUDING SOURCE(S): L0001296 , L0001297 , L0001298 , L0001299 , L0001300 , L0001301 , L0001302 , L0001303 , L0001304 , L0001305 , L0001306 , L0001307 , L0001308 , L0001309 , L0001310 , L0001311 , L0001312 , L0001313 , L0001314 , L0001315 , L0001316 , L0001317 , L0001318 , L0001319 , L0001320 , L0001321 , L0001322 , L0001323 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 63.89714 | (04010517) | 630850.63 | 4175950.44 | 92.41888 | (04010517) |
| 631200.63 | 4175950.44 | 178.69441 | (04121224) | 631550.63 | 4175950.44 | 281.37859 | (04022207) |
| 631900.63 | 4175950.44 | 281.22323 | (04022207) | 632250.63 | 4175950.44 | 274.55491 | (07010217) |
| 632600.63 | 4175950.44 | 271.82080 | (08011001) | 632950.63 | 4175950.44 | 216.48301 | (07012218) |
| 633300.63 | 4175950.44 | 113.89232 | (07021102) | 629800.63 | 4176300.44 | 31.41331 | (07020701) |
| 630150.63 | 4176300.44 | 36.79564 | (07020701) | 630500.63 | 4176300.44 | 45.21173 | (06011024) |
| 630850.63 | 4176300.44 | 49.24801 | (07120621) | 631200.63 | 4176300.44 | 56.60556 | (07120622) |
| 631550.63 | 4176300.44 | 59.26893 | (07120622) | 631900.63 | 4176300.44 | 64.58341 | (07022408) |
| 632250.63 | 4176300.44 | 71.66334 | (08021808) | 632600.63 | 4176300.44 | 70.33870 | (08021808) |
| 632950.63 | 4176300.44 | 66.11862 | (08021808) | 633300.63 | 4176300.44 | 62.75024 | (05122401) |
| 629800.63 | 4176650.44 | 22.28370 | (07120621) | 630150.63 | 4176650.44 | 28.04884 | (07120621) |
| 630500.63 | 4176650.44 | 30.28143 | (07120622) | 630850.63 | 4176650.44 | 30.66804 | (06122121) |
| 631200.63 | 4176650.44 | 31.01878 | (04021520) | 631550.63 | 4176650.44 | 33.05429 | (08011009) |
| 631900.63 | 4176650.44 | 36.74223 | (07091007) | 632250.63 | 4176650.44 | 36.89947 | (07091007) |
| 632600.63 | 4176650.44 | 38.35187 | (08021908) | 632950.63 | 4176650.44 | 38.52636 | (08021808) |
| 633300.63 | 4176650.44 | 39.27666 | (08031008) | 629800.63 | 4177000.44 | 19.78733 | (07120622) |
| 630150.63 | 4177000.44 | 20.52553 | (05021923) | 630500.63 | 4177000.44 | 21.82427 | (04021520) |
| 630850.63 | 4177000.44 | 21.72483 | (04021520) | 631200.63 | 4177000.44 | 21.88592 | (07021218) |
| 631550.63 | 4177000.44 | 24.09325 | (08011009) | 631900.63 | 4177000.44 | 32.59673 | (07091007) |
| 632250.63 | 4177000.44 | 34.48869 | (07091007) | 632600.63 | 4177000.44 | 34.21043 | (07091007) |
| 632950.63 | 4177000.44 | 32.31675 | (07091007) | 633300.63 | 4177000.44 | 27.01946 | (08021908) |
| 629800.63 | 4177350.44 | 16.67996 | (07013018) | 630150.63 | 4177350.44 | 17.21889 | (04021520) |
| 630500.63 | 4177350.44 | 17.19991 | (04021521) | 630850.63 | 4177350.44 | 16.92972 | (04120903) |
| 631200.63 | 4177350.44 | 17.69980 | (07021218) | 631550.63 | 4177350.44 | 19.28447 | (08011009) |
| 631900.63 | 4177350.44 | 23.09590 | (07091007) | 632250.63 | 4177350.44 | 33.01882 | (07091007) |
| 632600.63 | 4177350.44 | 32.89211 | (07091007) | 632950.63 | 4177350.44 | 32.27598 | (07091007) |
| 633300.63 | 4177350.44 | 20.78327 | (08021908) | 631670.70 | 4175493.59 | 42.09165 | (05012117) |
| 631669.80 | 4175641.41 | 91.13772 | (06020109) | 631665.32 | 4175796.39 | 134.36148 | (06020109) |
| 631417.17 | 4175826.85 | 132.17762 | (06020109) | 631417.17 | 4175673.66 | 119.10557 | (06020109) |
| 631422.55 | 4175484.63 | 56.70679 | (06020109) | 631268.42 | 4175983.74 | 233.54385 | (04010517) |
| 631275.69 | 4175523.99 | 89.73254 | (06020109) | 631345.65 | 4175419.50 | 42.62131 | (06020109) |
| 631384.72 | 4175441.30 | 45.32467 | (06020109) | 631491.93 | 4175442.21 | 38.47831 | (05012117) |
| 631491.93 | 4175414.95 | 37.15432 | (05012117) | 631385.63 | 4175413.14 | 36.67404 | (05012117) |
| 631358.37 | 4175395.87 | 35.79647 | (05012117) | 631409.25 | 4175336.81 | 33.64954 | (05012117) |
| 631567.35 | 4175235.96 | 30.66996 | (05012117) | 631756.33 | 4175028.80 | 25.80465 | (05012117) |
| 631807.22 | 4175003.36 | 25.33368 | (05012117) | 631867.18 | 4174987.91 | 25.05900 | (05012117) |
| 631849.92 | 4175988.28 | 833.40243 | (04121304) | 631268.74 | 4175963.75 | 219.35927 | (04121224) |
| 631269.05 | 4175943.76 | 199.55248 | (04121224) | 631269.37 | 4175923.77 | 169.68048 | (08012221) |
| 631269.68 | 4175903.78 | 151.35886 | (08012221) | 631270.00 | 4175883.79 | 131.26545 | (08012221) |
| 631270.32 | 4175863.81 | 127.96408 | (06020109) | 631270.63 | 4175843.82 | 128.62415 | (06020109) |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE3 ***

INCLUDING SOURCE(S): L0001296 , L0001297 , L0001298 , L0001299 , L0001300 , L0001301 , L0001302 , L0001303 , L0001304 , L0001305 , L0001306 , L0001307 , L0001308 , L0001309 , L0001310 , L0001311 , L0001312 , L0001313 , L0001314 , L0001315 , L0001316 , L0001317 , L0001318 , L0001319 , L0001320 , L0001321 , L0001322 , L0001323 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 128.27429 | (06020109) | 631271.26 | 4175803.84 | 127.72315 | (06020109) |
| 631271.58 | 4175783.85 | 127.11306 | (06020109) | 631271.90 | 4175763.86 | 126.43840 | (06020109) |
| 631272.21 | 4175743.87 | 125.66081 | (06020109) | 631272.53 | 4175723.88 | 124.72696 | (06020109) |
| 631272.85 | 4175703.89 | 123.56929 | (06020109) | 631273.16 | 4175683.90 | 122.10721 | (06020109) |
| 631273.48 | 4175663.91 | 120.24964 | (06020109) | 631273.79 | 4175643.92 | 117.90053 | (06020109) |
| 631274.11 | 4175623.94 | 114.96778 | (06020109) | 631274.43 | 4175603.95 | 111.36791 | (06020109) |
| 631274.74 | 4175583.96 | 107.04585 | (06020109) | 631275.06 | 4175563.97 | 101.97791 | (06020109) |
| 631275.37 | 4175543.98 | 96.18511 | (06020109) | 631285.68 | 4175509.06 | 83.49479 | (06020109) |
| 631295.68 | 4175494.14 | 76.85211 | (06020109) | 631305.67 | 4175479.21 | 69.93077 | (06020109) |
| 631315.67 | 4175464.28 | 62.88407 | (06020109) | 631325.66 | 4175449.35 | 55.87755 | (06020109) |
| 631335.66 | 4175434.43 | 49.07476 | (06020109) | 631358.67 | 4175426.77 | 43.50297 | (06020109) |
| 631371.70 | 4175434.03 | 44.40082 | (06020109) | 631402.59 | 4175441.45 | 43.13949 | (06020109) |
| 631420.46 | 4175441.60 | 40.98679 | (06020109) | 631438.33 | 4175441.76 | 38.87757 | (06020109) |
| 631456.19 | 4175441.91 | 38.31976 | (05012117) | 631474.06 | 4175442.06 | 38.39926 | (05012117) |
| 631491.93 | 4175428.58 | 37.80280 | (05012117) | 631474.21 | 4175414.65 | 37.07619 | (05012117) |
| 631456.50 | 4175414.35 | 36.99775 | (05012117) | 631438.78 | 4175414.05 | 36.91899 | (05012117) |
| 631421.06 | 4175413.74 | 36.83930 | (05012117) | 631403.35 | 4175413.44 | 36.75872 | (05012117) |
| 631372.00 | 4175404.51 | 36.23287 | (05012117) | 631371.09 | 4175381.11 | 35.24324 | (05012117) |
| 631383.81 | 4175366.34 | 34.69731 | (05012117) | 631396.53 | 4175351.58 | 34.16563 | (05012117) |
| 631425.06 | 4175326.73 | 33.32635 | (05012117) | 631440.87 | 4175316.64 | 33.00881 | (05012117) |
| 631456.68 | 4175306.56 | 32.69762 | (05012117) | 631472.49 | 4175296.47 | 32.39189 | (05012117) |
| 631488.30 | 4175286.39 | 32.09213 | (05012117) | 631504.11 | 4175276.30 | 31.79744 | (05012117) |
| 631519.92 | 4175266.22 | 31.50831 | (05012117) | 631535.73 | 4175256.13 | 31.22391 | (05012117) |
| 631551.54 | 4175246.05 | 30.94472 | (05012117) | 631579.95 | 4175222.15 | 30.28515 | (05012117) |
| 631592.55 | 4175208.34 | 29.91054 | (05012117) | 631605.15 | 4175194.53 | 29.54570 | (05012117) |
| 631617.74 | 4175180.72 | 29.19023 | (05012117) | 631630.34 | 4175166.91 | 28.84377 | (05012117) |
| 631642.94 | 4175153.10 | 28.50595 | (05012117) | 631655.54 | 4175139.29 | 28.17645 | (05012117) |
| 631668.14 | 4175125.47 | 27.85471 | (05012117) | 631680.74 | 4175111.66 | 27.54091 | (05012117) |
| 631693.34 | 4175097.85 | 27.23452 | (05012117) | 631705.94 | 4175084.04 | 26.93528 | (05012117) |
| 631718.53 | 4175070.23 | 26.64291 | (05012117) | 631731.13 | 4175056.42 | 26.35719 | (05012117) |
| 631743.73 | 4175042.61 | 26.07785 | (05012117) | 631773.29 | 4175020.32 | 25.64649 | (05012117) |
| 631790.26 | 4175011.84 | 25.48959 | (05012117) | 631822.21 | 4174999.50 | 25.26677 | (05012117) |
| 631837.20 | 4174995.64 | 25.19902 | (05012117) | 631852.19 | 4174991.77 | 25.12982 | (05012117) |
| 631866.84 | 4175007.53 | 25.44287 | (05012117) | 631866.50 | 4175027.14 | 25.83873 | (05012117) |
| 631866.16 | 4175046.76 | 26.24811 | (05012117) | 631865.83 | 4175066.37 | 26.67168 | (05012117) |
| 631865.49 | 4175085.99 | 27.11099 | (05012117) | 631865.15 | 4175105.60 | 27.56670 | (05012117) |
| 631864.81 | 4175125.22 | 28.04045 | (05012117) | 631864.47 | 4175144.83 | 28.53296 | (05012117) |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE3 ***

INCLUDING SOURCE(S): L0001296 , L0001297 , L0001298 , L0001299 , L0001300 , L0001301 , L0001302 , L0001303 , L0001304 , L0001305 , L0001306 , L0001307 , L0001308 , L0001309 , L0001310 , L0001311 , L0001312 , L0001313 , L0001314 , L0001315 , L0001316 , L0001317 , L0001318 , L0001319 , L0001320 , L0001321 , L0001322 , L0001323 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631864.13 | 4175164.45 | 29.04604 | (05012117) | 631863.80 | 4175184.06 | 29.58056 | (05012117) |
| 631863.46 | 4175203.68 | 30.13853 | (05012117) | 631863.12 | 4175223.29 | 30.72104 | (05012117) |
| 631862.78 | 4175242.91 | 31.33045 | (05012117) | 631862.44 | 4175262.52 | 31.96809 | (05012117) |
| 631862.10 | 4175282.14 | 32.63676 | (05012117) | 631861.77 | 4175301.75 | 33.33816 | (05012117) |
| 631861.43 | 4175321.37 | 34.07561 | (05012117) | 631861.09 | 4175340.98 | 34.85127 | (05012117) |
| 631860.75 | 4175360.60 | 35.66919 | (05012117) | 631860.41 | 4175380.21 | 36.53216 | (05012117) |
| 631860.07 | 4175399.83 | 37.44514 | (05012117) | 631859.73 | 4175419.44 | 38.41176 | (05012117) |
| 631859.40 | 4175439.06 | 39.43820 | (05012117) | 631859.06 | 4175458.67 | 40.52925 | (05012117) |
| 631858.72 | 4175478.29 | 41.69274 | (05012117) | 631858.38 | 4175497.90 | 42.93511 | (05012117) |
| 631858.04 | 4175517.52 | 44.26644 | (05012117) | 631857.70 | 4175537.13 | 45.69556 | (05012117) |
| 631857.37 | 4175556.75 | 47.23580 | (05012117) | 631857.03 | 4175576.36 | 48.89939 | (05012117) |
| 631856.69 | 4175595.98 | 50.70441 | (05012117) | 631856.35 | 4175615.59 | 52.66842 | (05012117) |
| 631856.01 | 4175635.21 | 57.69651 | (06020109) | 631855.67 | 4175654.82 | 68.26205 | (06020109) |
| 631855.33 | 4175674.44 | 79.23646 | (06020109) | 631855.00 | 4175694.05 | 90.10428 | (06020109) |
| 631854.66 | 4175713.67 | 100.39046 | (06020109) | 631854.32 | 4175733.28 | 109.68079 | (06020109) |
| 631853.98 | 4175752.90 | 117.75620 | (06020109) | 631853.64 | 4175772.51 | 124.63708 | (06020109) |
| 631853.30 | 4175792.13 | 130.37452 | (06020109) | 631852.97 | 4175811.74 | 135.17193 | (06020109) |
| 631852.63 | 4175831.36 | 139.35764 | (06020109) | 631852.29 | 4175850.97 | 143.36137 | (06020109) |
| 631851.95 | 4175870.59 | 147.72164 | (06020109) | 631851.61 | 4175890.20 | 152.93558 | (06020109) |
| 631851.27 | 4175909.82 | 178.49805 | (04022207) | 631850.94 | 4175929.43 | 216.21235 | (04022207) |
| 631850.60 | 4175949.05 | 276.50113 | (04022207) | 631850.26 | 4175968.66 | 395.83226 | (04022207) |
| 631830.54 | 4175988.13 | 830.99381 | (04121304) | 631811.15 | 4175987.98 | 828.54725 | (04121304) |
| 631791.77 | 4175987.83 | 826.08383 | (04121304) | 631772.39 | 4175987.67 | 823.09050 | (04121304) |
| 631753.00 | 4175987.52 | 820.58727 | (04121304) | 631733.62 | 4175987.37 | 818.03477 | (04121304) |
| 631714.24 | 4175987.22 | 815.45358 | (04121304) | 631694.85 | 4175987.07 | 812.83154 | (04121304) |
| 631675.47 | 4175986.92 | 810.13687 | (04121304) | 631656.09 | 4175986.77 | 807.37804 | (04121304) |
| 631636.70 | 4175986.62 | 804.55125 | (04121304) | 631617.32 | 4175986.46 | 801.09514 | (04121304) |
| 631597.94 | 4175986.31 | 797.95387 | (04121304) | 631578.55 | 4175986.16 | 794.58131 | (04121304) |
| 631559.17 | 4175986.01 | 790.84290 | (04121304) | 631539.79 | 4175985.86 | 786.49860 | (04121304) |
| 631520.40 | 4175985.71 | 781.08140 | (04121304) | 631501.02 | 4175985.56 | 773.35947 | (04121304) |
| 631481.64 | 4175985.40 | 758.80129 | (04121304) | 631462.25 | 4175985.25 | 721.51262 | (04121304) |
| 631442.87 | 4175985.10 | 667.26936 | (04121224) | 631423.49 | 4175984.95 | 547.80877 | (04121224) |
| 631404.10 | 4175984.80 | 452.99957 | (04010517) | 631384.72 | 4175984.65 | 396.28902 | (04010517) |
| 631365.34 | 4175984.50 | 353.07228 | (04010517) | 631345.95 | 4175984.35 | 319.12932 | (04010517) |
| 631326.57 | 4175984.19 | 291.71285 | (04010517) | 631307.19 | 4175984.04 | 269.05148 | (04010517) |
| 631287.80 | 4175983.89 | 249.92721 | (04010517) | | | | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE4 ***

INCLUDING SOURCE(S): L0001666 , L0001667 , L0001668 , L0001669 , L0001670 , L0001671 , L0001672 , L0001673 , L0001674 , L0001675 , L0001676 , L0001677 , L0001678 , L0001679 , L0001680 , L0001681 , L0001682 , L0001683 , L0001684 , L0001685 , L0001686 , L0001687 , L0001688 , L0001689 , L0001690 , L0001691 , L0001692 , L0001693 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 29.29388 | (05012117) | 632304.44 | 4174354.52 | 20.79157 | (07012317) |
| 632192.15 | 4174956.32 | 30.02040 | (07012317) | 632420.62 | 4175510.15 | 57.73859 | (05012117) |
| 632418.97 | 4175552.92 | 63.18823 | (05012117) | 631187.00 | 4175727.00 | 122.52585 | (06020109) |
| 631166.00 | 4175729.00 | 114.15227 | (06020109) | 631121.00 | 4175719.00 | 107.60454 | (06020109) |
| 631035.00 | 4174830.00 | 24.46958 | (06121421) | 631106.00 | 4174825.00 | 23.68332 | (06121421) |
| 631937.00 | 4174528.00 | 22.03365 | (08022002) | 631322.00 | 4174522.00 | 24.63381 | (05012117) |
| 629800.63 | 4173850.44 | 13.57092 | (04121301) | 630150.63 | 4173850.44 | 12.49798 | (06011022) |
| 630500.63 | 4173850.44 | 14.09859 | (04121302) | 630850.63 | 4173850.44 | 15.99608 | (07011517) |
| 631200.63 | 4173850.44 | 18.95774 | (05012117) | 631550.63 | 4173850.44 | 15.99115 | (05010318) |
| 631900.63 | 4173850.44 | 16.39892 | (08022002) | 632250.63 | 4173850.44 | 15.65617 | (05122422) |
| 632600.63 | 4173850.44 | 17.55323 | (07012317) | 632950.63 | 4173850.44 | 17.00342 | (07011417) |
| 633300.63 | 4173850.44 | 15.93729 | (04022318) | 629800.63 | 4174200.44 | 13.38793 | (04012322) |
| 630150.63 | 4174200.44 | 15.96377 | (06121421) | 630500.63 | 4174200.44 | 15.35157 | (06011022) |
| 630850.63 | 4174200.44 | 16.57216 | (07121217) | 631200.63 | 4174200.44 | 21.35729 | (05012117) |
| 631550.63 | 4174200.44 | 21.11252 | (05012117) | 631900.63 | 4174200.44 | 18.90666 | (08022002) |
| 632250.63 | 4174200.44 | 18.31571 | (06121420) | 632600.63 | 4174200.44 | 20.11345 | (07012317) |
| 632950.63 | 4174200.44 | 19.62897 | (07011417) | 633300.63 | 4174200.44 | 18.09784 | (04122822) |
| 629800.63 | 4174550.44 | 17.66516 | (06120217) | 630150.63 | 4174550.44 | 18.86483 | (04011017) |
| 630500.63 | 4174550.44 | 19.34832 | (06121421) | 630850.63 | 4174550.44 | 19.07583 | (06011022) |
| 631200.63 | 4174550.44 | 21.69793 | (07011517) | 631550.63 | 4174550.44 | 25.80430 | (05012117) |
| 631900.63 | 4174550.44 | 22.27094 | (08022002) | 632250.63 | 4174550.44 | 22.78929 | (07012317) |
| 632600.63 | 4174550.44 | 23.68185 | (07012317) | 632950.63 | 4174550.44 | 23.02876 | (07011417) |
| 633300.63 | 4174550.44 | 21.42464 | (05011521) | 629800.63 | 4174900.44 | 70.19050 | (06020109) |
| 630150.63 | 4174900.44 | 34.36763 | (06020109) | 630500.63 | 4174900.44 | 26.01606 | (04011017) |
| 630850.63 | 4174900.44 | 24.25760 | (06121421) | 631200.63 | 4174900.44 | 25.03920 | (06121421) |
| 631550.63 | 4174900.44 | 31.51620 | (05012117) | 631900.63 | 4174900.44 | 31.77016 | (05012117) |
| 632250.63 | 4174900.44 | 29.15327 | (07012317) | 632600.63 | 4174900.44 | 29.17280 | (07012317) |
| 632950.63 | 4174900.44 | 27.92103 | (07011417) | 633300.63 | 4174900.44 | 27.73255 | (04022018) |
| 629800.63 | 4175250.44 | 80.90952 | (06020109) | 630150.63 | 4175250.44 | 117.16969 | (06020109) |
| 630500.63 | 4175250.44 | 107.81806 | (06020109) | 630850.63 | 4175250.44 | 60.93710 | (06020109) |
| 631200.63 | 4175250.44 | 37.42402 | (04011017) | 631550.63 | 4175250.44 | 37.07704 | (05012117) |
| 631900.63 | 4175250.44 | 42.53783 | (05012117) | 632250.63 | 4175250.44 | 41.23876 | (05012117) |
| 632600.63 | 4175250.44 | 38.99218 | (07012317) | 632950.63 | 4175250.44 | 37.61229 | (04022018) |
| 633300.63 | 4175250.44 | 41.52275 | (06011617) | 629800.63 | 4175600.44 | 30.74639 | (08012221) |
| 630150.63 | 4175600.44 | 37.76165 | (08012221) | 630500.63 | 4175600.44 | 40.78256 | (06020109) |
| 630850.63 | 4175600.44 | 113.33165 | (06020109) | 631200.63 | 4175600.44 | 152.85732 | (06020109) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631550.63 | 4175600.44 | 116.61242 | (06020109) | 631900.63 | 4175600.44 | 67.95415 | (05012117) |
| 632250.63 | 4175600.44 | 69.82011 | (05012117) | 632600.63 | 4175600.44 | 67.92748 | (06011617) |
| 632950.63 | 4175600.44 | 68.09432 | (06011617) | 633300.63 | 4175600.44 | 62.76411 | (08010918) |
| 629800.63 | 4175950.44 | 32.69421 | (04010517) | 630150.63 | 4175950.44 | 40.55160 | (04010517) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE4 ***

INCLUDING SOURCE(S): L0001666 , L0001667 , L0001668 , L0001669 , L0001670 , L0001671 , L0001672 , L0001673 , L0001674 , L0001675 , L0001676 , L0001677 , L0001678 , L0001679 , L0001680 , L0001681 , L0001682 , L0001683 , L0001684 , L0001685 , L0001686 , L0001687 , L0001688 , L0001689 , L0001690 , L0001691 , L0001692 , L0001693 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 52.18785 | (04010517) | 630850.63 | 4175950.44 | 70.81277 | (04010517) |
| 631200.63 | 4175950.44 | 104.23527 | (04010517) | 631550.63 | 4175950.44 | 210.60369 | (04121224) |
| 631900.63 | 4175950.44 | 392.40408 | (04022207) | 632250.63 | 4175950.44 | 379.07110 | (04022207) |
| 632600.63 | 4175950.44 | 371.12421 | (07010217) | 632950.63 | 4175950.44 | 283.12418 | (05122420) |
| 633300.63 | 4175950.44 | 136.96267 | (07021102) | 629800.63 | 4176300.44 | 27.57838 | (07020701) |
| 630150.63 | 4176300.44 | 34.67954 | (07020701) | 630500.63 | 4176300.44 | 39.88818 | (06011024) |
| 630850.63 | 4176300.44 | 51.33621 | (06011024) | 631200.63 | 4176300.44 | 64.16866 | (07120621) |
| 631550.63 | 4176300.44 | 75.32235 | (07120622) | 631900.63 | 4176300.44 | 78.76798 | (08011009) |
| 632250.63 | 4176300.44 | 87.74720 | (07022408) | 632600.63 | 4176300.44 | 96.22753 | (08021808) |
| 632950.63 | 4176300.44 | 91.44039 | (08021808) | 633300.63 | 4176300.44 | 80.98022 | (05121218) |
| 629800.63 | 4176650.44 | 17.24769 | (06011024) | 630150.63 | 4176650.44 | 27.50359 | (07120621) |
| 630500.63 | 4176650.44 | 33.21348 | (04121817) | 630850.63 | 4176650.44 | 37.08029 | (07120404) |
| 631200.63 | 4176650.44 | 40.84598 | (06122121) | 631550.63 | 4176650.44 | 40.88119 | (04021521) |
| 631900.63 | 4176650.44 | 45.10651 | (08011009) | 632250.63 | 4176650.44 | 48.89764 | (07091007) |
| 632600.63 | 4176650.44 | 48.65834 | (07091007) | 632950.63 | 4176650.44 | 51.32023 | (08021908) |
| 633300.63 | 4176650.44 | 51.92382 | (08021808) | 629800.63 | 4177000.44 | 22.20219 | (07020707) |
| 630150.63 | 4177000.44 | 24.24275 | (07120404) | 630500.63 | 4177000.44 | 26.70559 | (07013018) |
| 630850.63 | 4177000.44 | 28.80145 | (04021520) | 631200.63 | 4177000.44 | 29.04766 | (04021521) |
| 631550.63 | 4177000.44 | 29.72285 | (07021218) | 631900.63 | 4177000.44 | 32.90225 | (08011009) |
| 632250.63 | 4177000.44 | 41.66541 | (07091007) | 632600.63 | 4177000.44 | 46.06470 | (07091007) |
| 632950.63 | 4177000.44 | 43.66639 | (07091007) | 633300.63 | 4177000.44 | 36.39610 | (08021908) |
| 629800.63 | 4177350.44 | 18.07519 | (05021923) | 630150.63 | 4177350.44 | 20.55774 | (07013018) |
| 630500.63 | 4177350.44 | 21.72922 | (07120403) | 630850.63 | 4177350.44 | 22.15768 | (04021521) |
| 631200.63 | 4177350.44 | 22.82290 | (04120908) | 631550.63 | 4177350.44 | 24.20189 | (07021218) |
| 631900.63 | 4177350.44 | 26.37101 | (08011009) | 632250.63 | 4177350.44 | 26.65832 | (07091007) |
| 632600.63 | 4177350.44 | 44.42644 | (07091007) | 632950.63 | 4177350.44 | 43.76961 | (07091007) |
| 633300.63 | 4177350.44 | 27.71055 | (07022408) | 631670.70 | 4175493.59 | 51.83650 | (05012117) |
| 631669.80 | 4175641.41 | 119.52050 | (06020109) | 631665.32 | 4175796.39 | 174.12619 | (06020109) |
| 631417.17 | 4175826.85 | 118.36387 | (06020109) | 631417.17 | 4175673.66 | 159.34495 | (06020109) |
| 631422.55 | 4175484.63 | 74.02210 | (06020109) | 631268.42 | 4175983.74 | 123.15204 | (04010517) |
| 631275.69 | 4175523.99 | 120.70851 | (06020109) | 631345.65 | 4175419.50 | 55.00256 | (06020109) |
| 631384.72 | 4175441.30 | 58.52480 | (06020109) | 631491.93 | 4175442.21 | 48.60084 | (04011017) |

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|---|---|---|---|---|---|---|---|
| 631491.93 | 4175414.95 | 46.11063 | (04011017) | 631385.63 | 4175413.14 | 47.01434 | (04011017) |
| 631358.37 | 4175395.87 | 45.88661 | (04011017) | 631409.25 | 4175336.81 | 40.50765 | (04011017) |
| 631567.35 | 4175235.96 | 38.37986 | (05012117) | 631756.33 | 4175028.80 | 34.88977 | (05012117) |
| 631807.22 | 4175003.36 | 34.28298 | (05012117) | 631867.18 | 4174987.91 | 33.93665 | (05012117) |
| 631849.92 | 4175988.28 | 1383.55531 | (04121304) | 631268.74 | 4175963.75 | 120.32074 | (04010517) |
| 631269.05 | 4175943.76 | 116.09275 | (04121224) | 631269.37 | 4175923.77 | 121.07268 | (04121224) |
| 631269.68 | 4175903.78 | 118.05720 | (04121224) | 631270.00 | 4175883.79 | 108.30066 | (04121224) |
| 631270.32 | 4175863.81 | 106.19594 | (08012221) | 631270.63 | 4175843.82 | 107.96275 | (08012221) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE4 ***

INCLUDING SOURCE(S): L0001666 , L0001667 , L0001668 , L0001669 , L0001670 , L0001671 , L0001672 , L0001673 , L0001674 , L0001675 , L0001676 , L0001677 , L0001678 , L0001679 , L0001680 , L0001681 , L0001682 , L0001683 , L0001684 , L0001685 , L0001686 , L0001687 , L0001688 , L0001689 , L0001690 , L0001691 , L0001692 , L0001693 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 104.26884 | (08012221) | 631271.26 | 4175803.84 | 96.51559 | (08012221) |
| 631271.58 | 4175783.85 | 102.39895 | (06020109) | 631271.90 | 4175763.86 | 121.46121 | (06020109) |
| 631272.21 | 4175743.87 | 137.02708 | (06020109) | 631272.53 | 4175723.88 | 148.32044 | (06020109) |
| 631272.85 | 4175703.89 | 155.40140 | (06020109) | 631273.16 | 4175683.90 | 158.87160 | (06020109) |
| 631273.48 | 4175663.91 | 159.51046 | (06020109) | 631273.79 | 4175643.92 | 158.00436 | (06020109) |
| 631274.11 | 4175623.94 | 154.83928 | (06020109) | 631274.43 | 4175603.95 | 150.29571 | (06020109) |
| 631274.74 | 4175583.96 | 144.52331 | (06020109) | 631275.06 | 4175563.97 | 137.60625 | (06020109) |
| 631275.37 | 4175543.98 | 129.62950 | (06020109) | 631285.68 | 4175509.06 | 112.00328 | (06020109) |
| 631295.68 | 4175494.14 | 102.73215 | (06020109) | 631305.67 | 4175479.21 | 93.07373 | (06020109) |
| 631315.67 | 4175464.28 | 83.24320 | (06020109) | 631325.66 | 4175449.35 | 73.47270 | (06020109) |
| 631335.66 | 4175434.43 | 63.99116 | (06020109) | 631358.67 | 4175426.77 | 56.15174 | (06020109) |
| 631371.70 | 4175434.03 | 57.32126 | (06020109) | 631402.59 | 4175441.45 | 55.40353 | (06020109) |
| 631420.46 | 4175441.60 | 52.33028 | (06020109) | 631438.33 | 4175441.76 | 49.32066 | (06020109) |
| 631456.19 | 4175441.91 | 48.87208 | (04011017) | 631474.06 | 4175442.06 | 48.74907 | (04011017) |
| 631491.93 | 4175428.58 | 47.36587 | (04011017) | 631474.21 | 4175414.65 | 46.32935 | (04011017) |
| 631456.50 | 4175414.35 | 46.51875 | (04011017) | 631438.78 | 4175414.05 | 46.68107 | (04011017) |
| 631421.06 | 4175413.74 | 46.81681 | (04011017) | 631403.35 | 4175413.44 | 46.92821 | (04011017) |
| 631372.00 | 4175404.51 | 46.44410 | (04011017) | 631371.09 | 4175381.11 | 44.69746 | (04011017) |
| 631383.81 | 4175366.34 | 43.41000 | (04011017) | 631396.53 | 4175351.58 | 42.01750 | (04011017) |
| 631425.06 | 4175326.73 | 39.23282 | (04011017) | 631440.87 | 4175316.64 | 38.21116 | (06121421) |
| 631456.68 | 4175306.56 | 37.84509 | (06121421) | 631472.49 | 4175296.47 | 37.46099 | (06121421) |
| 631488.30 | 4175286.39 | 37.06138 | (06121421) | 631504.11 | 4175276.30 | 36.64266 | (06121421) |
| 631519.92 | 4175266.22 | 36.19971 | (06121421) | 631535.73 | 4175256.13 | 35.72341 | (06121421) |
| 631551.54 | 4175246.05 | 37.17805 | (05012117) | 631579.95 | 4175222.15 | 38.89680 | (05012117) |
| 631592.55 | 4175208.34 | 39.10117 | (05012117) | 631605.15 | 4175194.53 | 39.07793 | (05012117) |
| 631617.74 | 4175180.72 | 38.89860 | (05012117) | 631630.34 | 4175166.91 | 38.61919 | (05012117) |
| 631642.94 | 4175153.10 | 38.27978 | (05012117) | 631655.54 | 4175139.29 | 37.90778 | (05012117) |
| 631668.14 | 4175125.47 | 37.52047 | (05012117) | 631680.74 | 4175111.66 | 37.12915 | (05012117) |

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|---|---|---|---|---|---|---|---|
| 631693.34 | 4175097.85 | 36.73965 | (05012117) | 631705.94 | 4175084.04 | 36.35526 | (05012117) |
| 631718.53 | 4175070.23 | 35.97760 | (05012117) | 631731.13 | 4175056.42 | 35.60740 | (05012117) |
| 631743.73 | 4175042.61 | 35.24481 | (05012117) | 631773.29 | 4175020.32 | 34.68595 | (05012117) |
| 631790.26 | 4175011.84 | 34.48381 | (05012117) | 631822.21 | 4174999.50 | 34.19862 | (05012117) |
| 631837.20 | 4174995.64 | 34.11324 | (05012117) | 631852.19 | 4174991.77 | 34.02602 | (05012117) |
| 631866.84 | 4175007.53 | 34.44217 | (05012117) | 631866.50 | 4175027.14 | 34.96295 | (05012117) |
| 631866.16 | 4175046.76 | 35.50098 | (05012117) | 631865.83 | 4175066.37 | 36.05715 | (05012117) |
| 631865.49 | 4175085.99 | 36.63341 | (05012117) | 631865.15 | 4175105.60 | 37.23063 | (05012117) |
| 631864.81 | 4175125.22 | 37.85089 | (05012117) | 631864.47 | 4175144.83 | 38.49509 | (05012117) |
| 631864.13 | 4175164.45 | 39.16553 | (05012117) | 631863.80 | 4175184.06 | 39.86328 | (05012117) |
| 631863.46 | 4175203.68 | 40.59089 | (05012117) | 631863.12 | 4175223.29 | 41.34969 | (05012117) |
| 631862.78 | 4175242.91 | 42.14266 | (05012117) | 631862.44 | 4175262.52 | 42.97145 | (05012117) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE4 ***

INCLUDING SOURCE(S): L0001666 , L0001667 , L0001668 , L0001669 , L0001670 , L0001671 , L0001672 , L0001673 , L0001674 , L0001675 , L0001676 , L0001677 , L0001678 , L0001679 , L0001680 , L0001681 , L0001682 , L0001683 , L0001684 , L0001685 , L0001686 , L0001687 , L0001688 , L0001689 , L0001690 , L0001691 , L0001692 , L0001693 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 43.83957 | (05012117) | 631861.77 | 4175301.75 | 44.74913 | (05012117) |
| 631861.43 | 4175321.37 | 45.70426 | (05012117) | 631861.09 | 4175340.98 | 46.70765 | (05012117) |
| 631860.75 | 4175360.60 | 47.76438 | (05012117) | 631860.41 | 4175380.21 | 48.87786 | (05012117) |
| 631860.07 | 4175399.83 | 50.05431 | (05012117) | 631859.73 | 4175419.44 | 51.29821 | (05012117) |
| 631859.40 | 4175439.06 | 52.61731 | (05012117) | 631859.06 | 4175458.67 | 54.01747 | (05012117) |
| 631858.72 | 4175478.29 | 55.50848 | (05012117) | 631858.38 | 4175497.90 | 57.09833 | (05012117) |
| 631858.04 | 4175517.52 | 58.79961 | (05012117) | 631857.70 | 4175537.13 | 60.62323 | (05012117) |
| 631857.37 | 4175556.75 | 62.58591 | (05012117) | 631857.03 | 4175576.36 | 64.70277 | (05012117) |
| 631856.69 | 4175595.98 | 66.99647 | (05012117) | 631856.35 | 4175615.59 | 69.48891 | (05012117) |
| 631856.01 | 4175635.21 | 73.52746 | (06020109) | 631855.67 | 4175654.82 | 88.03382 | (06020109) |
| 631855.33 | 4175674.44 | 103.09235 | (06020109) | 631855.00 | 4175694.05 | 117.97739 | (06020109) |
| 631854.66 | 4175713.67 | 132.01756 | (06020109) | 631854.32 | 4175733.28 | 144.62656 | (06020109) |
| 631853.98 | 4175752.90 | 155.48838 | (06020109) | 631853.64 | 4175772.51 | 164.52679 | (06020109) |
| 631853.30 | 4175792.13 | 171.81605 | (06020109) | 631852.97 | 4175811.74 | 177.62376 | (06020109) |
| 631852.63 | 4175831.36 | 182.37169 | (06020109) | 631852.29 | 4175850.97 | 186.59805 | (06020109) |
| 631851.95 | 4175870.59 | 190.91678 | (06020109) | 631851.61 | 4175890.20 | 199.05447 | (04022207) |
| 631851.27 | 4175909.82 | 234.94754 | (04022207) | 631850.94 | 4175929.43 | 286.12874 | (04022207) |
| 631850.60 | 4175949.05 | 370.20088 | (04022207) | 631850.26 | 4175968.66 | 546.78237 | (04022207) |
| 631830.54 | 4175988.13 | 1192.64382 | (04121224) | 631811.15 | 4175987.98 | 856.46487 | (04010517) |
| 631791.77 | 4175987.83 | 681.44298 | (04010517) | 631772.39 | 4175987.67 | 570.92762 | (04010517) |
| 631753.00 | 4175987.52 | 494.53657 | (04010517) | 631733.62 | 4175987.37 | 438.06465 | (04010517) |
| 631714.24 | 4175987.22 | 394.24902 | (04010517) | 631694.85 | 4175987.07 | 359.03021 | (04010517) |
| 631675.47 | 4175986.92 | 329.99460 | (04010517) | 631656.09 | 4175986.77 | 305.54540 | (04010517) |
| 631636.70 | 4175986.62 | 284.60662 | (04010517) | 631617.32 | 4175986.46 | 266.44864 | (04010517) |

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|---|---|---|---|---|---|---|---|
| 631597.94 | 4175986.31 | 250.51920 | (04010517) | 631578.55 | 4175986.16 | 236.40346 | (04010517) |
| 631559.17 | 4175986.01 | 223.80620 | (04010517) | 631539.79 | 4175985.86 | 212.47879 | (04010517) |
| 631520.40 | 4175985.71 | 202.22554 | (04010517) | 631501.02 | 4175985.56 | 192.90387 | (04010517) |
| 631481.64 | 4175985.40 | 184.38414 | (04010517) | 631462.25 | 4175985.25 | 176.55917 | (04010517) |
| 631442.87 | 4175985.10 | 169.35215 | (04010517) | 631423.49 | 4175984.95 | 162.68734 | (04010517) |
| 631404.10 | 4175984.80 | 156.50117 | (04010517) | 631384.72 | 4175984.65 | 150.74844 | (04010517) |
| 631365.34 | 4175984.50 | 145.38154 | (04010517) | 631345.95 | 4175984.35 | 140.35971 | (04010517) |
| 631326.57 | 4175984.19 | 135.65563 | (04010517) | 631307.19 | 4175984.04 | 131.23611 | (04010517) |
| 631287.80 | 4175983.89 | 127.07431 | (04010517) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE5 ***

INCLUDING SOURCE(S): L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 , L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 , L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 , L0001956 , L0001957 , L0001958 , L0001959 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 20.64565 | (06011617) | 632304.44 | 4174354.52 | 13.26428 | (04022018) |
| 632192.15 | 4174956.32 | 21.23641 | (06011617) | 632420.62 | 4175510.15 | 39.28610 | (06100508) |
| 632418.97 | 4175552.92 | 46.25100 | (06100508) | 631187.00 | 4175727.00 | 66.06400 | (06011617) |
| 631166.00 | 4175729.00 | 66.47864 | (06011617) | 631121.00 | 4175719.00 | 64.67966 | (06011617) |
| 631035.00 | 4174830.00 | 18.89562 | (05012117) | 631106.00 | 4174825.00 | 18.50754 | (07012317) |
| 631937.00 | 4174528.00 | 15.01046 | (07011417) | 631322.00 | 4174522.00 | 15.44273 | (07012317) |
| 629800.63 | 4173850.44 | 12.50500 | (05012117) | 630150.63 | 4173850.44 | 12.51916 | (05012117) |
| 630500.63 | 4173850.44 | 10.84544 | (08022002) | 630850.63 | 4173850.44 | 10.84248 | (08022002) |
| 631200.63 | 4173850.44 | 11.55329 | (07012317) | 631550.63 | 4173850.44 | 11.52628 | (07012317) |
| 631900.63 | 4173850.44 | 11.27002 | (07011417) | 632250.63 | 4173850.44 | 10.71560 | (07011417) |
| 632600.63 | 4173850.44 | 10.54583 | (05011521) | 632950.63 | 4173850.44 | 10.84550 | (04022018) |
| 633300.63 | 4173850.44 | 10.77344 | (04022018) | 629800.63 | 4174200.44 | 14.25353 | (05012117) |
| 630150.63 | 4174200.44 | 14.38431 | (05012117) | 630500.63 | 4174200.44 | 14.24976 | (05012117) |
| 630850.63 | 4174200.44 | 13.00678 | (07012317) | 631200.63 | 4174200.44 | 13.26615 | (07012317) |
| 631550.63 | 4174200.44 | 13.21969 | (07012317) | 631900.63 | 4174200.44 | 12.91422 | (07011417) |
| 632250.63 | 4174200.44 | 12.14714 | (05011521) | 632600.63 | 4174200.44 | 12.55531 | (04022018) |
| 632950.63 | 4174200.44 | 12.52959 | (04022018) | 633300.63 | 4174200.44 | 13.23003 | (06011617) |
| 629800.63 | 4174550.44 | 16.18586 | (05012117) | 630150.63 | 4174550.44 | 16.93256 | (05012117) |
| 630500.63 | 4174550.44 | 17.07122 | (05012117) | 630850.63 | 4174550.44 | 16.03967 | (05012117) |
| 631200.63 | 4174550.44 | 15.69761 | (07012317) | 631550.63 | 4174550.44 | 15.61359 | (07012317) |
| 631900.63 | 4174550.44 | 15.21602 | (07011417) | 632250.63 | 4174550.44 | 14.97901 | (04022018) |
| 632600.63 | 4174550.44 | 14.88746 | (04022018) | 632950.63 | 4174550.44 | 16.53335 | (06011617) |
| 633300.63 | 4174550.44 | 16.41365 | (06011617) | 629800.63 | 4174900.44 | 17.63394 | (06121421) |
| 630150.63 | 4174900.44 | 20.79953 | (05012117) | 630500.63 | 4174900.44 | 21.09276 | (05012117) |
| 630850.63 | 4174900.44 | 21.25714 | (05012117) | 631200.63 | 4174900.44 | 19.47940 | (07012317) |
| 631550.63 | 4174900.44 | 19.30910 | (07012317) | 631900.63 | 4174900.44 | 18.76525 | (04022018) |
| 632250.63 | 4174900.44 | 20.15556 | (06011617) | 632600.63 | 4174900.44 | 20.85444 | (06011617) |

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|---|---|---|---|---|---|---|---|
| 632950.63 | 4174900.44 | 19.98613 | (06011617) | 633300.63 | 4174900.44 | 19.13725 | (06120617) |
| 629800.63 | 4175250.44 | 50.67611 | (06020109) | 630150.63 | 4175250.44 | 27.45724 | (05012117) |
| 630500.63 | 4175250.44 | 28.24798 | (05012117) | 630850.63 | 4175250.44 | 28.69412 | (05012117) |
| 631200.63 | 4175250.44 | 28.53947 | (05012117) | 631550.63 | 4175250.44 | 25.92768 | (06011617) |
| 631900.63 | 4175250.44 | 28.60369 | (06011617) | 632250.63 | 4175250.44 | 27.99057 | (06011617) |
| 632600.63 | 4175250.44 | 26.69488 | (06120617) | 632950.63 | 4175250.44 | 25.83415 | (05021801) |
| 633300.63 | 4175250.44 | 31.16550 | (06100508) | 629800.63 | 4175600.44 | 107.27016 | (06020109) |
| 630150.63 | 4175600.44 | 105.63468 | (06020109) | 630500.63 | 4175600.44 | 90.84548 | (06020109) |
| 630850.63 | 4175600.44 | 46.92079 | (05012117) | 631200.63 | 4175600.44 | 48.71623 | (06011617) |
| 631550.63 | 4175600.44 | 48.00015 | (06011617) | 631900.63 | 4175600.44 | 45.45633 | (06011617) |
| 632250.63 | 4175600.44 | 48.48890 | (06100508) | 632600.63 | 4175600.44 | 57.35001 | (06100508) |
| 632950.63 | 4175600.44 | 55.96475 | (06100508) | 633300.63 | 4175600.44 | 42.68272 | (06100508) |
| 629800.63 | 4175950.44 | 101.88741 | (04010517) | 630150.63 | 4175950.44 | 215.11665 | (04121224) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE5 ***

INCLUDING SOURCE(S): L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 , L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 , L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 , L0001956 , L0001957 , L0001958 , L0001959 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 300.06497 | (04022207) | 630850.63 | 4175950.44 | 293.39748 | (04022207) |
| 631200.63 | 4175950.44 | 286.19503 | (08011001) | 631550.63 | 4175950.44 | 285.67584 | (05122223) |
| 631900.63 | 4175950.44 | 245.11759 | (05122223) | 632250.63 | 4175950.44 | 120.55134 | (07021102) |
| 632600.63 | 4175950.44 | 73.72404 | (06012822) | 632950.63 | 4175950.44 | 52.88108 | (06012822) |
| 633300.63 | 4175950.44 | 40.50101 | (06012822) | 629800.63 | 4176300.44 | 46.25812 | (07120621) |
| 630150.63 | 4176300.44 | 50.18685 | (07120622) | 630500.63 | 4176300.44 | 52.86105 | (07120622) |
| 630850.63 | 4176300.44 | 59.84635 | (08021908) | 631200.63 | 4176300.44 | 62.92048 | (08021808) |
| 631550.63 | 4176300.44 | 61.98030 | (08021808) | 631900.63 | 4176300.44 | 58.64216 | (08021808) |
| 632250.63 | 4176300.44 | 56.15781 | (05122401) | 632600.63 | 4176300.44 | 52.53045 | (06020208) |
| 632950.63 | 4176300.44 | 46.05335 | (06011620) | 633300.63 | 4176300.44 | 38.35317 | (04121118) |
| 629800.63 | 4176650.44 | 27.31926 | (06122121) | 630150.63 | 4176650.44 | 27.67206 | (04021520) |
| 630500.63 | 4176650.44 | 29.45421 | (08011009) | 630850.63 | 4176650.44 | 33.25263 | (07091007) |
| 631200.63 | 4176650.44 | 33.35548 | (07091007) | 631550.63 | 4176650.44 | 34.17200 | (08021908) |
| 631900.63 | 4176650.44 | 34.33882 | (08021808) | 632250.63 | 4176650.44 | 35.55387 | (08031008) |
| 632600.63 | 4176650.44 | 35.73061 | (08031008) | 632950.63 | 4176650.44 | 29.49340 | (07010308) |
| 633300.63 | 4176650.44 | 28.31506 | (06012919) | 629800.63 | 4177000.44 | 19.55779 | (04021520) |
| 630150.63 | 4177000.44 | 19.62557 | (07021218) | 630500.63 | 4177000.44 | 21.48760 | (08011009) |
| 630850.63 | 4177000.44 | 30.86796 | (07091007) | 631200.63 | 4177000.44 | 31.11919 | (07091007) |
| 631550.63 | 4177000.44 | 30.86604 | (07091007) | 631900.63 | 4177000.44 | 30.24187 | (07091007) |
| 632250.63 | 4177000.44 | 24.32804 | (08021808) | 632600.63 | 4177000.44 | 28.87781 | (08031008) |
| 632950.63 | 4177000.44 | 33.34650 | (08031008) | 633300.63 | 4177000.44 | 32.51171 | (08031008) |
| 629800.63 | 4177350.44 | 15.10244 | (04120903) | 630150.63 | 4177350.44 | 16.36927 | (05010917) |
| 630500.63 | 4177350.44 | 17.20235 | (08011009) | 630850.63 | 4177350.44 | 26.60012 | (07091007) |

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|---|---|---|---|---|---|---|---|
| 631200.63 | 4177350.44 | 29.74989 | (07091007) | 631550.63 | 4177350.44 | 29.61564 | (07091007) |
| 631900.63 | 4177350.44 | 29.31546 | (07091007) | 632250.63 | 4177350.44 | 18.95950 | (08021908) |
| 632600.63 | 4177350.44 | 19.19611 | (08021908) | 632950.63 | 4177350.44 | 19.42502 | (08021808) |
| 633300.63 | 4177350.44 | 27.30880 | (08031008) | 631670.70 | 4175493.59 | 39.47925 | (06011617) |
| 631669.80 | 4175641.41 | 51.32115 | (06011617) | 631665.32 | 4175796.39 | 86.91322 | (07010217) |
| 631417.17 | 4175826.85 | 100.66631 | (07010217) | 631417.17 | 4175673.66 | 56.85117 | (06011617) |
| 631422.55 | 4175484.63 | 39.50775 | (06011617) | 631268.42 | 4175983.74 | 910.16397 | (05121217) |
| 631275.69 | 4175523.99 | 41.85962 | (06011617) | 631345.65 | 4175419.50 | 34.54937 | (05012117) |
| 631384.72 | 4175441.30 | 36.30514 | (06011617) | 631491.93 | 4175442.21 | 36.92518 | (06011617) |
| 631491.93 | 4175414.95 | 35.32037 | (06011617) | 631385.63 | 4175413.14 | 34.22618 | (06011617) |
| 631358.37 | 4175395.87 | 33.05299 | (05012117) | 631409.25 | 4175336.81 | 28.74819 | (07012317) |
| 631567.35 | 4175235.96 | 25.51864 | (07012317) | 631756.33 | 4175028.80 | 20.90613 | (07012317) |
| 631807.22 | 4175003.36 | 20.33274 | (04022018) | 631867.18 | 4174987.91 | 20.04032 | (04022018) |
| 631849.92 | 4175988.28 | 841.67063 | (07021102) | 631268.74 | 4175963.75 | 385.76168 | (05122223) |
| 631269.05 | 4175943.76 | 255.35042 | (08011001) | 631269.37 | 4175923.77 | 196.87799 | (07010217) |
| 631269.68 | 4175903.78 | 163.07652 | (07010217) | 631270.00 | 4175883.79 | 139.96664 | (07010217) |
| 631270.32 | 4175863.81 | 122.76094 | (07010217) | 631270.63 | 4175843.82 | 109.06809 | (07010217) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE5 ***

INCLUDING SOURCE(S): L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 , L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 , L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 , L0001956 , L0001957 , L0001958 , L0001959 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 97.57168 | (07010217) | 631271.26 | 4175803.84 | 87.47520 | (07010217) |
| 631271.58 | 4175783.85 | 78.90204 | (06011617) | 631271.90 | 4175763.86 | 73.68294 | (06011617) |
| 631272.21 | 4175743.87 | 69.19206 | (06011617) | 631272.53 | 4175723.88 | 65.28018 | (06011617) |
| 631272.85 | 4175703.89 | 61.83656 | (06011617) | 631273.16 | 4175683.90 | 58.77660 | (06011617) |
| 631273.48 | 4175663.91 | 56.03363 | (06011617) | 631273.79 | 4175643.92 | 53.55337 | (06011617) |
| 631274.11 | 4175623.94 | 51.29071 | (06011617) | 631274.43 | 4175603.95 | 49.20240 | (06011617) |
| 631274.74 | 4175583.96 | 47.25144 | (06011617) | 631275.06 | 4175563.97 | 45.40113 | (06011617) |
| 631275.37 | 4175543.98 | 43.61550 | (06011617) | 631285.68 | 4175509.06 | 40.65365 | (06011617) |
| 631295.68 | 4175494.14 | 39.48259 | (06011617) | 631305.67 | 4175479.21 | 38.34000 | (06011617) |
| 631315.67 | 4175464.28 | 37.22322 | (06011617) | 631325.66 | 4175449.35 | 36.29387 | (05012117) |
| 631335.66 | 4175434.43 | 35.43812 | (05012117) | 631358.67 | 4175426.77 | 34.84468 | (06011617) |
| 631371.70 | 4175434.03 | 35.60973 | (06011617) | 631402.59 | 4175441.45 | 36.48194 | (06011617) |
| 631420.46 | 4175441.60 | 36.62364 | (06011617) | 631438.33 | 4175441.76 | 36.73552 | (06011617) |
| 631456.19 | 4175441.91 | 36.82034 | (06011617) | 631474.06 | 4175442.06 | 36.88252 | (06011617) |
| 631491.93 | 4175428.58 | 36.12145 | (06011617) | 631474.21 | 4175414.65 | 35.21963 | (06011617) |
| 631456.50 | 4175414.35 | 35.09209 | (06011617) | 631438.78 | 4175414.05 | 34.93364 | (06011617) |
| 631421.06 | 4175413.74 | 34.73922 | (06011617) | 631403.35 | 4175413.44 | 34.50544 | (06011617) |
| 631372.00 | 4175404.51 | 33.30641 | (06011617) | 631371.09 | 4175381.11 | 31.85710 | (05012117) |
| 631383.81 | 4175366.34 | 30.43262 | (06011617) | 631396.53 | 4175351.58 | 29.54093 | (06011617) |

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|---|---|---|---|---|---|---|---|
| 631425.06 | 4175326.73 | 28.38751 | (07012317) | 631440.87 | 4175316.64 | 28.03570 | (07012317) |
| 631456.68 | 4175306.56 | 27.69308 | (07012317) | 631472.49 | 4175296.47 | 27.35873 | (07012317) |
| 631488.30 | 4175286.39 | 27.03298 | (07012317) | 631504.11 | 4175276.30 | 26.71495 | (07012317) |
| 631519.92 | 4175266.22 | 26.40497 | (07012317) | 631535.73 | 4175256.13 | 26.10223 | (07012317) |
| 631551.54 | 4175246.05 | 25.80704 | (07012317) | 631579.95 | 4175222.15 | 25.14975 | (07012317) |
| 631592.55 | 4175208.34 | 24.79276 | (07012317) | 631605.15 | 4175194.53 | 24.44709 | (07012317) |
| 631617.74 | 4175180.72 | 24.11223 | (07012317) | 631630.34 | 4175166.91 | 23.78759 | (07012317) |
| 631642.94 | 4175153.10 | 23.47265 | (07012317) | 631655.54 | 4175139.29 | 23.16678 | (07012317) |
| 631668.14 | 4175125.47 | 22.86910 | (07012317) | 631680.74 | 4175111.66 | 22.57914 | (07012317) |
| 631693.34 | 4175097.85 | 22.29558 | (07012317) | 631705.94 | 4175084.04 | 22.01697 | (07012317) |
| 631718.53 | 4175070.23 | 21.74145 | (07012317) | 631731.13 | 4175056.42 | 21.46656 | (07012317) |
| 631743.73 | 4175042.61 | 21.18932 | (07012317) | 631773.29 | 4175020.32 | 20.66734 | (07012317) |
| 631790.26 | 4175011.84 | 20.48243 | (04022018) | 631822.21 | 4174999.50 | 20.25948 | (04022018) |
| 631837.20 | 4174995.64 | 20.18630 | (04022018) | 631852.19 | 4174991.77 | 20.11313 | (04022018) |
| 631866.84 | 4175007.53 | 20.34266 | (04022018) | 631866.50 | 4175027.14 | 20.65366 | (04022018) |
| 631866.16 | 4175046.76 | 20.98975 | (06011617) | 631865.83 | 4175066.37 | 21.87072 | (06011617) |
| 631865.49 | 4175085.99 | 22.71362 | (06011617) | 631865.15 | 4175105.60 | 23.51799 | (06011617) |
| 631864.81 | 4175125.22 | 24.28638 | (06011617) | 631864.47 | 4175144.83 | 25.02106 | (06011617) |
| 631864.13 | 4175164.45 | 25.72699 | (06011617) | 631863.80 | 4175184.06 | 26.40853 | (06011617) |
| 631863.46 | 4175203.68 | 27.07201 | (06011617) | 631863.12 | 4175223.29 | 27.72290 | (06011617) |
| 631862.78 | 4175242.91 | 28.36813 | (06011617) | 631862.44 | 4175262.52 | 29.01329 | (06011617) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: SLINE5 ***

INCLUDING SOURCE(S): L0001932 , L0001933 , L0001934 , L0001935 , L0001936 , L0001937 , L0001938 , L0001939 , L0001940 , L0001941 , L0001942 , L0001943 , L0001944 , L0001945 , L0001946 , L0001947 , L0001948 , L0001949 , L0001950 , L0001951 , L0001952 , L0001953 , L0001954 , L0001955 , L0001956 , L0001957 , L0001958 , L0001959 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 29.66514 | (06011617) | 631861.77 | 4175301.75 | 30.32885 | (06011617) |
| 631861.43 | 4175321.37 | 31.01071 | (06011617) | 631861.09 | 4175340.98 | 31.71531 | (06011617) |
| 631860.75 | 4175360.60 | 32.44843 | (06011617) | 631860.41 | 4175380.21 | 33.21423 | (06011617) |
| 631860.07 | 4175399.83 | 34.01834 | (06011617) | 631859.73 | 4175419.44 | 34.86484 | (06011617) |
| 631859.40 | 4175439.06 | 35.75967 | (06011617) | 631859.06 | 4175458.67 | 36.70743 | (06011617) |
| 631858.72 | 4175478.29 | 37.71500 | (06011617) | 631858.38 | 4175497.90 | 38.78795 | (06011617) |
| 631858.04 | 4175517.52 | 39.93486 | (06011617) | 631857.70 | 4175537.13 | 41.16309 | (06011617) |
| 631857.37 | 4175556.75 | 42.48373 | (06011617) | 631857.03 | 4175576.36 | 43.90710 | (06011617) |
| 631856.69 | 4175595.98 | 45.44820 | (06011617) | 631856.35 | 4175615.59 | 47.12163 | (06011617) |
| 631856.01 | 4175635.21 | 48.94852 | (06011617) | 631855.67 | 4175654.82 | 51.86694 | (07010217) |
| 631855.33 | 4175674.44 | 55.44710 | (07010217) | 631855.00 | 4175694.05 | 59.13766 | (07010217) |
| 631854.66 | 4175713.67 | 62.99727 | (07010217) | 631854.32 | 4175733.28 | 67.09569 | (07010217) |
| 631853.98 | 4175752.90 | 71.53339 | (07010217) | 631853.64 | 4175772.51 | 76.43082 | (07010217) |
| 631853.30 | 4175792.13 | 81.95741 | (07010217) | 631852.97 | 4175811.74 | 88.32880 | (07010217) |
| 631852.63 | 4175831.36 | 95.86216 | (07010217) | 631852.29 | 4175850.97 | 105.00378 | (07010217) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631851.95 | 4175870.59 | 116.46789 | (07010217) | 631851.61 | 4175890.20 | 133.58157 | (08011001) |
| 631851.27 | 4175909.82 | 156.56431 | (08011001) | 631850.94 | 4175929.43 | 190.98425 | (05122223) |
| 631850.60 | 4175949.05 | 252.19690 | (05122223) | 631850.26 | 4175968.66 | 379.33600 | (05121217) |
| 631830.54 | 4175988.13 | 996.90559 | (08011019) | 631811.15 | 4175987.98 | 959.38709 | (08011019) |
| 631791.77 | 4175987.83 | 979.23456 | (08011019) | 631772.39 | 4175987.67 | 1010.09254 | (08011019) |
| 631753.00 | 4175987.52 | 1016.43548 | (08011019) | 631733.62 | 4175987.37 | 967.74903 | (08011019) |
| 631714.24 | 4175987.22 | 977.49530 | (08011019) | 631694.85 | 4175987.07 | 999.83781 | (08011019) |
| 631675.47 | 4175986.92 | 952.67604 | (08011019) | 631656.09 | 4175986.77 | 960.83290 | (08011019) |
| 631636.70 | 4175986.62 | 982.29788 | (08011019) | 631617.32 | 4175986.46 | 981.74524 | (08011019) |
| 631597.94 | 4175986.31 | 943.23739 | (08011019) | 631578.55 | 4175986.16 | 964.01597 | (08011019) |
| 631559.17 | 4175986.01 | 964.72761 | (05121217) | 631539.79 | 4175985.86 | 964.05788 | (05121217) |
| 631520.40 | 4175985.71 | 947.90272 | (05121217) | 631501.02 | 4175985.56 | 949.16467 | (05121217) |
| 631481.64 | 4175985.40 | 947.28148 | (05121217) | 631462.25 | 4175985.25 | 961.86051 | (05121217) |
| 631442.87 | 4175985.10 | 933.28288 | (05121217) | 631423.49 | 4175984.95 | 949.70028 | (05121217) |
| 631404.10 | 4175984.80 | 945.96940 | (05121217) | 631384.72 | 4175984.65 | 941.80816 | (05121217) |
| 631365.34 | 4175984.50 | 934.18609 | (05121217) | 631345.95 | 4175984.35 | 930.46286 | (05121217) |
| 631326.57 | 4175984.19 | 925.41106 | (05121217) | 631307.19 | 4175984.04 | 918.22724 | (05121217) |
| 631287.80 | 4175983.89 | 914.55745 | (05121217) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK1 ***

INCLUDING SOURCE(S): STCK1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 110.65723 | (08071406) | 632304.44 | 4174354.52 | 65.11936 | (04022218) |
| 632192.15 | 4174956.32 | 98.98281 | (06051924) | 632420.62 | 4175510.15 | 134.41556 | (08010918) |
| 632418.97 | 4175552.92 | 134.20115 | (05021801) | 631187.00 | 4175727.00 | 204.78458 | (06051906) |
| 631166.00 | 4175729.00 | 194.75883 | (06032819) | 631121.00 | 4175719.00 | 178.57801 | (06051906) |
| 631035.00 | 4174830.00 | 92.19630 | (07121217) | 631106.00 | 4174825.00 | 101.54464 | (07011517) |
| 631937.00 | 4174528.00 | 81.18672 | (07012317) | 631322.00 | 4174522.00 | 81.62940 | (06102817) |
| 629800.63 | 4173850.44 | 22.33373 | (06121421) | 630150.63 | 4173850.44 | 26.04783 | (04012317) |
| 630500.63 | 4173850.44 | 39.69145 | (07011517) | 630850.63 | 4173850.44 | 43.34645 | (06011021) |
| 631200.63 | 4173850.44 | 40.59775 | (06121017) | 631550.63 | 4173850.44 | 45.25855 | (06121420) |
| 631900.63 | 4173850.44 | 43.58739 | (04122823) | 632250.63 | 4173850.44 | 45.23261 | (04122824) |
| 632600.63 | 4173850.44 | 41.15790 | (06020105) | 632950.63 | 4173850.44 | 37.18131 | (05020818) |
| 633300.63 | 4173850.44 | 33.24943 | (05011520) | 629800.63 | 4174200.44 | 28.65924 | (06121421) |
| 630150.63 | 4174200.44 | 29.71499 | (06121421) | 630500.63 | 4174200.44 | 37.37364 | (07121217) |
| 630850.63 | 4174200.44 | 55.92424 | (05012117) | 631200.63 | 4174200.44 | 56.85724 | (06102817) |
| 631550.63 | 4174200.44 | 64.35384 | (06121420) | 631900.63 | 4174200.44 | 54.76297 | (04122823) |
| 632250.63 | 4174200.44 | 60.05145 | (07011417) | 632600.63 | 4174200.44 | 49.26789 | (04122822) |
| 632950.63 | 4174200.44 | 44.77415 | (05011521) | 633300.63 | 4174200.44 | 39.97177 | (04022018) |
| 629800.63 | 4174550.44 | 34.42306 | (04011017) | 630150.63 | 4174550.44 | 34.51181 | (06121421) |
| 630500.63 | 4174550.44 | 43.49767 | (06121421) | 630850.63 | 4174550.44 | 66.20317 | (07121217) |
| 631200.63 | 4174550.44 | 83.81521 | (06011021) | 631550.63 | 4174550.44 | 83.82658 | (06121420) |
| 631900.63 | 4174550.44 | 76.23440 | (07012317) | 632250.63 | 4174550.44 | 73.42710 | (04022218) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 632600.63 | 4174550.44 | 59.91890 | (05020818) | 632950.63 | 4174550.44 | 56.03883 | (04022018) |
| 633300.63 | 4174550.44 | 41.75298 | (06011617) | 629800.63 | 4174900.44 | 34.87525 | (06121217) |
| 630150.63 | 4174900.44 | 44.69474 | (06120217) | 630500.63 | 4174900.44 | 57.38674 | (07020624) |
| 630850.63 | 4174900.44 | 75.47792 | (05110618) | 631200.63 | 4174900.44 | 125.29625 | (06011109) |
| 631550.63 | 4174900.44 | 116.62826 | (07111022) | 631900.63 | 4174900.44 | 110.28932 | (04102617) |
| 632250.63 | 4174900.44 | 92.42122 | (04122822) | 632600.63 | 4174900.44 | 81.00053 | (04022018) |
| 632950.63 | 4174900.44 | 67.03263 | (06011617) | 633300.63 | 4174900.44 | 49.76527 | (05020802) |
| 629800.63 | 4175250.44 | 41.68319 | (04022207) | 630150.63 | 4175250.44 | 44.60102 | (04022208) |
| 630500.63 | 4175250.44 | 65.23280 | (06121217) | 630850.63 | 4175250.44 | 112.64847 | (06120217) |
| 631200.63 | 4175250.44 | 151.77702 | (05110618) | 631550.63 | 4175250.44 | 203.60244 | (06102817) |
| 631900.63 | 4175250.44 | 162.63260 | (07101005) | 632250.63 | 4175250.44 | 135.50222 | (05011317) |
| 632600.63 | 4175250.44 | 93.82516 | (06011617) | 632950.63 | 4175250.44 | 72.36114 | (04022223) |
| 633300.63 | 4175250.44 | 56.47641 | (07010217) | 629800.63 | 4175600.44 | 39.12691 | (04121304) |
| 630150.63 | 4175600.44 | 45.50826 | (04121224) | 630500.63 | 4175600.44 | 68.36098 | (08012221) |
| 630850.63 | 4175600.44 | 111.91569 | (04022207) | 631200.63 | 4175600.44 | 200.44095 | (07101502) |
| 631550.63 | 4175600.44 | 521.74907 | (06052306) | 631900.63 | 4175600.44 | 368.83027 | (08071406) |
| 632250.63 | 4175600.44 | 180.03875 | (06092719) | 632600.63 | 4175600.44 | 112.97643 | (07020218) |
| 632950.63 | 4175600.44 | 75.97936 | (06011618) | 633300.63 | 4175600.44 | 58.42340 | (05122223) |
| 629800.63 | 4175950.44 | 39.16834 | (05122618) | 630150.63 | 4175950.44 | 46.58887 | (05122618) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK1 ***

INCLUDING SOURCE(S): STCK1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 60.21598 | (07020701) | 630850.63 | 4175950.44 | 103.32416 | (06011024) |
| 631200.63 | 4175950.44 | 175.23924 | (05030324) | 631550.63 | 4175950.44 | 329.50796 | (07120623) |
| 631900.63 | 4175950.44 | 657.55966 | (06062806) | 632250.63 | 4175950.44 | 195.07855 | (05122401) |
| 632600.63 | 4175950.44 | 111.12011 | (06121320) | 632950.63 | 4175950.44 | 78.14973 | (07012418) |
| 633300.63 | 4175950.44 | 58.78716 | (07012318) | 629800.63 | 4176300.44 | 35.34577 | (06011024) |
| 630150.63 | 4176300.44 | 42.06628 | (04041820) | 630500.63 | 4176300.44 | 64.71332 | (07120622) |
| 630850.63 | 4176300.44 | 84.87102 | (05030322) | 631200.63 | 4176300.44 | 118.15369 | (07080202) |
| 631550.63 | 4176300.44 | 168.59248 | (08091907) | 631900.63 | 4176300.44 | 222.81457 | (06032303) |
| 632250.63 | 4176300.44 | 200.08235 | (05010604) | 632600.63 | 4176300.44 | 121.10452 | (05011818) |
| 632950.63 | 4176300.44 | 75.28360 | (04011021) | 633300.63 | 4176300.44 | 57.24917 | (05122401) |
| 629800.63 | 4176650.44 | 37.79346 | (07120622) | 630150.63 | 4176650.44 | 39.84621 | (06122121) |
| 630500.63 | 4176650.44 | 58.07659 | (04021520) | 630850.63 | 4176650.44 | 74.14379 | (04021521) |
| 631200.63 | 4176650.44 | 89.82343 | (07012719) | 631550.63 | 4176650.44 | 102.72749 | (08122721) |
| 631900.63 | 4176650.44 | 127.31057 | (06020918) | 632250.63 | 4176650.44 | 139.98916 | (06120218) |
| 632600.63 | 4176650.44 | 103.51496 | (05021219) | 632950.63 | 4176650.44 | 81.78218 | (08021808) |
| 633300.63 | 4176650.44 | 52.03301 | (05011818) | 629800.63 | 4177000.44 | 34.52321 | (06122121) |
| 630150.63 | 4177000.44 | 40.65877 | (04021520) | 630500.63 | 4177000.44 | 48.04194 | (04021521) |
| 630850.63 | 4177000.44 | 61.31864 | (04120908) | 631200.63 | 4177000.44 | 71.85513 | (04022021) |
| 631550.63 | 4177000.44 | 81.78034 | (07021108) | 631900.63 | 4177000.44 | 91.50185 | (05122220) |
| 632250.63 | 4177000.44 | 92.39940 | (05021722) | 632600.63 | 4177000.44 | 78.80093 | (04121820) |

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|---|---|---|---|---|---|---|---|
| 632950.63 | 4177000.44 | 61.08593 | (05021219) | 633300.63 | 4177000.44 | 50.45831 | (08021808) |
| 629800.63 | 4177350.44 | 28.09553 | (04021521) | 630150.63 | 4177350.44 | 33.73915 | (04010518) |
| 630500.63 | 4177350.44 | 40.14437 | (04121223) | 630850.63 | 4177350.44 | 50.64164 | (07122917) |
| 631200.63 | 4177350.44 | 55.73496 | (07012722) | 631550.63 | 4177350.44 | 61.23026 | (06020124) |
| 631900.63 | 4177350.44 | 64.56738 | (05122220) | 632250.63 | 4177350.44 | 66.38050 | (04021506) |
| 632600.63 | 4177350.44 | 58.14620 | (06010520) | 632950.63 | 4177350.44 | 49.87905 | (07022408) |
| 633300.63 | 4177350.44 | 43.29874 | (08021908) | 631670.70 | 4175493.59 | 366.74570 | (07102901) |
| 631669.80 | 4175641.41 | 944.90037 | (06062806) | 631665.32 | 4175796.39 | 161.57415 | (06072903) |
| 631417.17 | 4175826.85 | 318.75352 | (05083119) | 631417.17 | 4175673.66 | 539.86300 | (07101502) |
| 631422.55 | 4175484.63 | 353.46073 | (08062901) | 631268.42 | 4175983.74 | 177.22554 | (06011217) |
| 631275.69 | 4175523.99 | 204.34701 | (06120217) | 631345.65 | 4175419.50 | 211.41801 | (06121421) |
| 631384.72 | 4175441.30 | 443.93400 | (07082819) | 631491.93 | 4175442.21 | 317.76885 | (04110819) |
| 631491.93 | 4175414.95 | 338.22452 | (07121217) | 631385.63 | 4175413.14 | 227.18663 | (04012317) |
| 631358.37 | 4175395.87 | 205.22038 | (05110618) | 631409.25 | 4175336.81 | 193.26923 | (06011109) |
| 631567.35 | 4175235.96 | 205.69465 | (06102817) | 631756.33 | 4175028.80 | 107.12829 | (05010417) |
| 631807.22 | 4175003.36 | 108.76573 | (06040124) | 631867.18 | 4174987.91 | 118.99858 | (04102617) |
| 631849.92 | 4175988.28 | 523.16299 | (06100919) | 631268.74 | 4175963.75 | 186.99050 | (06011217) |
| 631269.05 | 4175943.76 | 198.27005 | (05030324) | 631269.37 | 4175923.77 | 197.51566 | (05030324) |
| 631269.68 | 4175903.78 | 205.06706 | (06072906) | 631270.00 | 4175883.79 | 202.72052 | (06111024) |
| 631270.32 | 4175863.81 | 206.94583 | (04101623) | 631270.63 | 4175843.82 | 215.54520 | (05083119) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK1 ***

INCLUDING SOURCE(S): STCK1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 226.56944 | (05122618) | 631271.26 | 4175803.84 | 222.28632 | (05122618) |
| 631271.58 | 4175783.85 | 225.94805 | (04121304) | 631271.90 | 4175763.86 | 246.67028 | (06032819) |
| 631272.21 | 4175743.87 | 243.24780 | (06032819) | 631272.53 | 4175723.88 | 244.59697 | (06051906) |
| 631272.85 | 4175703.89 | 233.82107 | (04110818) | 631273.16 | 4175683.90 | 221.07851 | (04022207) |
| 631273.48 | 4175663.91 | 230.37210 | (04022207) | 631273.79 | 4175643.92 | 234.97645 | (06041224) |
| 631274.11 | 4175623.94 | 228.54979 | (07101502) | 631274.43 | 4175603.95 | 213.94304 | (06100918) |
| 631274.74 | 4175583.96 | 218.11960 | (06100918) | 631275.06 | 4175563.97 | 218.31573 | (05112423) |
| 631275.37 | 4175543.98 | 213.64359 | (07111023) | 631285.68 | 4175509.06 | 217.62858 | (06120217) |
| 631295.68 | 4175494.14 | 215.01870 | (07020624) | 631305.67 | 4175479.21 | 213.46059 | (07020624) |
| 631315.67 | 4175464.28 | 198.60322 | (04101819) | 631325.66 | 4175449.35 | 208.18263 | (04101819) |
| 631335.66 | 4175434.43 | 206.05467 | (06121421) | 631358.67 | 4175426.77 | 221.51610 | (06121421) |
| 631371.70 | 4175434.03 | 337.80288 | (04012317) | 631402.59 | 4175441.45 | 342.02584 | (07082819) |
| 631420.46 | 4175441.60 | 536.25617 | (05110618) | 631438.33 | 4175441.76 | 354.14251 | (07082819) |
| 631456.19 | 4175441.91 | 340.91882 | (04110819) | 631474.06 | 4175442.06 | 337.27110 | (04110819) |
| 631491.93 | 4175428.58 | 323.76896 | (07121217) | 631474.21 | 4175414.65 | 328.77561 | (04110819) |
| 631456.50 | 4175414.35 | 354.32232 | (04110819) | 631438.78 | 4175414.05 | 364.04836 | (04110819) |
| 631421.06 | 4175413.74 | 380.05120 | (08121017) | 631403.35 | 4175413.44 | 495.45361 | (04012317) |
| 631372.00 | 4175404.51 | 210.10182 | (04012317) | 631371.09 | 4175381.11 | 198.63861 | (05110618) |
| 631383.81 | 4175366.34 | 194.43922 | (04012317) | 631396.53 | 4175351.58 | 197.61277 | (04110819) |

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|---|---|---|---|---|---|---|---|
| 631425.06 | 4175326.73 | 216.98162 | (06011109) | 631440.87 | 4175316.64 | 234.88332 | (06011109) |
| 631456.68 | 4175306.56 | 245.17061 | (06011109) | 631472.49 | 4175296.47 | 246.75925 | (06011109) |
| 631488.30 | 4175286.39 | 239.49958 | (06011109) | 631504.11 | 4175276.30 | 224.15665 | (06011109) |
| 631519.92 | 4175266.22 | 202.48061 | (05012117) | 631535.73 | 4175256.13 | 196.44900 | (06040921) |
| 631551.54 | 4175246.05 | 202.46070 | (06102817) | 631579.95 | 4175222.15 | 200.73017 | (06102817) |
| 631592.55 | 4175208.34 | 191.65412 | (06102817) | 631605.15 | 4175194.53 | 179.13355 | (06102817) |
| 631617.74 | 4175180.72 | 167.14544 | (07111022) | 631630.34 | 4175166.91 | 156.10961 | (04112917) |
| 631642.94 | 4175153.10 | 155.33373 | (05071804) | 631655.54 | 4175139.29 | 154.86650 | (05071804) |
| 631668.14 | 4175125.47 | 150.70972 | (04102621) | 631680.74 | 4175111.66 | 147.96648 | (04102621) |
| 631693.34 | 4175097.85 | 146.71073 | (05050803) | 631705.94 | 4175084.04 | 142.68827 | (05050803) |
| 631718.53 | 4175070.23 | 134.76273 | (05050803) | 631731.13 | 4175056.42 | 123.86015 | (05050803) |
| 631743.73 | 4175042.61 | 111.01305 | (05050803) | 631773.29 | 4175020.32 | 100.75669 | (05010417) |
| 631790.26 | 4175011.84 | 104.20526 | (05021805) | 631822.21 | 4174999.50 | 114.93313 | (06040124) |
| 631837.20 | 4174995.64 | 118.29646 | (06040124) | 631852.19 | 4174991.77 | 118.69022 | (06040124) |
| 631866.84 | 4175007.53 | 122.03108 | (04102617) | 631866.50 | 4175027.14 | 125.15011 | (04102617) |
| 631866.16 | 4175046.76 | 128.36238 | (04102617) | 631865.83 | 4175066.37 | 131.66968 | (04102617) |
| 631865.49 | 4175085.99 | 135.07578 | (04102617) | 631865.15 | 4175105.60 | 138.58241 | (04102617) |
| 631864.81 | 4175125.22 | 142.19553 | (04102617) | 631864.47 | 4175144.83 | 145.90416 | (04102617) |
| 631864.13 | 4175164.45 | 149.72424 | (04102617) | 631863.80 | 4175184.06 | 153.65470 | (04102617) |
| 631863.46 | 4175203.68 | 157.69917 | (04102617) | 631863.12 | 4175223.29 | 161.85099 | (04102617) |
| 631862.78 | 4175242.91 | 168.85962 | (04102617) | 631862.44 | 4175262.52 | 175.23913 | (04102617) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK1 ***

INCLUDING SOURCE(S): STCK1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 207.19770 | (04102617) | 631861.77 | 4175301.75 | 214.55209 | (04102617) |
| 631861.43 | 4175321.37 | 207.88234 | (04102623) | 631861.09 | 4175340.98 | 256.92122 | (04102617) |
| 631860.75 | 4175360.60 | 265.92388 | (04102617) | 631860.41 | 4175380.21 | 275.51929 | (04102617) |
| 631860.07 | 4175399.83 | 285.69695 | (04102617) | 631859.73 | 4175419.44 | 296.40303 | (04102617) |
| 631859.40 | 4175439.06 | 287.83911 | (04102617) | 631859.06 | 4175458.67 | 300.88538 | (04102617) |
| 631858.72 | 4175478.29 | 313.97079 | (04102617) | 631858.38 | 4175497.90 | 326.84560 | (04102617) |
| 631858.04 | 4175517.52 | 339.13332 | (04102617) | 631857.70 | 4175537.13 | 353.27743 | (04122824) |
| 631857.37 | 4175556.75 | 367.33715 | (04122824) | 631857.03 | 4175576.36 | 371.36764 | (04122824) |
| 631856.69 | 4175595.98 | 372.18762 | (04122824) | 631856.35 | 4175615.59 | 440.00390 | (08102618) |
| 631856.01 | 4175635.21 | 448.06553 | (08102618) | 631855.67 | 4175654.82 | 445.99087 | (08102618) |
| 631855.33 | 4175674.44 | 573.39701 | (05011817) | 631855.00 | 4175694.05 | 554.05911 | (08071406) |
| 631854.66 | 4175713.67 | 470.21407 | (08071406) | 631854.32 | 4175733.28 | 338.96622 | (08071406) |
| 631853.98 | 4175752.90 | 384.90229 | (08090903) | 631853.64 | 4175772.51 | 203.05799 | (08031018) |
| 631853.30 | 4175792.13 | 454.48205 | (07020602) | 631852.97 | 4175811.74 | 599.46518 | (05091919) |
| 631852.63 | 4175831.36 | 1022.22569 | (04121018) | 631852.29 | 4175850.97 | 1334.67944 | (07020318) |
| 631851.95 | 4175870.59 | 1675.10273 | (06062806) | 631851.61 | 4175890.20 | 1567.45666 | (08102318) |
| 631851.27 | 4175909.82 | 1352.99852 | (06112624) | 631850.94 | 4175929.43 | 794.94600 | (07102901) |
| 631850.60 | 4175949.05 | 657.20831 | (06081406) | 631850.26 | 4175968.66 | 588.46775 | (06081406) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631830.54 | 4175988.13 | 521.99199 | (06012924) | 631811.15 | 4175987.98 | 493.46004 | (05072006) |
| 631791.77 | 4175987.83 | 455.04792 | (05072006) | 631772.39 | 4175987.67 | 396.05736 | (04111519) |
| 631753.00 | 4175987.52 | 376.48794 | (07030418) | 631733.62 | 4175987.37 | 367.59588 | (07102902) |
| 631714.24 | 4175987.22 | 337.97426 | (05042719) | 631694.85 | 4175987.07 | 362.30849 | (08091907) |
| 631675.47 | 4175986.92 | 327.48572 | (06110119) | 631656.09 | 4175986.77 | 285.43356 | (06110119) |
| 631636.70 | 4175986.62 | 315.59813 | (05081406) | 631617.32 | 4175986.46 | 318.27077 | (04082205) |
| 631597.94 | 4175986.31 | 314.10821 | (07082502) | 631578.55 | 4175986.16 | 308.33158 | (07082502) |
| 631559.17 | 4175986.01 | 300.05279 | (05122621) | 631539.79 | 4175985.86 | 273.97265 | (05122621) |
| 631520.40 | 4175985.71 | 268.13428 | (05122621) | 631501.02 | 4175985.56 | 256.79945 | (05122621) |
| 631481.64 | 4175985.40 | 247.80574 | (07120623) | 631462.25 | 4175985.25 | 236.49668 | (07120623) |
| 631442.87 | 4175985.10 | 228.12151 | (06033021) | 631423.49 | 4175984.95 | 224.29176 | (06033021) |
| 631404.10 | 4175984.80 | 218.29896 | (06033021) | 631384.72 | 4175984.65 | 210.69316 | (06033021) |
| 631365.34 | 4175984.50 | 205.61913 | (07071004) | 631345.95 | 4175984.35 | 198.22118 | (07071004) |
| 631326.57 | 4175984.19 | 188.87679 | (07071004) | 631307.19 | 4175984.04 | 182.24640 | (05030321) |
| 631287.80 | 4175983.89 | 179.76959 | (06011217) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK10 ***

INCLUDING SOURCE(S): STCK10 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 130.94163 | (05110817) | 632304.44 | 4174354.52 | 73.89790 | (05011521) |
| 632192.15 | 4174956.32 | 116.90020 | (05102522) | 632420.62 | 4175510.15 | 130.09271 | (07012418) |
| 632418.97 | 4175552.92 | 130.45695 | (06121320) | 631187.00 | 4175727.00 | 181.63158 | (07010318) |
| 631166.00 | 4175729.00 | 176.64789 | (07010318) | 631121.00 | 4175719.00 | 170.18464 | (05122621) |
| 631035.00 | 4174830.00 | 163.26894 | (04012317) | 631106.00 | 4174825.00 | 171.06216 | (07121217) |
| 631937.00 | 4174528.00 | 97.24895 | (08071406) | 631322.00 | 4174522.00 | 128.24562 | (07111022) |
| 629800.63 | 4173850.44 | 33.70377 | (06121421) | 630150.63 | 4173850.44 | 33.47335 | (04012317) |
| 630500.63 | 4173850.44 | 51.37957 | (07011517) | 630850.63 | 4173850.44 | 59.57183 | (06011021) |
| 631200.63 | 4173850.44 | 63.05413 | (08022002) | 631550.63 | 4173850.44 | 54.99881 | (05021805) |
| 631900.63 | 4173850.44 | 58.56342 | (07020623) | 632250.63 | 4173850.44 | 51.90380 | (06020105) |
| 632600.63 | 4173850.44 | 45.27479 | (05011521) | 632950.63 | 4173850.44 | 42.11526 | (04022018) |
| 633300.63 | 4173850.44 | 31.20583 | (08030618) | 629800.63 | 4174200.44 | 37.04624 | (07020624) |
| 630150.63 | 4174200.44 | 45.97712 | (06121421) | 630500.63 | 4174200.44 | 49.09930 | (05122423) |
| 630850.63 | 4174200.44 | 78.43167 | (05012117) | 631200.63 | 4174200.44 | 79.63561 | (07111022) |
| 631550.63 | 4174200.44 | 76.53181 | (05021805) | 631900.63 | 4174200.44 | 76.88753 | (07011417) |
| 632250.63 | 4174200.44 | 67.19336 | (05020818) | 632600.63 | 4174200.44 | 57.23225 | (04022018) |
| 632950.63 | 4174200.44 | 42.01045 | (08030618) | 633300.63 | 4174200.44 | 43.43621 | (06011617) |
| 629800.63 | 4174550.44 | 38.41731 | (06121217) | 630150.63 | 4174550.44 | 53.60851 | (06120217) |
| 630500.63 | 4174550.44 | 68.08460 | (06121421) | 630850.63 | 4174550.44 | 88.26575 | (04121302) |
| 631200.63 | 4174550.44 | 137.25893 | (06102817) | 631550.63 | 4174550.44 | 111.01905 | (05021805) |
| 631900.63 | 4174550.44 | 103.22192 | (08071406) | 632250.63 | 4174550.44 | 84.21424 | (05011520) |
| 632600.63 | 4174550.44 | 67.35080 | (07021118) | 632950.63 | 4174550.44 | 54.83039 | (05020802) |
| 633300.63 | 4174550.44 | 43.66783 | (04022223) | 629800.63 | 4174900.44 | 47.48431 | (04022207) |
| 630150.63 | 4174900.44 | 53.41771 | (04022208) | 630500.63 | 4174900.44 | 73.30274 | (06121217) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 630850.63 | 4174900.44 | 113.07186 | (04101819) | 631200.63 | 4174900.44 | 242.99704 | (06011109) |
| 631550.63 | 4174900.44 | 174.71875 | (05021805) | 631900.63 | 4174900.44 | 148.54028 | (08031018) |
| 632250.63 | 4174900.44 | 107.55000 | (06011617) | 632600.63 | 4174900.44 | 83.40756 | (04022223) |
| 632950.63 | 4174900.44 | 63.97557 | (07010217) | 633300.63 | 4174900.44 | 48.61796 | (07010217) |
| 629800.63 | 4175250.44 | 47.87549 | (04121304) | 630150.63 | 4175250.44 | 57.52708 | (04121304) |
| 630500.63 | 4175250.44 | 78.54909 | (08012221) | 630850.63 | 4175250.44 | 125.85199 | (04022207) |
| 631200.63 | 4175250.44 | 246.88705 | (05112423) | 631550.63 | 4175250.44 | 490.87897 | (07030618) |
| 631900.63 | 4175250.44 | 239.94663 | (04021502) | 632250.63 | 4175250.44 | 144.79980 | (06011618) |
| 632600.63 | 4175250.44 | 93.09643 | (05122223) | 632950.63 | 4175250.44 | 65.77476 | (05121217) |
| 633300.63 | 4175250.44 | 49.68140 | (05121217) | 629800.63 | 4175600.44 | 39.12571 | (07042002) |
| 630150.63 | 4175600.44 | 56.60391 | (06011024) | 630500.63 | 4175600.44 | 85.25238 | (06011024) |
| 630850.63 | 4175600.44 | 125.04942 | (05040705) | 631200.63 | 4175600.44 | 218.00782 | (04022924) |
| 631550.63 | 4175600.44 | 606.27043 | (05112507) | 631900.63 | 4175600.44 | 396.66366 | (06102818) |
| 632250.63 | 4175600.44 | 163.65429 | (08010924) | 632600.63 | 4175600.44 | 99.19194 | (05012018) |
| 632950.63 | 4175600.44 | 66.49597 | (07012418) | 633300.63 | 4175600.44 | 49.19678 | (07012418) |
| 629800.63 | 4175950.44 | 38.38380 | (04041820) | 630150.63 | 4175950.44 | 57.12916 | (07120622) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK10 ***

INCLUDING SOURCE(S): STCK10 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 72.80332 | (05030322) | 630850.63 | 4175950.44 | 103.55313 | (07102703) |
| 631200.63 | 4175950.44 | 141.61344 | (07090906) | 631550.63 | 4175950.44 | 194.86686 | (06111518) |
| 631900.63 | 4175950.44 | 187.62167 | (05121423) | 632250.63 | 4175950.44 | 142.20628 | (08121517) |
| 632600.63 | 4175950.44 | 96.68773 | (05020806) | 632950.63 | 4175950.44 | 64.41450 | (06121503) |
| 633300.63 | 4175950.44 | 49.36725 | (05122401) | 629800.63 | 4176300.44 | 35.30757 | (05030322) |
| 630150.63 | 4176300.44 | 50.75399 | (06122121) | 630500.63 | 4176300.44 | 69.40235 | (04021521) |
| 630850.63 | 4176300.44 | 84.94734 | (04120908) | 631200.63 | 4176300.44 | 113.35558 | (08091907) |
| 631550.63 | 4176300.44 | 112.48505 | (07121903) | 631900.63 | 4176300.44 | 154.96798 | (07091007) |
| 632250.63 | 4176300.44 | 117.12117 | (06062806) | 632600.63 | 4176300.44 | 84.38052 | (06122320) |
| 632950.63 | 4176300.44 | 60.97600 | (07120406) | 633300.63 | 4176300.44 | 44.86410 | (05020806) |
| 629800.63 | 4176650.44 | 38.41507 | (04021520) | 630150.63 | 4176650.44 | 46.77039 | (04021521) |
| 630500.63 | 4176650.44 | 54.68369 | (04120903) | 630850.63 | 4176650.44 | 69.18670 | (08122718) |
| 631200.63 | 4176650.44 | 78.58187 | (06013008) | 631550.63 | 4176650.44 | 84.06646 | (07121903) |
| 631900.63 | 4176650.44 | 111.55665 | (07091007) | 632250.63 | 4176650.44 | 85.02673 | (06120218) |
| 632600.63 | 4176650.44 | 71.39504 | (07022408) | 632950.63 | 4176650.44 | 59.39225 | (08021908) |
| 633300.63 | 4176650.44 | 49.88399 | (08021808) | 629800.63 | 4177000.44 | 33.54124 | (04021521) |
| 630150.63 | 4177000.44 | 40.07492 | (04120903) | 630500.63 | 4177000.44 | 48.22184 | (07122917) |
| 630850.63 | 4177000.44 | 56.31753 | (07012720) | 631200.63 | 4177000.44 | 66.14275 | (07021108) |
| 631550.63 | 4177000.44 | 64.24762 | (07121903) | 631900.63 | 4177000.44 | 66.01824 | (07021206) |
| 632250.63 | 4177000.44 | 62.77604 | (05022620) | 632600.63 | 4177000.44 | 53.84279 | (05121423) |
| 632950.63 | 4177000.44 | 45.34065 | (07022408) | 633300.63 | 4177000.44 | 44.11118 | (08021908) |
| 629800.63 | 4177350.44 | 30.50564 | (04120903) | 630150.63 | 4177350.44 | 33.77048 | (04120908) |
| 630500.63 | 4177350.44 | 41.09103 | (07021218) | 630850.63 | 4177350.44 | 44.61973 | (07012722) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631200.63 | 4177350.44 | 50.07743 | (07021108) | 631550.63 | 4177350.44 | 49.72467 | (07121903) |
| 631900.63 | 4177350.44 | 50.75481 | (05122402) | 632250.63 | 4177350.44 | 48.36463 | (06012820) |
| 632600.63 | 4177350.44 | 43.16561 | (06120218) | 632950.63 | 4177350.44 | 38.01337 | (04121820) |
| 633300.63 | 4177350.44 | 32.95487 | (08122905) | 631670.70 | 4175493.59 | 712.11842 | (08081806) |
| 631669.80 | 4175641.41 | 685.10558 | (04101605) | 631665.32 | 4175796.39 | 247.97772 | (06102817) |
| 631417.17 | 4175826.85 | 211.31973 | (07020208) | 631417.17 | 4175673.66 | 351.51633 | (08091907) |
| 631422.55 | 4175484.63 | 295.16311 | (04101820) | 631268.42 | 4175983.74 | 140.15665 | (08091907) |
| 631275.69 | 4175523.99 | 282.38087 | (08081602) | 631345.65 | 4175419.50 | 387.83655 | (05071702) |
| 631384.72 | 4175441.30 | 446.44573 | (06121423) | 631491.93 | 4175442.21 | 290.36524 | (06110119) |
| 631491.93 | 4175414.95 | 258.40766 | (05122618) | 631385.63 | 4175413.14 | 452.40062 | (05071702) |
| 631358.37 | 4175395.87 | 371.27519 | (05030320) | 631409.25 | 4175336.81 | 456.44156 | (05112423) |
| 631567.35 | 4175235.96 | 441.43818 | (05110722) | 631756.33 | 4175028.80 | 191.25396 | (08090903) |
| 631807.22 | 4175003.36 | 185.81354 | (08031018) | 631867.18 | 4174987.91 | 166.02886 | (08031018) |
| 631849.92 | 4175988.28 | 184.07950 | (06010520) | 631268.74 | 4175963.75 | 143.07507 | (06102618) |
| 631269.05 | 4175943.76 | 146.19446 | (06102618) | 631269.37 | 4175923.77 | 147.45358 | (06102618) |
| 631269.68 | 4175903.78 | 149.02238 | (05122507) | 631270.00 | 4175883.79 | 155.48630 | (07090906) |
| 631270.32 | 4175863.81 | 163.09423 | (07090906) | 631270.63 | 4175843.82 | 167.84362 | (07090906) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK10 ***

INCLUDING SOURCE(S): STCK10 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 171.49454 | (05112505) | 631271.26 | 4175803.84 | 178.73793 | (05112505) |
| 631271.58 | 4175783.85 | 185.10609 | (05081406) | 631271.90 | 4175763.86 | 191.84502 | (07012721) |
| 631272.21 | 4175743.87 | 203.33478 | (05081406) | 631272.53 | 4175723.88 | 219.87347 | (05122508) |
| 631272.85 | 4175703.89 | 227.97117 | (05122508) | 631273.16 | 4175683.90 | 207.06870 | (04022119) |
| 631273.48 | 4175663.91 | 219.90188 | (04022119) | 631273.79 | 4175643.92 | 240.91691 | (07010318) |
| 631274.11 | 4175623.94 | 249.52001 | (06020108) | 631274.43 | 4175603.95 | 265.05712 | (06020108) |
| 631274.74 | 4175583.96 | 258.04566 | (05122621) | 631275.06 | 4175563.97 | 263.96890 | (07120623) |
| 631275.37 | 4175543.98 | 269.56185 | (06033021) | 631285.68 | 4175509.06 | 295.05839 | (08081602) |
| 631295.68 | 4175494.14 | 309.52087 | (06011217) | 631305.67 | 4175479.21 | 331.74268 | (06011217) |
| 631315.67 | 4175464.28 | 346.39717 | (06011217) | 631325.66 | 4175449.35 | 356.84779 | (06121423) |
| 631335.66 | 4175434.43 | 374.98361 | (05071702) | 631358.67 | 4175426.77 | 411.05014 | (05071702) |
| 631371.70 | 4175434.03 | 427.01908 | (06121424) | 631402.59 | 4175441.45 | 475.79673 | (06121423) |
| 631420.46 | 4175441.60 | 503.27579 | (06121423) | 631438.33 | 4175441.76 | 532.32352 | (06121423) |
| 631456.19 | 4175441.91 | 547.23694 | (06121423) | 631474.06 | 4175442.06 | 349.58292 | (05081406) |
| 631491.93 | 4175428.58 | 200.51308 | (06101209) | 631474.21 | 4175414.65 | 374.26714 | (05122618) |
| 631456.50 | 4175414.35 | 647.43751 | (05071702) | 631438.78 | 4175414.05 | 592.89809 | (05071702) |
| 631421.06 | 4175413.74 | 535.05287 | (05071702) | 631403.35 | 4175413.44 | 491.40370 | (05071702) |
| 631372.00 | 4175404.51 | 412.99682 | (05030320) | 631371.09 | 4175381.11 | 343.49136 | (04121224) |
| 631383.81 | 4175366.34 | 388.47188 | (04022207) | 631396.53 | 4175351.58 | 412.34732 | (04022207) |
| 631425.06 | 4175326.73 | 490.57452 | (06120217) | 631440.87 | 4175316.64 | 597.19559 | (04101819) |
| 631456.68 | 4175306.56 | 753.00341 | (04012317) | 631472.49 | 4175296.47 | 838.35889 | (06011109) |
| 631488.30 | 4175286.39 | 861.20813 | (06011109) | 631504.11 | 4175276.30 | 848.99105 | (06102817) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631519.92 | 4175266.22 | 746.76566 | (06102817) | 631535.73 | 4175256.13 | 528.04563 | (06102817) |
| 631551.54 | 4175246.05 | 479.31088 | (07030618) | 631579.95 | 4175222.15 | 388.95555 | (05110722) |
| 631592.55 | 4175208.34 | 356.66025 | (04102617) | 631605.15 | 4175194.53 | 324.18594 | (04102617) |
| 631617.74 | 4175180.72 | 315.07014 | (05011817) | 631630.34 | 4175166.91 | 306.99891 | (05011817) |
| 631642.94 | 4175153.10 | 296.72121 | (08071406) | 631655.54 | 4175139.29 | 286.04312 | (08071406) |
| 631668.14 | 4175125.47 | 273.94333 | (08071406) | 631680.74 | 4175111.66 | 261.05877 | (08071406) |
| 631693.34 | 4175097.85 | 247.84345 | (08071406) | 631705.94 | 4175084.04 | 234.62879 | (08071406) |
| 631718.53 | 4175070.23 | 221.65081 | (08071406) | 631731.13 | 4175056.42 | 209.04844 | (08071406) |
| 631743.73 | 4175042.61 | 197.01344 | (08090903) | 631773.29 | 4175020.32 | 190.51454 | (08031018) |
| 631790.26 | 4175011.84 | 189.00281 | (08031018) | 631822.21 | 4174999.50 | 182.84317 | (08031018) |
| 631837.20 | 4174995.64 | 178.38518 | (08031018) | 631852.19 | 4174991.77 | 172.69603 | (08031018) |
| 631866.84 | 4175007.53 | 173.33417 | (05011317) | 631866.50 | 4175027.14 | 183.95804 | (05011317) |
| 631866.16 | 4175046.76 | 192.60129 | (05011317) | 631865.83 | 4175066.37 | 198.54392 | (05011317) |
| 631865.49 | 4175085.99 | 201.08510 | (05011317) | 631865.15 | 4175105.60 | 210.93194 | (05011417) |
| 631864.81 | 4175125.22 | 216.86855 | (05011417) | 631864.47 | 4175144.83 | 222.06019 | (05110817) |
| 631864.13 | 4175164.45 | 227.76973 | (05110817) | 631863.80 | 4175184.06 | 228.35404 | (04012318) |
| 631863.46 | 4175203.68 | 233.02513 | (08022004) | 631863.12 | 4175223.29 | 243.90576 | (08021718) |
| 631862.78 | 4175242.91 | 255.88959 | (04022019) | 631862.44 | 4175262.52 | 262.56379 | (04022019) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK10 ***

INCLUDING SOURCE(S): STCK10 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 269.75741 | (06121018) | 631861.77 | 4175301.75 | 282.64465 | (06111919) |
| 631861.43 | 4175321.37 | 297.61492 | (04101518) | 631861.09 | 4175340.98 | 304.80294 | (04030118) |
| 631860.75 | 4175360.60 | 326.75666 | (04030118) | 631860.41 | 4175380.21 | 386.94623 | (05020803) |
| 631860.07 | 4175399.83 | 438.02640 | (05020803) | 631859.73 | 4175419.44 | 464.13534 | (05012118) |
| 631859.40 | 4175439.06 | 472.43268 | (05071803) | 631859.06 | 4175458.67 | 468.96604 | (07102907) |
| 631858.72 | 4175478.29 | 462.92288 | (06081403) | 631858.38 | 4175497.90 | 441.72520 | (08010919) |
| 631858.04 | 4175517.52 | 399.92373 | (08010919) | 631857.70 | 4175537.13 | 324.90632 | (08010919) |
| 631857.37 | 4175556.75 | 219.29337 | (05072806) | 631857.03 | 4175576.36 | 226.57998 | (05072806) |
| 631856.69 | 4175595.98 | 223.45652 | (05072806) | 631856.35 | 4175615.59 | 240.84525 | (08021808) |
| 631856.01 | 4175635.21 | 244.39366 | (08021808) | 631855.67 | 4175654.82 | 249.86141 | (05083120) |
| 631855.33 | 4175674.44 | 260.32536 | (08021908) | 631855.00 | 4175694.05 | 275.70822 | (07091006) |
| 631854.66 | 4175713.67 | 286.02490 | (08051502) | 631854.32 | 4175733.28 | 292.72214 | (05101806) |
| 631853.98 | 4175752.90 | 304.90786 | (06062806) | 631853.64 | 4175772.51 | 321.25428 | (06062806) |
| 631853.30 | 4175792.13 | 332.05328 | (06062806) | 631852.97 | 4175811.74 | 336.71307 | (06062806) |
| 631852.63 | 4175831.36 | 334.97500 | (06062806) | 631852.29 | 4175850.97 | 322.27211 | (06052005) |
| 631851.95 | 4175870.59 | 331.20681 | (06010521) | 631851.61 | 4175890.20 | 333.88823 | (06081406) |
| 631851.27 | 4175909.82 | 268.75781 | (06072006) | 631850.94 | 4175929.43 | 215.85867 | (06072006) |
| 631850.60 | 4175949.05 | 200.21177 | (05121422) | 631850.26 | 4175968.66 | 189.95547 | (06010520) |
| 631830.54 | 4175988.13 | 186.72022 | (06122319) | 631811.15 | 4175987.98 | 207.31821 | (07091007) |
| 631791.77 | 4175987.83 | 228.18053 | (07091007) | 631772.39 | 4175987.67 | 246.22264 | (07091007) |
| 631753.00 | 4175987.52 | 260.30291 | (07091007) | 631733.62 | 4175987.37 | 269.38317 | (07091007) |

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|---|---|---|---|---|---|---|---|
| 631714.24 | 4175987.22 | 272.68966 | (07091007) | 631694.85 | 4175987.07 | 269.76547 | (07091007) |
| 631675.47 | 4175986.92 | 316.34591 | (07091007) | 631656.09 | 4175986.77 | 339.54322 | (07091007) |
| 631636.70 | 4175986.62 | 309.96530 | (07091007) | 631617.32 | 4175986.46 | 275.42789 | (07091007) |
| 631597.94 | 4175986.31 | 256.11355 | (05122220) | 631578.55 | 4175986.16 | 250.05742 | (05122220) |
| 631559.17 | 4175986.01 | 212.21067 | (04111519) | 631539.79 | 4175985.86 | 185.88086 | (04111519) |
| 631520.40 | 4175985.71 | 162.60959 | (06080606) | 631501.02 | 4175985.56 | 161.91322 | (06080606) |
| 631481.64 | 4175985.40 | 160.20748 | (06111524) | 631462.25 | 4175985.25 | 159.66383 | (08112519) |
| 631442.87 | 4175985.10 | 155.62558 | (07092303) | 631423.49 | 4175984.95 | 158.17719 | (07092303) |
| 631404.10 | 4175984.80 | 149.94253 | (07092303) | 631384.72 | 4175984.65 | 150.77521 | (04083006) |
| 631365.34 | 4175984.50 | 159.78337 | (08091907) | 631345.95 | 4175984.35 | 164.87756 | (08091907) |
| 631326.57 | 4175984.19 | 165.29354 | (08091907) | 631307.19 | 4175984.04 | 161.20493 | (08091907) |
| 631287.80 | 4175983.89 | 153.13224 | (08091907) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK11 ***

INCLUDING SOURCE(S): STCK11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 104.78927 | (04022018) | 632304.44 | 4174354.52 | 57.69062 | (05020818) |
| 632192.15 | 4174956.32 | 107.26481 | (04022018) | 632420.62 | 4175510.15 | 94.17473 | (06011618) |
| 632418.97 | 4175552.92 | 93.86863 | (05122223) | 631187.00 | 4175727.00 | 605.93627 | (05083119) |
| 631166.00 | 4175729.00 | 547.68546 | (05083119) | 631121.00 | 4175719.00 | 435.73816 | (05122618) |
| 631035.00 | 4174830.00 | 116.73328 | (05012117) | 631106.00 | 4174825.00 | 109.67583 | (06011021) |
| 631937.00 | 4174528.00 | 77.47202 | (04022218) | 631322.00 | 4174522.00 | 84.39774 | (06121420) |
| 629800.63 | 4173850.44 | 26.91157 | (04012317) | 630150.63 | 4173850.44 | 34.22578 | (07011517) |
| 630500.63 | 4173850.44 | 46.99302 | (05012117) | 630850.63 | 4173850.44 | 40.38561 | (06121017) |
| 631200.63 | 4173850.44 | 48.20979 | (06121420) | 631550.63 | 4173850.44 | 46.84419 | (05021805) |
| 631900.63 | 4173850.44 | 45.89022 | (07020623) | 632250.63 | 4173850.44 | 42.02932 | (06020105) |
| 632600.63 | 4173850.44 | 38.46122 | (05020818) | 632950.63 | 4173850.44 | 34.66695 | (05011520) |
| 633300.63 | 4173850.44 | 30.91780 | (04022018) | 629800.63 | 4174200.44 | 35.07398 | (06121421) |
| 630150.63 | 4174200.44 | 34.18205 | (04012317) | 630500.63 | 4174200.44 | 51.83039 | (07011517) |
| 630850.63 | 4174200.44 | 54.42797 | (06011021) | 631200.63 | 4174200.44 | 61.32863 | (06121420) |
| 631550.63 | 4174200.44 | 61.97350 | (05021805) | 631900.63 | 4174200.44 | 60.83195 | (07011417) |
| 632250.63 | 4174200.44 | 51.12215 | (04122822) | 632600.63 | 4174200.44 | 46.01944 | (05011521) |
| 632950.63 | 4174200.44 | 40.41813 | (04022018) | 633300.63 | 4174200.44 | 32.48991 | (06011617) |
| 629800.63 | 4174550.44 | 38.98759 | (07020624) | 630150.63 | 4174550.44 | 47.74397 | (06121421) |
| 630500.63 | 4174550.44 | 49.19613 | (05122423) | 630850.63 | 4174550.44 | 83.66826 | (05012117) |
| 631200.63 | 4174550.44 | 86.97611 | (08022002) | 631550.63 | 4174550.44 | 86.66463 | (04122823) |
| 631900.63 | 4174550.44 | 84.89571 | (04022218) | 632250.63 | 4174550.44 | 65.04335 | (05011521) |
| 632600.63 | 4174550.44 | 57.39089 | (04022018) | 632950.63 | 4174550.44 | 48.73929 | (06011617) |
| 633300.63 | 4174550.44 | 37.71094 | (05020802) | 629800.63 | 4174900.44 | 41.19222 | (06121217) |
| 630150.63 | 4174900.44 | 56.16442 | (06120217) | 630500.63 | 4174900.44 | 71.03617 | (06121421) |
| 630850.63 | 4174900.44 | 96.17700 | (07121217) | 631200.63 | 4174900.44 | 134.01753 | (06102817) |
| 631550.63 | 4174900.44 | 123.73672 | (04122823) | 631900.63 | 4174900.44 | 118.56550 | (04122822) |
| 632250.63 | 4174900.44 | 96.65624 | (04022018) | 632600.63 | 4174900.44 | 76.01843 | (06011617) |

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|---|---|---|---|---|---|
| 632950.63 | 4174900.44 | 53.72413 (06120617) | 633300.63 | 4174900.44 | 42.77747 (08010918) |
| 629800.63 | 4175250.44 | 50.46894 (04022207) | 630150.63 | 4175250.44 | 55.62932 (04022208) |
| 630500.63 | 4175250.44 | 81.22125 (06121217) | 630850.63 | 4175250.44 | 140.85299 (07020624) |
| 631200.63 | 4175250.44 | 254.28154 (06011109) | 631550.63 | 4175250.44 | 235.86691 (04102617) |
| 631900.63 | 4175250.44 | 186.19575 (05011317) | 632250.63 | 4175250.44 | 120.40353 (05020802) |
| 632600.63 | 4175250.44 | 74.95841 (05021801) | 632950.63 | 4175250.44 | 60.55864 (07010217) |
| 633300.63 | 4175250.44 | 45.85864 (07020218) | 629800.63 | 4175600.44 | 52.42612 (04121304) |
| 630150.63 | 4175600.44 | 66.44736 (04121304) | 630500.63 | 4175600.44 | 93.40191 (04121224) |
| 630850.63 | 4175600.44 | 186.45509 (08012221) | 631200.63 | 4175600.44 | 454.54005 (07101502) |
| 631550.63 | 4175600.44 | 849.42558 (07102905) | 631900.63 | 4175600.44 | 280.38700 (07020218) |
| 632250.63 | 4175600.44 | 125.53654 (05122223) | 632600.63 | 4175600.44 | 80.32251 (05121217) |
| 632950.63 | 4175600.44 | 59.75264 (05011522) | 633300.63 | 4175600.44 | 47.42498 (05011522) |
| 629800.63 | 4175950.44 | 46.39913 (06011024) | 630150.63 | 4175950.44 | 64.34951 (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK11 ***

INCLUDING SOURCE(S): STCK11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 80.30581 (06011024) | 630850.63 | 4175950.44 | 181.04124 (07120622) |
| 631200.63 | 4175950.44 | 310.38207 (07080202) | 631550.63 | 4175950.44 | 347.26457 (07102901) |
| 631900.63 | 4175950.44 | 257.44685 (05011818) | 632250.63 | 4175950.44 | 134.05080 (05122401) |
| 632600.63 | 4175950.44 | 79.29453 (06012918) | 632950.63 | 4175950.44 | 60.64271 (06121320) |
| 633300.63 | 4175950.44 | 47.97768 (07012418) | 629800.63 | 4176300.44 | 41.29821 (07120622) |
| 630150.63 | 4176300.44 | 58.58687 (07120622) | 630500.63 | 4176300.44 | 84.74999 (06122121) |
| 630850.63 | 4176300.44 | 125.73897 (04021018) | 631200.63 | 4176300.44 | 165.61103 (08091907) |
| 631550.63 | 4176300.44 | 168.95349 (05072006) | 631900.63 | 4176300.44 | 163.45543 (06062806) |
| 632250.63 | 4176300.44 | 117.09343 (08121517) | 632600.63 | 4176300.44 | 73.80538 (04121022) |
| 632950.63 | 4176300.44 | 56.48057 (05020719) | 633300.63 | 4176300.44 | 46.10778 (05122401) |
| 629800.63 | 4176650.44 | 41.72126 (06122121) | 630150.63 | 4176650.44 | 53.21166 (04021520) |
| 630500.63 | 4176650.44 | 67.37246 (04010518) | 630850.63 | 4176650.44 | 92.35404 (07122917) |
| 631200.63 | 4176650.44 | 107.97997 (06013008) | 631550.63 | 4176650.44 | 109.19701 (05122220) |
| 631900.63 | 4176650.44 | 104.44110 (05022620) | 632250.63 | 4176650.44 | 88.50846 (07022408) |
| 632600.63 | 4176650.44 | 65.92367 (08021908) | 632950.63 | 4176650.44 | 52.24763 (07120406) |
| 633300.63 | 4176650.44 | 41.58778 (05020806) | 629800.63 | 4177000.44 | 35.21951 (04021520) |
| 630150.63 | 4177000.44 | 44.42612 (04010518) | 630500.63 | 4177000.44 | 56.23631 (04120908) |
| 630850.63 | 4177000.44 | 68.76297 (04022021) | 631200.63 | 4177000.44 | 81.61960 (07021108) |
| 631550.63 | 4177000.44 | 76.66917 (08122723) | 631900.63 | 4177000.44 | 74.93826 (04020619) |
| 632250.63 | 4177000.44 | 65.42030 (07010323) | 632600.63 | 4177000.44 | 56.43081 (07022408) |
| 632950.63 | 4177000.44 | 51.47514 (08021908) | 633300.63 | 4177000.44 | 45.58941 (08021808) |
| 629800.63 | 4177350.44 | 33.18476 (04010518) | 630150.63 | 4177350.44 | 37.97290 (04120908) |
| 630500.63 | 4177350.44 | 45.82870 (07122917) | 630850.63 | 4177350.44 | 50.16832 (07012722) |
| 631200.63 | 4177350.44 | 56.33734 (07021108) | 631550.63 | 4177350.44 | 57.83725 (06013007) |
| 631900.63 | 4177350.44 | 55.80394 (05021302) | 632250.63 | 4177350.44 | 50.95260 (05121501) |
| 632600.63 | 4177350.44 | 45.27336 (04121820) | 632950.63 | 4177350.44 | 39.80180 (08122905) |

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|---|---|---|---|---|---|---|---|
| 633300.63 | 4177350.44 | 41.21558 | (08021908) | 631670.70 | 4175493.59 | 405.98278 | (05011417) |
| 631669.80 | 4175641.41 | 602.47876 | (06121018) | 631665.32 | 4175796.39 | 591.83663 | (06111908) |
| 631417.17 | 4175826.85 | 384.39258 | (04101820) | 631417.17 | 4175673.66 | 878.60447 | (06111908) |
| 631422.55 | 4175484.63 | 353.96813 | (06102817) | 631268.42 | 4175983.74 | 299.70468 | (05051802) |
| 631275.69 | 4175523.99 | 409.34165 | (06120517) | 631345.65 | 4175419.50 | 344.62412 | (06011109) |
| 631384.72 | 4175441.30 | 662.32481 | (06102817) | 631491.93 | 4175442.21 | 556.24301 | (04102617) |
| 631491.93 | 4175414.95 | 324.80382 | (04102617) | 631385.63 | 4175413.14 | 371.44938 | (06102817) |
| 631358.37 | 4175395.87 | 339.38862 | (06102817) | 631409.25 | 4175336.81 | 257.26100 | (05021806) |
| 631567.35 | 4175235.96 | 223.04036 | (04102617) | 631756.33 | 4175028.80 | 147.77068 | (05011817) |
| 631807.22 | 4175003.36 | 135.72097 | (06051924) | 631867.18 | 4174987.91 | 135.57591 | (04122822) |
| 631849.92 | 4175988.28 | 259.41881 | (06052306) | 631268.74 | 4175963.75 | 308.10197 | (07092301) |
| 631269.05 | 4175943.76 | 318.58955 | (05122508) | 631269.37 | 4175923.77 | 345.04678 | (05051803) |
| 631269.68 | 4175903.78 | 367.42919 | (05051803) | 631270.00 | 4175883.79 | 459.96143 | (04082205) |
| 631270.32 | 4175863.81 | 832.84682 | (05081503) | 631270.63 | 4175843.82 | 702.37628 | (05081503) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK11 ***

INCLUDING SOURCE(S): STCK11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1152.42675 | (05061703) | 631271.26 | 4175803.84 | 876.65570 | (06080604) |
| 631271.58 | 4175783.85 | 818.68661 | (05061703) | 631271.90 | 4175763.86 | 943.44077 | (08081602) |
| 631272.21 | 4175743.87 | 1069.45247 | (05111817) | 631272.53 | 4175723.88 | 889.09906 | (06011217) |
| 631272.85 | 4175703.89 | 794.74804 | (05083119) | 631273.16 | 4175683.90 | 830.21806 | (06072904) |
| 631273.48 | 4175663.91 | 849.95604 | (07110617) | 631273.79 | 4175643.92 | 744.00334 | (04041822) |
| 631274.11 | 4175623.94 | 893.43674 | (04041822) | 631274.43 | 4175603.95 | 935.16996 | (05030319) |
| 631274.74 | 4175583.96 | 683.18105 | (08081806) | 631275.06 | 4175563.97 | 640.20707 | (05111717) |
| 631275.37 | 4175543.98 | 501.95552 | (06041020) | 631285.68 | 4175509.06 | 439.81690 | (04012317) |
| 631295.68 | 4175494.14 | 444.31273 | (04012317) | 631305.67 | 4175479.21 | 419.56763 | (04012317) |
| 631315.67 | 4175464.28 | 413.19608 | (06011109) | 631325.66 | 4175449.35 | 410.09354 | (06011109) |
| 631335.66 | 4175434.43 | 385.69872 | (06011109) | 631358.67 | 4175426.77 | 362.71689 | (06102817) |
| 631371.70 | 4175434.03 | 393.92895 | (06102817) | 631402.59 | 4175441.45 | 701.53081 | (06102817) |
| 631420.46 | 4175441.60 | 640.81174 | (06102817) | 631438.33 | 4175441.76 | 544.09552 | (06102817) |
| 631456.19 | 4175441.91 | 466.82923 | (08081805) | 631474.06 | 4175442.06 | 504.86025 | (04102623) |
| 631491.93 | 4175428.58 | 345.94514 | (04102617) | 631474.21 | 4175414.65 | 298.51519 | (05110722) |
| 631456.50 | 4175414.35 | 322.17558 | (06102817) | 631438.78 | 4175414.05 | 309.23967 | (05021806) |
| 631421.06 | 4175413.74 | 325.99726 | (06102817) | 631403.35 | 4175413.44 | 358.55455 | (06102817) |
| 631372.00 | 4175404.51 | 357.60045 | (06102817) | 631371.09 | 4175381.11 | 332.53681 | (06102817) |
| 631383.81 | 4175366.34 | 311.76277 | (06102817) | 631396.53 | 4175351.58 | 278.94829 | (06102817) |
| 631425.06 | 4175326.73 | 249.43920 | (05021806) | 631440.87 | 4175316.64 | 233.17535 | (05050803) |
| 631456.68 | 4175306.56 | 220.57142 | (07030618) | 631472.49 | 4175296.47 | 221.11901 | (05110722) |
| 631488.30 | 4175286.39 | 221.65915 | (05110722) | 631504.11 | 4175276.30 | 234.36376 | (04102617) |
| 631519.92 | 4175266.22 | 240.36498 | (04102617) | 631535.73 | 4175256.13 | 239.88841 | (04102617) |
| 631551.54 | 4175246.05 | 233.74670 | (04102617) | 631579.95 | 4175222.15 | 210.48976 | (04102617) |
| 631592.55 | 4175208.34 | 197.17920 | (04102617) | 631605.15 | 4175194.53 | 193.83997 | (05112422) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631617.74 | 4175180.72 | 190.71489 | (05112422) | 631630.34 | 4175166.91 | 186.48356 | (08071405) |
| 631642.94 | 4175153.10 | 181.35336 | (05011817) | 631655.54 | 4175139.29 | 180.64728 | (05011817) |
| 631668.14 | 4175125.47 | 178.90519 | (05011817) | 631680.74 | 4175111.66 | 176.25573 | (05011817) |
| 631693.34 | 4175097.85 | 172.81402 | (05011817) | 631705.94 | 4175084.04 | 168.69957 | (05011817) |
| 631718.53 | 4175070.23 | 164.02973 | (05011817) | 631731.13 | 4175056.42 | 158.91588 | (05011817) |
| 631743.73 | 4175042.61 | 153.46351 | (05011817) | 631773.29 | 4175020.32 | 141.43371 | (06020105) |
| 631790.26 | 4175011.84 | 138.21548 | (06051924) | 631822.21 | 4174999.50 | 132.11356 | (06051924) |
| 631837.20 | 4174995.64 | 131.73818 | (04122822) | 631852.19 | 4174991.77 | 134.79051 | (04122822) |
| 631866.84 | 4175007.53 | 138.97624 | (04122822) | 631866.50 | 4175027.14 | 140.86091 | (04122822) |
| 631866.16 | 4175046.76 | 144.09524 | (05020818) | 631865.83 | 4175066.37 | 147.47410 | (05020818) |
| 631865.49 | 4175085.99 | 148.83346 | (05020818) | 631865.15 | 4175105.60 | 151.03252 | (08031018) |
| 631864.81 | 4175125.22 | 157.13660 | (08031018) | 631864.47 | 4175144.83 | 165.65949 | (05011521) |
| 631864.13 | 4175164.45 | 172.78374 | (05011521) | 631863.80 | 4175184.06 | 176.32673 | (05011521) |
| 631863.46 | 4175203.68 | 180.68604 | (05011520) | 631863.12 | 4175223.29 | 183.89738 | (05011520) |
| 631862.78 | 4175242.91 | 187.79315 | (08081804) | 631862.44 | 4175262.52 | 196.36514 | (05011317) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK11 ***

INCLUDING SOURCE(S): STCK11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 206.46475 | (05011317) | 631861.77 | 4175301.75 | 212.95315 | (05011317) |
| 631861.43 | 4175321.37 | 218.54611 | (08090906) | 631861.09 | 4175340.98 | 230.43298 | (05011417) |
| 631860.75 | 4175360.60 | 240.87315 | (05011417) | 631860.41 | 4175380.21 | 244.39430 | (05011417) |
| 631860.07 | 4175399.83 | 246.35857 | (05110817) | 631859.73 | 4175419.44 | 251.71496 | (05110817) |
| 631859.40 | 4175439.06 | 263.76112 | (05102522) | 631859.06 | 4175458.67 | 271.91749 | (07110823) |
| 631858.72 | 4175478.29 | 279.35287 | (07062004) | 631858.38 | 4175497.90 | 280.47575 | (06120617) |
| 631858.04 | 4175517.52 | 296.34571 | (04022223) | 631857.70 | 4175537.13 | 305.07956 | (05021801) |
| 631857.37 | 4175556.75 | 298.04561 | (06112002) | 631857.03 | 4175576.36 | 319.40175 | (07010217) |
| 631856.69 | 4175595.98 | 324.92300 | (08092319) | 631856.35 | 4175615.59 | 317.33977 | (07020218) |
| 631856.01 | 4175635.21 | 323.26694 | (06011618) | 631855.67 | 4175654.82 | 339.92187 | (05122223) |
| 631855.33 | 4175674.44 | 322.83438 | (05121217) | 631855.00 | 4175694.05 | 253.02127 | (05121217) |
| 631854.66 | 4175713.67 | 290.59462 | (07012318) | 631854.32 | 4175733.28 | 325.80732 | (07012318) |
| 631853.98 | 4175752.90 | 325.76373 | (07012418) | 631853.64 | 4175772.51 | 323.59550 | (05012018) |
| 631853.30 | 4175792.13 | 322.97288 | (05072005) | 631852.97 | 4175811.74 | 325.68408 | (05122401) |
| 631852.63 | 4175831.36 | 321.13234 | (05122401) | 631852.29 | 4175850.97 | 315.49109 | (05020719) |
| 631851.95 | 4175870.59 | 308.70196 | (05011418) | 631851.61 | 4175890.20 | 296.67943 | (06112102) |
| 631851.27 | 4175909.82 | 293.55718 | (07071002) | 631850.94 | 4175929.43 | 289.16480 | (06092519) |
| 631850.60 | 4175949.05 | 284.03857 | (07031619) | 631850.26 | 4175968.66 | 267.00062 | (07031619) |
| 631830.54 | 4175988.13 | 280.76172 | (06052306) | 631811.15 | 4175987.98 | 296.19978 | (06052306) |
| 631791.77 | 4175987.83 | 303.68524 | (06052306) | 631772.39 | 4175987.67 | 301.87869 | (06052306) |
| 631753.00 | 4175987.52 | 299.72917 | (06062806) | 631733.62 | 4175987.37 | 332.93162 | (06062806) |
| 631714.24 | 4175987.22 | 355.29339 | (06062806) | 631694.85 | 4175987.07 | 362.84864 | (06062806) |
| 631675.47 | 4175986.92 | 353.32852 | (06062806) | 631656.09 | 4175986.77 | 326.91923 | (06062806) |
| 631636.70 | 4175986.62 | 309.35867 | (07010322) | 631617.32 | 4175986.46 | 314.19934 | (06081406) |

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|---|---|---|---|---|---|---|---|
| 631597.94 | 4175986.31 | 310.23336 | (06081406) | 631578.55 | 4175986.16 | 315.79991 | (07102901) |
| 631559.17 | 4175986.01 | 311.37556 | (06012924) | 631539.79 | 4175985.86 | 329.28644 | (05072006) |
| 631520.40 | 4175985.71 | 336.09510 | (05072006) | 631501.02 | 4175985.56 | 318.00967 | (05072006) |
| 631481.64 | 4175985.40 | 308.48500 | (06052305) | 631462.25 | 4175985.25 | 401.90042 | (05112506) |
| 631442.87 | 4175985.10 | 377.59964 | (05112506) | 631423.49 | 4175984.95 | 384.73176 | (07090905) |
| 631404.10 | 4175984.80 | 340.48329 | (08091907) | 631384.72 | 4175984.65 | 361.53004 | (08091907) |
| 631365.34 | 4175984.50 | 358.46029 | (08091907) | 631345.95 | 4175984.35 | 333.18601 | (08091907) |
| 631326.57 | 4175984.19 | 302.42571 | (05122507) | 631307.19 | 4175984.04 | 300.34171 | (05122507) |
| 631287.80 | 4175983.89 | 305.87333 | (04081204) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK12 ***

INCLUDING SOURCE(S): STCK12 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 121.30191 | (04022018) | 632304.44 | 4174354.52 | 57.20995 | (05020818) |
| 632192.15 | 4174956.32 | 103.11444 | (05021018) | 632420.62 | 4175510.15 | 96.38804 | (05121217) |
| 632418.97 | 4175552.92 | 94.17490 | (05011522) | 631187.00 | 4175727.00 | 472.34562 | (05081503) |
| 631166.00 | 4175729.00 | 400.02298 | (05030321) | 631121.00 | 4175719.00 | 365.21641 | (04041820) |
| 631035.00 | 4174830.00 | 110.25910 | (05012117) | 631106.00 | 4174825.00 | 117.42926 | (06011021) |
| 631937.00 | 4174528.00 | 87.53539 | (06020105) | 631322.00 | 4174522.00 | 91.80892 | (06121420) |
| 629800.63 | 4173850.44 | 27.25143 | (04012317) | 630150.63 | 4173850.44 | 34.77621 | (07121217) |
| 630500.63 | 4173850.44 | 48.03871 | (05012117) | 630850.63 | 4173850.44 | 41.45814 | (05010318) |
| 631200.63 | 4173850.44 | 51.29674 | (06121420) | 631550.63 | 4173850.44 | 50.04321 | (05021805) |
| 631900.63 | 4173850.44 | 48.73813 | (07020623) | 632250.63 | 4173850.44 | 44.27175 | (06020105) |
| 632600.63 | 4173850.44 | 38.98891 | (05020818) | 632950.63 | 4173850.44 | 34.16032 | (05011520) |
| 633300.63 | 4173850.44 | 30.58364 | (05021018) | 629800.63 | 4174200.44 | 35.95142 | (06121421) |
| 630150.63 | 4174200.44 | 35.08125 | (04012317) | 630500.63 | 4174200.44 | 51.33217 | (07011517) |
| 630850.63 | 4174200.44 | 60.87505 | (06011021) | 631200.63 | 4174200.44 | 64.55455 | (08022002) |
| 631550.63 | 4174200.44 | 66.62894 | (05021805) | 631900.63 | 4174200.44 | 69.95820 | (07011417) |
| 632250.63 | 4174200.44 | 57.16407 | (04122822) | 632600.63 | 4174200.44 | 48.52977 | (05011520) |
| 632950.63 | 4174200.44 | 39.95168 | (05021018) | 633300.63 | 4174200.44 | 39.03036 | (06011617) |
| 629800.63 | 4174550.44 | 41.80665 | (04011017) | 630150.63 | 4174550.44 | 45.66383 | (06121421) |
| 630500.63 | 4174550.44 | 50.79012 | (06011022) | 630850.63 | 4174550.44 | 77.61174 | (07011517) |
| 631200.63 | 4174550.44 | 89.28712 | (08022002) | 631550.63 | 4174550.44 | 94.01524 | (04122823) |
| 631900.63 | 4174550.44 | 89.30822 | (06020105) | 632250.63 | 4174550.44 | 74.82438 | (05011521) |
| 632600.63 | 4174550.44 | 55.82742 | (05021018) | 632950.63 | 4174550.44 | 53.39065 | (06011617) |
| 633300.63 | 4174550.44 | 39.40513 | (06121106) | 629800.63 | 4174900.44 | 42.41019 | (06121217) |
| 630150.63 | 4174900.44 | 51.69943 | (06120217) | 630500.63 | 4174900.44 | 69.64551 | (07020624) |
| 630850.63 | 4174900.44 | 89.92439 | (04012317) | 631200.63 | 4174900.44 | 138.18938 | (06102817) |
| 631550.63 | 4174900.44 | 143.47612 | (06040124) | 631900.63 | 4174900.44 | 141.89957 | (05020818) |
| 632250.63 | 4174900.44 | 92.40059 | (05021018) | 632600.63 | 4174900.44 | 67.85858 | (05020802) |
| 632950.63 | 4174900.44 | 53.78159 | (04022223) | 633300.63 | 4174900.44 | 41.70793 | (05021801) |
| 629800.63 | 4175250.44 | 45.13727 | (04022207) | 630150.63 | 4175250.44 | 65.45079 | (04022207) |
| 630500.63 | 4175250.44 | 85.17556 | (04022208) | 630850.63 | 4175250.44 | 141.65610 | (06120217) |

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|---|---|---|---|---|---|---|---|
| 631200.63 | 4175250.44 | 231.05665 | (04012317) | 631550.63 | 4175250.44 | 297.53751 | (04102617) |
| 631900.63 | 4175250.44 | 207.98804 | (05102601) | 632250.63 | 4175250.44 | 117.92261 | (08010918) |
| 632600.63 | 4175250.44 | 83.48507 | (07010217) | 632950.63 | 4175250.44 | 58.28243 | (07020218) |
| 633300.63 | 4175250.44 | 46.48967 | (06011618) | 629800.63 | 4175600.44 | 48.78972 | (05122618) |
| 630150.63 | 4175600.44 | 63.61828 | (05122618) | 630500.63 | 4175600.44 | 87.10195 | (05122618) |
| 630850.63 | 4175600.44 | 179.20335 | (04010517) | 631200.63 | 4175600.44 | 598.59649 | (04101624) |
| 631550.63 | 4175600.44 | 2427.14569 | (05012118) | 631900.63 | 4175600.44 | 216.45220 | (07012318) |
| 632250.63 | 4175600.44 | 110.66269 | (06011619) | 632600.63 | 4175600.44 | 80.08426 | (06011619) |
| 632950.63 | 4175600.44 | 60.68223 | (06011619) | 633300.63 | 4175600.44 | 47.78549 | (06011619) |
| 629800.63 | 4175950.44 | 49.10670 | (06011024) | 630150.63 | 4175950.44 | 54.69519 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK12 ***

INCLUDING SOURCE(S): STCK12 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 85.88445 | (07120621) | 630850.63 | 4175950.44 | 165.95338 | (06122121) |
| 631200.63 | 4175950.44 | 267.01928 | (07092301) | 631550.63 | 4175950.44 | 358.54346 | (07091007) |
| 631900.63 | 4175950.44 | 200.77202 | (06052306) | 632250.63 | 4175950.44 | 123.74657 | (04011021) |
| 632600.63 | 4175950.44 | 80.06384 | (05122401) | 632950.63 | 4175950.44 | 59.57514 | (06012918) |
| 633300.63 | 4175950.44 | 47.52202 | (05012018) | 629800.63 | 4176300.44 | 46.11064 | (07120622) |
| 630150.63 | 4176300.44 | 51.71308 | (06122121) | 630500.63 | 4176300.44 | 82.37788 | (04021520) |
| 630850.63 | 4176300.44 | 129.10542 | (04120903) | 631200.63 | 4176300.44 | 164.41495 | (08091907) |
| 631550.63 | 4176300.44 | 148.11230 | (05092002) | 631900.63 | 4176300.44 | 132.37846 | (07010323) |
| 632250.63 | 4176300.44 | 106.68792 | (08021908) | 632600.63 | 4176300.44 | 73.48010 | (07120406) |
| 632950.63 | 4176300.44 | 55.04514 | (04121024) | 633300.63 | 4176300.44 | 44.71391 | (06121503) |
| 629800.63 | 4176650.44 | 41.09437 | (06122121) | 630150.63 | 4176650.44 | 47.69680 | (04021521) |
| 630500.63 | 4176650.44 | 67.68132 | (04120903) | 630850.63 | 4176650.44 | 92.03700 | (07122917) |
| 631200.63 | 4176650.44 | 109.44392 | (06013008) | 631550.63 | 4176650.44 | 102.46787 | (08122723) |
| 631900.63 | 4176650.44 | 95.33288 | (05021722) | 632250.63 | 4176650.44 | 78.10507 | (04121820) |
| 632600.63 | 4176650.44 | 69.48407 | (08021908) | 632950.63 | 4176650.44 | 57.69234 | (08021808) |
| 633300.63 | 4176650.44 | 42.10900 | (05011818) | 629800.63 | 4177000.44 | 37.15724 | (04021521) |
| 630150.63 | 4177000.44 | 43.98138 | (04010518) | 630500.63 | 4177000.44 | 52.31953 | (07012719) |
| 630850.63 | 4177000.44 | 66.31957 | (07012720) | 631200.63 | 4177000.44 | 77.93604 | (07021108) |
| 631550.63 | 4177000.44 | 72.45983 | (06013007) | 631900.63 | 4177000.44 | 69.22455 | (04021506) |
| 632250.63 | 4177000.44 | 61.00522 | (06120218) | 632600.63 | 4177000.44 | 56.14190 | (07022408) |
| 632950.63 | 4177000.44 | 51.11813 | (08021908) | 633300.63 | 4177000.44 | 42.66923 | (08021808) |
| 629800.63 | 4177350.44 | 33.05215 | (04010518) | 630150.63 | 4177350.44 | 38.09592 | (04120908) |
| 630500.63 | 4177350.44 | 44.59483 | (08122718) | 630850.63 | 4177350.44 | 49.65145 | (07012722) |
| 631200.63 | 4177350.44 | 52.69654 | (06021703) | 631550.63 | 4177350.44 | 54.61145 | (06013007) |
| 631900.63 | 4177350.44 | 51.89512 | (05021719) | 632250.63 | 4177350.44 | 48.61822 | (05022620) |
| 632600.63 | 4177350.44 | 43.29166 | (06010521) | 632950.63 | 4177350.44 | 42.17460 | (07022408) |
| 633300.63 | 4177350.44 | 39.86635 | (08021908) | 631670.70 | 4175493.59 | 527.16972 | (08021718) |
| 631669.80 | 4175641.41 | 616.42268 | (05080806) | 631665.32 | 4175796.39 | 598.49170 | (06062806) |
| 631417.17 | 4175826.85 | 244.82168 | (04083006) | 631417.17 | 4175673.66 | 673.86954 | (08090519) |

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|---|---|---|---|---|---|---|---|
| 631422.55 | 4175484.63 | 248.21241 | (06011109) | 631268.42 | 4175983.74 | 255.17086 | (06102618) |
| 631275.69 | 4175523.99 | 515.60123 | (07110617) | 631345.65 | 4175419.50 | 402.90317 | (06011109) |
| 631384.72 | 4175441.30 | 622.04208 | (06011109) | 631491.93 | 4175442.21 | 919.28099 | (04102617) |
| 631491.93 | 4175414.95 | 473.31138 | (04102617) | 631385.63 | 4175413.14 | 424.10107 | (06011109) |
| 631358.37 | 4175395.87 | 404.26292 | (06011109) | 631409.25 | 4175336.81 | 331.36782 | (06102817) |
| 631567.35 | 4175235.96 | 275.12398 | (05112422) | 631756.33 | 4175028.80 | 178.44609 | (06051924) |
| 631807.22 | 4175003.36 | 172.24823 | (04122822) | 631867.18 | 4174987.91 | 158.38858 | (05020818) |
| 631849.92 | 4175988.28 | 204.84595 | (06062806) | 631268.74 | 4175963.75 | 267.69603 | (06041021) |
| 631269.05 | 4175943.76 | 281.48505 | (07090906) | 631269.37 | 4175923.77 | 299.15889 | (06041021) |
| 631269.68 | 4175903.78 | 606.55367 | (07090906) | 631270.00 | 4175883.79 | 693.70039 | (05051802) |
| 631270.32 | 4175863.81 | 449.69311 | (07092301) | 631270.63 | 4175843.82 | 443.50978 | (06110118) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK12 ***

INCLUDING SOURCE(S): STCK12 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 482.93667 | (07082502) | 631271.26 | 4175803.84 | 499.21203 | (07082502) |
| 631271.58 | 4175783.85 | 540.77742 | (04082001) | 631271.90 | 4175763.86 | 588.14294 | (04082001) |
| 631272.21 | 4175743.87 | 581.52779 | (04082001) | 631272.53 | 4175723.88 | 670.69603 | (06033021) |
| 631272.85 | 4175703.89 | 743.73655 | (08081602) | 631273.16 | 4175683.90 | 766.00814 | (05072902) |
| 631273.48 | 4175663.91 | 753.75632 | (05111617) | 631273.79 | 4175643.92 | 693.93228 | (05111817) |
| 631274.11 | 4175623.94 | 864.53373 | (04101604) | 631274.43 | 4175603.95 | 962.41817 | (05071702) |
| 631274.74 | 4175583.96 | 948.14100 | (05071702) | 631275.06 | 4175563.97 | 765.24955 | (05030320) |
| 631275.37 | 4175543.98 | 551.53994 | (06121422) | 631285.68 | 4175509.06 | 505.29210 | (07110617) |
| 631295.68 | 4175494.14 | 466.53003 | (04022118) | 631305.67 | 4175479.21 | 449.78059 | (05072102) |
| 631315.67 | 4175464.28 | 426.45429 | (05122619) | 631325.66 | 4175449.35 | 422.96359 | (06120517) |
| 631335.66 | 4175434.43 | 420.96704 | (04012317) | 631358.67 | 4175426.77 | 434.13966 | (06011109) |
| 631371.70 | 4175434.03 | 464.30581 | (06011109) | 631402.59 | 4175441.45 | 665.49217 | (06011109) |
| 631420.46 | 4175441.60 | 692.48412 | (06102817) | 631438.33 | 4175441.76 | 653.53742 | (06102817) |
| 631456.19 | 4175441.91 | 596.33607 | (08081805) | 631474.06 | 4175442.06 | 750.86460 | (08102618) |
| 631491.93 | 4175428.58 | 512.78788 | (04102617) | 631474.21 | 4175414.65 | 420.46018 | (07030618) |
| 631456.50 | 4175414.35 | 428.18286 | (06102817) | 631438.78 | 4175414.05 | 422.40254 | (06102817) |
| 631421.06 | 4175413.74 | 448.27126 | (06102817) | 631403.35 | 4175413.44 | 439.99299 | (06102817) |
| 631372.00 | 4175404.51 | 416.64161 | (06011109) | 631371.09 | 4175381.11 | 371.01254 | (06011109) |
| 631383.81 | 4175366.34 | 369.18211 | (06102817) | 631396.53 | 4175351.58 | 361.13296 | (06102817) |
| 631425.06 | 4175326.73 | 309.54739 | (05021806) | 631440.87 | 4175316.64 | 297.69176 | (05021806) |
| 631456.68 | 4175306.56 | 280.30321 | (07030618) | 631472.49 | 4175296.47 | 280.27435 | (07030618) |
| 631488.30 | 4175286.39 | 291.80943 | (04102617) | 631504.11 | 4175276.30 | 310.80679 | (04102617) |
| 631519.92 | 4175266.22 | 316.96273 | (04102617) | 631535.73 | 4175256.13 | 310.79943 | (04102617) |
| 631551.54 | 4175246.05 | 294.32048 | (04102617) | 631579.95 | 4175222.15 | 270.76306 | (05112422) |
| 631592.55 | 4175208.34 | 268.22703 | (05011817) | 631605.15 | 4175194.53 | 268.77511 | (05011817) |
| 631617.74 | 4175180.72 | 266.70692 | (05011817) | 631630.34 | 4175166.91 | 262.29816 | (05011817) |
| 631642.94 | 4175153.10 | 255.81340 | (05011817) | 631655.54 | 4175139.29 | 247.62787 | (05011817) |
| 631668.14 | 4175125.47 | 238.07973 | (05011817) | 631680.74 | 4175111.66 | 227.51911 | (05011817) |

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|---|---|---|---|---|---|---|---|
| 631693.34 | 4175097.85 | 216.26704 | (05011817) | 631705.94 | 4175084.04 | 204.62458 | (05011817) |
| 631718.53 | 4175070.23 | 197.30380 | (06051924) | 631731.13 | 4175056.42 | 191.98512 | (06051924) |
| 631743.73 | 4175042.61 | 185.62333 | (06051924) | 631773.29 | 4175020.32 | 169.27851 | (04122822) |
| 631790.26 | 4175011.84 | 172.78570 | (04122822) | 631822.21 | 4174999.50 | 169.01231 | (04122822) |
| 631837.20 | 4174995.64 | 166.68048 | (05020818) | 631852.19 | 4174991.77 | 164.18484 | (05020818) |
| 631866.84 | 4175007.53 | 156.44147 | (06072804) | 631866.50 | 4175027.14 | 163.13029 | (08031018) |
| 631866.16 | 4175046.76 | 172.40725 | (05011521) | 631865.83 | 4175066.37 | 179.84495 | (05011521) |
| 631865.49 | 4175085.99 | 182.84373 | (05011521) | 631865.15 | 4175105.60 | 188.96832 | (05011520) |
| 631864.81 | 4175125.22 | 191.39558 | (05011520) | 631864.47 | 4175144.83 | 191.29404 | (08090902) |
| 631864.13 | 4175164.45 | 198.84007 | (08090902) | 631863.80 | 4175184.06 | 208.33886 | (05011317) |
| 631863.46 | 4175203.68 | 214.44982 | (05011317) | 631863.12 | 4175223.29 | 217.70300 | (05021018) |
| 631862.78 | 4175242.91 | 221.96422 | (05021018) | 631862.44 | 4175262.52 | 231.51478 | (05011417) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK12 ***

INCLUDING SOURCE(S): STCK12 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 233.08892 | (05102601) | 631861.77 | 4175301.75 | 240.25333 | (05110817) |
| 631861.43 | 4175321.37 | 246.94327 | (08062824) | 631861.09 | 4175340.98 | 253.24505 | (05102522) |
| 631860.75 | 4175360.60 | 261.74124 | (07110823) | 631860.41 | 4175380.21 | 269.21698 | (07062004) |
| 631860.07 | 4175399.83 | 277.69426 | (06120617) | 631859.73 | 4175419.44 | 287.91098 | (04022223) |
| 631859.40 | 4175439.06 | 296.56949 | (05021801) | 631859.06 | 4175458.67 | 287.14955 | (07010217) |
| 631858.72 | 4175478.29 | 315.10272 | (07010217) | 631858.38 | 4175497.90 | 303.62479 | (08092319) |
| 631858.04 | 4175517.52 | 281.66145 | (06011618) | 631857.70 | 4175537.13 | 284.35570 | (06011618) |
| 631857.37 | 4175556.75 | 308.36083 | (05122223) | 631857.03 | 4175576.36 | 282.81564 | (05121217) |
| 631856.69 | 4175595.98 | 234.00817 | (07012318) | 631856.35 | 4175615.59 | 304.20066 | (07012318) |
| 631856.01 | 4175635.21 | 328.51653 | (07012318) | 631855.67 | 4175654.82 | 328.32066 | (07012418) |
| 631855.33 | 4175674.44 | 326.24582 | (05012018) | 631855.00 | 4175694.05 | 319.75888 | (07120624) |
| 631854.66 | 4175713.67 | 287.17682 | (07120624) | 631854.32 | 4175733.28 | 283.91874 | (05080306) |
| 631853.98 | 4175752.90 | 277.16860 | (05101805) | 631853.64 | 4175772.51 | 270.49308 | (05011418) |
| 631853.30 | 4175792.13 | 256.66554 | (06112102) | 631852.97 | 4175811.74 | 253.05723 | (07071002) |
| 631852.63 | 4175831.36 | 250.31062 | (06092519) | 631852.29 | 4175850.97 | 244.59628 | (06092419) |
| 631851.95 | 4175870.59 | 231.45552 | (06092419) | 631851.61 | 4175890.20 | 232.64099 | (06052306) |
| 631851.27 | 4175909.82 | 233.31066 | (06052306) | 631850.94 | 4175929.43 | 227.43342 | (06052306) |
| 631850.60 | 4175949.05 | 216.05097 | (06052306) | 631850.26 | 4175968.66 | 203.90457 | (07110618) |
| 631830.54 | 4175988.13 | 225.40709 | (06062806) | 631811.15 | 4175987.98 | 242.23081 | (06062806) |
| 631791.77 | 4175987.83 | 253.63807 | (06062806) | 631772.39 | 4175987.67 | 258.21824 | (06062806) |
| 631753.00 | 4175987.52 | 255.00596 | (06062806) | 631733.62 | 4175987.37 | 243.72006 | (06062806) |
| 631714.24 | 4175987.22 | 224.85735 | (06062806) | 631694.85 | 4175987.07 | 226.03434 | (07010322) |
| 631675.47 | 4175986.92 | 232.07715 | (07091007) | 631656.09 | 4175986.77 | 271.61711 | (07091007) |
| 631636.70 | 4175986.62 | 303.19353 | (07091007) | 631617.32 | 4175986.46 | 327.68831 | (07091007) |
| 631597.94 | 4175986.31 | 342.28017 | (07091007) | 631578.55 | 4175986.16 | 344.83342 | (07091007) |
| 631559.17 | 4175986.01 | 334.35945 | (07091007) | 631539.79 | 4175985.86 | 311.33207 | (07091007) |
| 631520.40 | 4175985.71 | 277.69785 | (07091007) | 631501.02 | 4175985.56 | 244.07821 | (05020318) |

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|---|---|---|---|---|---|---|---|
| 631481.64 | 4175985.40 | 243.52693 | (05112507) | 631462.25 | 4175985.25 | 261.68521 | (07110718) |
| 631442.87 | 4175985.10 | 268.94273 | (06110120) | 631423.49 | 4175984.95 | 263.08035 | (04111518) |
| 631404.10 | 4175984.80 | 256.56089 | (07042205) | 631384.72 | 4175984.65 | 272.08111 | (06033022) |
| 631365.34 | 4175984.50 | 294.07860 | (08091907) | 631345.95 | 4175984.35 | 305.34675 | (08091907) |
| 631326.57 | 4175984.19 | 301.28968 | (08091907) | 631307.19 | 4175984.04 | 283.18870 | (08091907) |
| 631287.80 | 4175983.89 | 266.86359 | (06102618) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK13 ***

INCLUDING SOURCE(S): STCK13 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 98.15231 | (05021018) | 632304.44 | 4174354.52 | 54.55736 | (05011521) |
| 632192.15 | 4174956.32 | 87.54012 | (08030618) | 632420.62 | 4175510.15 | 84.51629 | (06011618) |
| 632418.97 | 4175552.92 | 86.95935 | (05122223) | 631187.00 | 4175727.00 | 658.68506 | (06011217) |
| 631166.00 | 4175729.00 | 600.61930 | (06111024) | 631121.00 | 4175719.00 | 504.20310 | (04101604) |
| 631035.00 | 4174830.00 | 113.33919 | (06102817) | 631106.00 | 4174825.00 | 106.24347 | (07111022) |
| 631937.00 | 4174528.00 | 68.74835 | (04122822) | 631322.00 | 4174522.00 | 72.02688 | (05010417) |
| 629800.63 | 4173850.44 | 27.30786 | (04012317) | 630150.63 | 4173850.44 | 39.48822 | (07011517) |
| 630500.63 | 4173850.44 | 43.19178 | (06011021) | 630850.63 | 4173850.44 | 43.01106 | (08022002) |
| 631200.63 | 4173850.44 | 43.66655 | (05122422) | 631550.63 | 4173850.44 | 49.97492 | (07012317) |
| 631900.63 | 4173850.44 | 48.31991 | (07011417) | 632250.63 | 4173850.44 | 37.12408 | (06020105) |
| 632600.63 | 4173850.44 | 35.03057 | (05011521) | 632950.63 | 4173850.44 | 31.91557 | (04022018) |
| 633300.63 | 4173850.44 | 28.31236 | (05021018) | 629800.63 | 4174200.44 | 33.21200 | (06121421) |
| 630150.63 | 4174200.44 | 37.64049 | (07121217) | 630500.63 | 4174200.44 | 56.01948 | (05012117) |
| 630850.63 | 4174200.44 | 53.66321 | (06121017) | 631200.63 | 4174200.44 | 57.42244 | (06121420) |
| 631550.63 | 4174200.44 | 68.15412 | (07012317) | 631900.63 | 4174200.44 | 61.46939 | (07011417) |
| 632250.63 | 4174200.44 | 50.76826 | (05020818) | 632600.63 | 4174200.44 | 42.82766 | (05011520) |
| 632950.63 | 4174200.44 | 36.37714 | (05021018) | 633300.63 | 4174200.44 | 35.81931 | (06011617) |
| 629800.63 | 4174550.44 | 36.66571 | (07020624) | 630150.63 | 4174550.44 | 46.99284 | (06121421) |
| 630500.63 | 4174550.44 | 59.96456 | (07121217) | 630850.63 | 4174550.44 | 79.68712 | (06011021) |
| 631200.63 | 4174550.44 | 87.80233 | (06121420) | 631550.63 | 4174550.44 | 90.37727 | (07012317) |
| 631900.63 | 4174550.44 | 73.30188 | (06020105) | 632250.63 | 4174550.44 | 65.51348 | (05011520) |
| 632600.63 | 4174550.44 | 49.58693 | (05021018) | 632950.63 | 4174550.44 | 48.87727 | (06011617) |
| 633300.63 | 4174550.44 | 36.40725 | (05020802) | 629800.63 | 4174900.44 | 42.41806 | (05022818) |
| 630150.63 | 4174900.44 | 59.40490 | (07020624) | 630500.63 | 4174900.44 | 76.23440 | (06121421) |
| 630850.63 | 4174900.44 | 116.48475 | (07011517) | 631200.63 | 4174900.44 | 123.98512 | (08022002) |
| 631550.63 | 4174900.44 | 126.16313 | (07020623) | 631900.63 | 4174900.44 | 109.12173 | (05011521) |
| 632250.63 | 4174900.44 | 78.20759 | (05021018) | 632600.63 | 4174900.44 | 60.93562 | (06011617) |
| 632950.63 | 4174900.44 | 49.21958 | (06120617) | 633300.63 | 4174900.44 | 39.99278 | (05021801) |
| 629800.63 | 4175250.44 | 53.76052 | (04022207) | 630150.63 | 4175250.44 | 62.89727 | (04022208) |
| 630500.63 | 4175250.44 | 95.56918 | (05022818) | 630850.63 | 4175250.44 | 171.07168 | (06121421) |
| 631200.63 | 4175250.44 | 249.44545 | (06102817) | 631550.63 | 4175250.44 | 229.16020 | (05011817) |
| 631900.63 | 4175250.44 | 159.77779 | (08030618) | 632250.63 | 4175250.44 | 112.51738 | (06120617) |
| 632600.63 | 4175250.44 | 71.69946 | (07010217) | 632950.63 | 4175250.44 | 53.32450 | (07010217) |

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|---|---|---|---|---|---|---|---|
| 633300.63 | 4175250.44 | 42.23635 | (07020218) | 629800.63 | 4175600.44 | 56.75320 | (04121304) |
| 630150.63 | 4175600.44 | 72.26701 | (04121304) | 630500.63 | 4175600.44 | 100.88648 | (04121224) |
| 630850.63 | 4175600.44 | 197.50648 | (08012221) | 631200.63 | 4175600.44 | 644.49644 | (04012317) |
| 631550.63 | 4175600.44 | 1069.94093 | (06052002) | 631900.63 | 4175600.44 | 248.58605 | (06011618) |
| 632250.63 | 4175600.44 | 112.81638 | (05121217) | 632600.63 | 4175600.44 | 71.91195 | (05121217) |
| 632950.63 | 4175600.44 | 55.07099 | (05011522) | 633300.63 | 4175600.44 | 44.03358 | (05011522) |
| 629800.63 | 4175950.44 | 52.17570 | (06011024) | 630150.63 | 4175950.44 | 70.56253 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK13 ***

INCLUDING SOURCE(S): STCK13 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 91.40054 | (05040705) | 630850.63 | 4175950.44 | 197.24051 | (05030322) |
| 631200.63 | 4175950.44 | 326.51937 | (04022205) | 631550.63 | 4175950.44 | 410.31124 | (06062806) |
| 631900.63 | 4175950.44 | 226.12461 | (05011418) | 632250.63 | 4175950.44 | 115.12320 | (08010924) |
| 632600.63 | 4175950.44 | 72.28387 | (05012018) | 632950.63 | 4175950.44 | 55.19893 | (07012418) |
| 633300.63 | 4175950.44 | 44.36095 | (07012418) | 629800.63 | 4176300.44 | 48.73550 | (07120622) |
| 630150.63 | 4176300.44 | 57.49563 | (07120622) | 630500.63 | 4176300.44 | 95.15633 | (04021520) |
| 630850.63 | 4176300.44 | 135.59991 | (04120903) | 631200.63 | 4176300.44 | 161.78842 | (06033022) |
| 631550.63 | 4176300.44 | 163.68929 | (07042003) | 631900.63 | 4176300.44 | 147.19753 | (08122905) |
| 632250.63 | 4176300.44 | 106.81122 | (08021808) | 632600.63 | 4176300.44 | 68.34148 | (04121024) |
| 632950.63 | 4176300.44 | 52.33658 | (06121503) | 633300.63 | 4176300.44 | 42.71314 | (05122401) |
| 629800.63 | 4176650.44 | 45.74522 | (06122121) | 630150.63 | 4176650.44 | 52.82780 | (04021521) |
| 630500.63 | 4176650.44 | 75.93790 | (04120903) | 630850.63 | 4176650.44 | 99.13182 | (07021218) |
| 631200.63 | 4176650.44 | 106.42537 | (06020107) | 631550.63 | 4176650.44 | 110.78666 | (05122402) |
| 631900.63 | 4176650.44 | 101.73049 | (06010522) | 632250.63 | 4176650.44 | 78.80880 | (05010604) |
| 632600.63 | 4176650.44 | 67.02950 | (08021808) | 632950.63 | 4176650.44 | 49.57235 | (05011818) |
| 633300.63 | 4176650.44 | 39.65594 | (04121024) | 629800.63 | 4177000.44 | 40.65769 | (04021521) |
| 630150.63 | 4177000.44 | 48.49424 | (04120903) | 630500.63 | 4177000.44 | 59.40383 | (07122917) |
| 630850.63 | 4177000.44 | 65.70433 | (07012722) | 631200.63 | 4177000.44 | 76.20149 | (06020124) |
| 631550.63 | 4177000.44 | 77.84727 | (04121818) | 631900.63 | 4177000.44 | 72.58964 | (05021722) |
| 632250.63 | 4177000.44 | 62.25726 | (04121820) | 632600.63 | 4177000.44 | 50.79657 | (05021219) |
| 632950.63 | 4177000.44 | 43.26214 | (08121517) | 633300.63 | 4177000.44 | 40.31609 | (08021808) |
| 629800.63 | 4177350.44 | 35.67406 | (04010518) | 630150.63 | 4177350.44 | 41.21674 | (04120908) |
| 630500.63 | 4177350.44 | 49.24372 | (07021218) | 630850.63 | 4177350.44 | 51.98524 | (06013008) |
| 631200.63 | 4177350.44 | 56.55656 | (07021219) | 631550.63 | 4177350.44 | 58.29123 | (06020918) |
| 631900.63 | 4177350.44 | 54.98800 | (04020619) | 632250.63 | 4177350.44 | 49.34774 | (06120218) |
| 632600.63 | 4177350.44 | 44.99144 | (07022408) | 632950.63 | 4177350.44 | 38.56792 | (08021908) |
| 633300.63 | 4177350.44 | 35.45986 | (08021908) | 631670.70 | 4175493.59 | 338.45061 | (05112917) |
| 631669.80 | 4175641.41 | 481.94517 | (07062003) | 631665.32 | 4175796.39 | 450.36257 | (05080805) |
| 631417.17 | 4175826.85 | 382.45472 | (06062806) | 631417.17 | 4175673.66 | 932.52860 | (08081602) |
| 631422.55 | 4175484.63 | 222.67501 | (08071406) | 631268.42 | 4175983.74 | 339.61948 | (08091907) |
| 631275.69 | 4175523.99 | 623.47710 | (05091918) | 631345.65 | 4175419.50 | 291.23529 | (08081805) |
| 631384.72 | 4175441.30 | 466.63722 | (04102617) | 631491.93 | 4175442.21 | 608.46751 | (08090903) |

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|---|---|---|---|---|---|---|---|
| 631491.93 | 4175414.95 | 331.11634 | (05011817) | 631385.63 | 4175413.14 | 339.45269 | (08102618) |
| 631358.37 | 4175395.87 | 274.86644 | (07030618) | 631409.25 | 4175336.81 | 277.25893 | (04102617) |
| 631567.35 | 4175235.96 | 216.74070 | (05011817) | 631756.33 | 4175028.80 | 139.66687 | (05020818) |
| 631807.22 | 4175003.36 | 127.75150 | (05020818) | 631867.18 | 4174987.91 | 128.87028 | (05011521) |
| 631849.92 | 4175988.28 | 233.05437 | (05011818) | 631268.74 | 4175963.75 | 365.15938 | (08091907) |
| 631269.05 | 4175943.76 | 392.83781 | (08091907) | 631269.37 | 4175923.77 | 609.31034 | (08091907) |
| 631269.68 | 4175903.78 | 760.43184 | (07090905) | 631270.00 | 4175883.79 | 799.08872 | (07090905) |
| 631270.32 | 4175863.81 | 556.67603 | (04101820) | 631270.63 | 4175843.82 | 590.45095 | (04101820) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK13 ***

INCLUDING SOURCE(S): STCK13 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 742.94606 | (07082502) | 631271.26 | 4175803.84 | 1002.69342 | (04082001) |
| 631271.58 | 4175783.85 | 1261.81504 | (04082001) | 631271.90 | 4175763.86 | 1355.87772 | (04082001) |
| 631272.21 | 4175743.87 | 1893.67719 | (08081602) | 631272.53 | 4175723.88 | 1915.64087 | (05111817) |
| 631272.85 | 4175703.89 | 1547.43616 | (05111817) | 631273.16 | 4175683.90 | 1883.11558 | (04041821) |
| 631273.48 | 4175663.91 | 1813.81162 | (07110617) | 631273.79 | 4175643.92 | 1639.70094 | (05072102) |
| 631274.11 | 4175623.94 | 1481.93139 | (05072102) | 631274.43 | 4175603.95 | 1156.22900 | (05111717) |
| 631274.74 | 4175583.96 | 977.10231 | (05111717) | 631275.06 | 4175563.97 | 749.65445 | (08121017) |
| 631275.37 | 4175543.98 | 679.50809 | (08121017) | 631285.68 | 4175509.06 | 581.13288 | (05091918) |
| 631295.68 | 4175494.14 | 780.14072 | (06102817) | 631305.67 | 4175479.21 | 714.37145 | (06102817) |
| 631315.67 | 4175464.28 | 558.35125 | (07100818) | 631325.66 | 4175449.35 | 525.69933 | (07100818) |
| 631335.66 | 4175434.43 | 320.67372 | (08081805) | 631358.67 | 4175426.77 | 348.41922 | (04102623) |
| 631371.70 | 4175434.03 | 404.68667 | (04102617) | 631402.59 | 4175441.45 | 514.62042 | (04102617) |
| 631420.46 | 4175441.60 | 531.45610 | (04102617) | 631438.33 | 4175441.76 | 554.82014 | (05011817) |
| 631456.19 | 4175441.91 | 593.61892 | (05011817) | 631474.06 | 4175442.06 | 604.50870 | (08071406) |
| 631491.93 | 4175428.58 | 343.77563 | (05011817) | 631474.21 | 4175414.65 | 350.87767 | (05011817) |
| 631456.50 | 4175414.35 | 350.34534 | (05011817) | 631438.78 | 4175414.05 | 362.42985 | (05011817) |
| 631421.06 | 4175413.74 | 402.50615 | (05011817) | 631403.35 | 4175413.44 | 393.99882 | (08102618) |
| 631372.00 | 4175404.51 | 293.38198 | (05110722) | 631371.09 | 4175381.11 | 274.58013 | (05110722) |
| 631383.81 | 4175366.34 | 273.55647 | (04102617) | 631396.53 | 4175351.58 | 278.14868 | (04102617) |
| 631425.06 | 4175326.73 | 274.85174 | (04102617) | 631440.87 | 4175316.64 | 265.32910 | (04102617) |
| 631456.68 | 4175306.56 | 250.13742 | (04102617) | 631472.49 | 4175296.47 | 233.33379 | (05011817) |
| 631488.30 | 4175286.39 | 240.32241 | (05011817) | 631504.11 | 4175276.30 | 242.78889 | (05011817) |
| 631519.92 | 4175266.22 | 241.10845 | (05011817) | 631535.73 | 4175256.13 | 235.80000 | (05011817) |
| 631551.54 | 4175246.05 | 227.47120 | (05011817) | 631579.95 | 4175222.15 | 206.28581 | (05011817) |
| 631592.55 | 4175208.34 | 196.80999 | (08071406) | 631605.15 | 4175194.53 | 189.14770 | (06051924) |
| 631617.74 | 4175180.72 | 182.01287 | (06051924) | 631630.34 | 4175166.91 | 174.37019 | (06051924) |
| 631642.94 | 4175153.10 | 166.61434 | (04122822) | 631655.54 | 4175139.29 | 165.01566 | (04122822) |
| 631668.14 | 4175125.47 | 162.82203 | (04122822) | 631680.74 | 4175111.66 | 160.11425 | (04122822) |
| 631693.34 | 4175097.85 | 156.96109 | (04122822) | 631705.94 | 4175084.04 | 153.43230 | (04122822) |
| 631718.53 | 4175070.23 | 149.59653 | (04122822) | 631731.13 | 4175056.42 | 145.51219 | (04122822) |
| 631743.73 | 4175042.61 | 142.18097 | (05020818) | 631773.29 | 4175020.32 | 137.29380 | (05020818) |

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|---|---|---|---|---|---|---|---|
| 631790.26 | 4175011.84 | 133.22168 | (05020818) | 631822.21 | 4174999.50 | 123.65386 | (05011521) |
| 631837.20 | 4174995.64 | 126.97396 | (05011521) | 631852.19 | 4174991.77 | 128.71141 | (05011521) |
| 631866.84 | 4175007.53 | 132.14818 | (05011521) | 631866.50 | 4175027.14 | 133.42719 | (05011521) |
| 631866.16 | 4175046.76 | 137.61303 | (05011520) | 631865.83 | 4175066.37 | 140.01451 | (05011520) |
| 631865.49 | 4175085.99 | 139.79406 | (05011520) | 631865.15 | 4175105.60 | 136.79062 | (05011520) |
| 631864.81 | 4175125.22 | 144.38662 | (04022018) | 631864.47 | 4175144.83 | 151.73165 | (04022018) |
| 631864.13 | 4175164.45 | 155.62414 | (04022018) | 631863.80 | 4175184.06 | 159.44372 | (06040119) |
| 631863.46 | 4175203.68 | 167.58452 | (05021018) | 631863.12 | 4175223.29 | 171.56977 | (05021018) |
| 631862.78 | 4175242.91 | 175.70729 | (08030618) | 631862.44 | 4175262.52 | 178.18151 | (08030618) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK13 ***

INCLUDING SOURCE(S): STCK13 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 174.83472 | (05102601) | 631861.77 | 4175301.75 | 183.62633 | (07021118) |
| 631861.43 | 4175321.37 | 191.86583 | (07021118) | 631861.09 | 4175340.98 | 195.45048 | (06011617) |
| 631860.75 | 4175360.60 | 199.94631 | (05102522) | 631860.41 | 4175380.21 | 208.32960 | (05020802) |
| 631860.07 | 4175399.83 | 218.89248 | (05020802) | 631859.73 | 4175419.44 | 221.20257 | (06121106) |
| 631859.40 | 4175439.06 | 229.16147 | (06120617) | 631859.06 | 4175458.67 | 242.72549 | (04022223) |
| 631858.72 | 4175478.29 | 249.11119 | (08010918) | 631858.38 | 4175497.90 | 251.75899 | (05021801) |
| 631858.04 | 4175517.52 | 250.01423 | (07010217) | 631857.70 | 4175537.13 | 267.56636 | (07010217) |
| 631857.37 | 4175556.75 | 261.39061 | (04022224) | 631857.03 | 4175576.36 | 275.48168 | (07020218) |
| 631856.69 | 4175595.98 | 276.50444 | (06011618) | 631856.35 | 4175615.59 | 276.55569 | (06011618) |
| 631856.01 | 4175635.21 | 288.61965 | (05122223) | 631855.67 | 4175654.82 | 289.52581 | (05121217) |
| 631855.33 | 4175674.44 | 265.90249 | (07021102) | 631855.00 | 4175694.05 | 266.67117 | (05121018) |
| 631854.66 | 4175713.67 | 260.13522 | (06011619) | 631854.32 | 4175733.28 | 286.02285 | (07012318) |
| 631853.98 | 4175752.90 | 285.96484 | (07012318) | 631853.64 | 4175772.51 | 288.99189 | (07012418) |
| 631853.30 | 4175792.13 | 286.68056 | (05012018) | 631852.97 | 4175811.74 | 283.27288 | (06012918) |
| 631852.63 | 4175831.36 | 276.81497 | (07120624) | 631852.29 | 4175850.97 | 271.30036 | (05122401) |
| 631851.95 | 4175870.59 | 267.36670 | (05122401) | 631851.61 | 4175890.20 | 263.94626 | (06121503) |
| 631851.27 | 4175909.82 | 257.41409 | (05011418) | 631850.94 | 4175929.43 | 252.43713 | (05011418) |
| 631850.60 | 4175949.05 | 239.28262 | (04121024) | 631850.26 | 4175968.66 | 237.75390 | (04121022) |
| 631830.54 | 4175988.13 | 239.87372 | (06092519) | 631811.15 | 4175987.98 | 249.30838 | (06092519) |
| 631791.77 | 4175987.83 | 259.31459 | (06092419) | 631772.39 | 4175987.67 | 267.34702 | (06092419) |
| 631753.00 | 4175987.52 | 267.08195 | (06092419) | 631733.62 | 4175987.37 | 269.56132 | (05111618) |
| 631714.24 | 4175987.22 | 280.10380 | (06052306) | 631694.85 | 4175987.07 | 294.77412 | (06052306) |
| 631675.47 | 4175986.92 | 303.10285 | (06052306) | 631656.09 | 4175986.77 | 303.94594 | (07110618) |
| 631636.70 | 4175986.62 | 303.37182 | (07110618) | 631617.32 | 4175986.46 | 318.56700 | (06062806) |
| 631597.94 | 4175986.31 | 343.93744 | (06062806) | 631578.55 | 4175986.16 | 357.89714 | (06062806) |
| 631559.17 | 4175986.01 | 357.59368 | (06062806) | 631539.79 | 4175985.86 | 341.81178 | (06062806) |
| 631520.40 | 4175985.71 | 311.30837 | (06062806) | 631501.02 | 4175985.56 | 311.12934 | (06081406) |
| 631481.64 | 4175985.40 | 310.54682 | (06081406) | 631462.25 | 4175985.25 | 312.43386 | (07102901) |
| 631442.87 | 4175985.10 | 312.36313 | (06012924) | 631423.49 | 4175984.95 | 392.27057 | (06081406) |
| 631404.10 | 4175984.80 | 394.07261 | (07102901) | 631384.72 | 4175984.65 | 400.21444 | (04020106) |

631365.34 4175984.50 309.89017 (05122221) 631345.95 4175984.35 321.64263 (07030418)
631326.57 4175984.19 321.08620 (07030418) 631307.19 4175984.04 311.19429 (07080306)
631287.80 4175983.89 317.75649 (08091907)



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK14 ***
INCLUDING SOURCE(S): STCK14 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 90.56340 | (08030618) | 632304.44 | 4174354.52 | 57.27821 | (05011520) |
| 632192.15 | 4174956.32 | 95.87238 | (06011617) | 632420.62 | 4175510.15 | 86.01704 | (05121217) |
| 632418.97 | 4175552.92 | 84.31023 | (05011522) | 631187.00 | 4175727.00 | 586.79918 | (05081503) |
| 631166.00 | 4175729.00 | 554.10443 | (05081503) | 631121.00 | 4175719.00 | 376.41041 | (05110619) |
| 631035.00 | 4174830.00 | 128.59974 | (06011021) | 631106.00 | 4174825.00 | 136.71379 | (06102817) |
| 631937.00 | 4174528.00 | 78.72432 | (04122822) | 631322.00 | 4174522.00 | 78.01881 | (05010417) |
| 629800.63 | 4173850.44 | 28.88903 | (04012317) | 630150.63 | 4173850.44 | 39.76583 | (07011517) |
| 630500.63 | 4173850.44 | 48.43125 | (05012117) | 630850.63 | 4173850.44 | 43.01248 | (08022002) |
| 631200.63 | 4173850.44 | 46.54882 | (05122422) | 631550.63 | 4173850.44 | 54.03397 | (07012317) |
| 631900.63 | 4173850.44 | 52.55879 | (07011417) | 632250.63 | 4173850.44 | 41.34615 | (04122822) |
| 632600.63 | 4173850.44 | 38.90633 | (05011521) | 632950.63 | 4173850.44 | 35.66741 | (04022018) |
| 633300.63 | 4173850.44 | 27.73371 | (05021018) | 629800.63 | 4174200.44 | 38.17751 | (06121421) |
| 630150.63 | 4174200.44 | 36.84321 | (04012317) | 630500.63 | 4174200.44 | 55.84451 | (07011517) |
| 630850.63 | 4174200.44 | 57.16053 | (05010318) | 631200.63 | 4174200.44 | 63.79842 | (06121420) |
| 631550.63 | 4174200.44 | 72.55447 | (07012317) | 631900.63 | 4174200.44 | 61.12956 | (04022218) |
| 632250.63 | 4174200.44 | 52.06076 | (05020818) | 632600.63 | 4174200.44 | 46.47431 | (04022018) |
| 632950.63 | 4174200.44 | 34.98152 | (08030618) | 633300.63 | 4174200.44 | 38.60664 | (06011617) |
| 629800.63 | 4174550.44 | 43.48398 | (07020624) | 630150.63 | 4174550.44 | 53.19331 | (06121421) |
| 630500.63 | 4174550.44 | 56.98835 | (07121217) | 630850.63 | 4174550.44 | 90.21778 | (05012117) |
| 631200.63 | 4174550.44 | 98.55227 | (06121420) | 631550.63 | 4174550.44 | 91.57712 | (07012317) |
| 631900.63 | 4174550.44 | 79.15202 | (04122822) | 632250.63 | 4174550.44 | 63.97218 | (04022018) |
| 632600.63 | 4174550.44 | 48.20826 | (07021118) | 632950.63 | 4174550.44 | 45.92348 | (06011617) |
| 633300.63 | 4174550.44 | 38.75651 | (06120617) | 629800.63 | 4174900.44 | 46.56367 | (06121217) |
| 630150.63 | 4174900.44 | 62.37822 | (06120217) | 630500.63 | 4174900.44 | 82.00467 | (06121421) |
| 630850.63 | 4174900.44 | 126.50217 | (07121217) | 631200.63 | 4174900.44 | 146.83737 | (08022002) |
| 631550.63 | 4174900.44 | 133.29487 | (04122824) | 631900.63 | 4174900.44 | 113.06820 | (05011520) |
| 632250.63 | 4174900.44 | 86.64715 | (06011617) | 632600.63 | 4174900.44 | 63.84217 | (06120617) |
| 632950.63 | 4174900.44 | 50.05322 | (08010918) | 633300.63 | 4174900.44 | 41.81893 | (07010217) |
| 629800.63 | 4175250.44 | 51.98330 | (04022207) | 630150.63 | 4175250.44 | 70.72269 | (04022207) |
| 630500.63 | 4175250.44 | 98.28960 | (05122617) | 630850.63 | 4175250.44 | 179.71812 | (07020624) |
| 631200.63 | 4175250.44 | 305.75674 | (06102817) | 631550.63 | 4175250.44 | 226.38156 | (08071406) |
| 631900.63 | 4175250.44 | 154.99597 | (05020802) | 632250.63 | 4175250.44 | 100.20400 | (05021801) |
| 632600.63 | 4175250.44 | 71.33821 | (07010217) | 632950.63 | 4175250.44 | 52.66358 | (06011618) |
| 633300.63 | 4175250.44 | 42.92020 | (06011618) | 629800.63 | 4175600.44 | 53.18947 | (05122618) |
| 630150.63 | 4175600.44 | 70.39350 | (05122618) | 630500.63 | 4175600.44 | 98.01244 | (05122618) |
| 630850.63 | 4175600.44 | 170.01458 | (04010517) | 631200.63 | 4175600.44 | 602.05200 | (05030320) |

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|---|---|---|---|---|---|---|---|
| 631550.63 | 4175600.44 | 1484.86232 | (08041119) | 631900.63 | 4175600.44 | 232.66420 | (04122902) |
| 632250.63 | 4175600.44 | 100.05255 | (06011619) | 632600.63 | 4175600.44 | 72.47003 | (06011619) |
| 632950.63 | 4175600.44 | 55.68583 | (06011619) | 633300.63 | 4175600.44 | 44.36191 | (06011619) |
| 629800.63 | 4175950.44 | 51.98728 | (06011024) | 630150.63 | 4175950.44 | 59.16305 | (05030324) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK14 ***

INCLUDING SOURCE(S): STCK14 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 100.40754 | (07120622) | 630850.63 | 4175950.44 | 166.49407 | (04021520) |
| 631200.63 | 4175950.44 | 260.89579 | (08091907) | 631550.63 | 4175950.44 | 298.70837 | (06072006) |
| 631900.63 | 4175950.44 | 218.96310 | (07120406) | 632250.63 | 4175950.44 | 113.35059 | (06121503) |
| 632600.63 | 4175950.44 | 71.70947 | (08010924) | 632950.63 | 4175950.44 | 54.74641 | (06012918) |
| 633300.63 | 4175950.44 | 44.19452 | (06121320) | 629800.63 | 4176300.44 | 48.86593 | (07120622) |
| 630150.63 | 4176300.44 | 62.10979 | (06122121) | 630500.63 | 4176300.44 | 85.03179 | (04021521) |
| 630850.63 | 4176300.44 | 117.95238 | (04120908) | 631200.63 | 4176300.44 | 143.04078 | (07021108) |
| 631550.63 | 4176300.44 | 194.18146 | (07091007) | 631900.63 | 4176300.44 | 153.68991 | (06062806) |
| 632250.63 | 4176300.44 | 105.56689 | (08121517) | 632600.63 | 4176300.44 | 67.31147 | (05011818) |
| 632950.63 | 4176300.44 | 51.04390 | (05011418) | 633300.63 | 4176300.44 | 41.09568 | (06121503) |
| 629800.63 | 4176650.44 | 44.40972 | (04021520) | 630150.63 | 4176650.44 | 55.32214 | (04021521) |
| 630500.63 | 4176650.44 | 65.94891 | (04121223) | 630850.63 | 4176650.44 | 87.07223 | (04022021) |
| 631200.63 | 4176650.44 | 98.94139 | (06020124) | 631550.63 | 4176650.44 | 107.08071 | (06013005) |
| 631900.63 | 4176650.44 | 101.00522 | (06010520) | 632250.63 | 4176650.44 | 80.30070 | (07022408) |
| 632600.63 | 4176650.44 | 59.72020 | (08021908) | 632950.63 | 4176650.44 | 49.75046 | (08021808) |
| 633300.63 | 4176650.44 | 38.49301 | (04121022) | 629800.63 | 4177000.44 | 39.43559 | (04021521) |
| 630150.63 | 4177000.44 | 45.83110 | (04120903) | 630500.63 | 4177000.44 | 57.12927 | (07122917) |
| 630850.63 | 4177000.44 | 64.92218 | (07012722) | 631200.63 | 4177000.44 | 69.94569 | (06020124) |
| 631550.63 | 4177000.44 | 75.20501 | (06020918) | 631900.63 | 4177000.44 | 69.29804 | (05021722) |
| 632250.63 | 4177000.44 | 59.97770 | (06010521) | 632600.63 | 4177000.44 | 49.26155 | (08122905) |
| 632950.63 | 4177000.44 | 47.12203 | (08021908) | 633300.63 | 4177000.44 | 42.39457 | (08021808) |
| 629800.63 | 4177350.44 | 34.74671 | (04120903) | 630150.63 | 4177350.44 | 38.74985 | (07012719) |
| 630500.63 | 4177350.44 | 45.34319 | (04022021) | 630850.63 | 4177350.44 | 52.95788 | (08011009) |
| 631200.63 | 4177350.44 | 53.25290 | (07021219) | 631550.63 | 4177350.44 | 55.36257 | (05122220) |
| 631900.63 | 4177350.44 | 52.27378 | (04021506) | 632250.63 | 4177350.44 | 47.35230 | (06010520) |
| 632600.63 | 4177350.44 | 41.97779 | (04121820) | 632950.63 | 4177350.44 | 36.72029 | (08122905) |
| 633300.63 | 4177350.44 | 38.24407 | (08021908) | 631670.70 | 4175493.59 | 360.12176 | (06111919) |
| 631669.80 | 4175641.41 | 515.93440 | (05071803) | 631665.32 | 4175796.39 | 387.64886 | (06092519) |
| 631417.17 | 4175826.85 | 251.27397 | (06032303) | 631417.17 | 4175673.66 | 948.05755 | (04012317) |
| 631422.55 | 4175484.63 | 190.50292 | (07030618) | 631268.42 | 4175983.74 | 238.48551 | (07020208) |
| 631275.69 | 4175523.99 | 985.05531 | (06011109) | 631345.65 | 4175419.50 | 442.30993 | (08081805) |
| 631384.72 | 4175441.30 | 570.67924 | (04102617) | 631491.93 | 4175442.21 | 541.18306 | (05051824) |
| 631491.93 | 4175414.95 | 385.55981 | (08031018) | 631385.63 | 4175413.14 | 435.70189 | (08102618) |
| 631358.37 | 4175395.87 | 381.86094 | (07030618) | 631409.25 | 4175336.81 | 335.29401 | (04102617) |
| 631567.35 | 4175235.96 | 219.43007 | (08031018) | 631756.33 | 4175028.80 | 138.59711 | (05011521) |

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|---|---|---|---|---|---|---|---|
| 631807.22 | 4175003.36 | 131.95092 | (05011521) | 631867.18 | 4174987.91 | 122.27902 | (05011520) |
| 631849.92 | 4175988.28 | 218.50041 | (08121517) | 631268.74 | 4175963.75 | 253.80491 | (08091907) |
| 631269.05 | 4175943.76 | 277.00128 | (08091907) | 631269.37 | 4175923.77 | 397.42745 | (08091907) |
| 631269.68 | 4175903.78 | 435.00456 | (08091907) | 631270.00 | 4175883.79 | 393.29259 | (07090905) |
| 631270.32 | 4175863.81 | 359.66750 | (05042719) | 631270.63 | 4175843.82 | 325.29542 | (05042719) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK14 ***

INCLUDING SOURCE(S): STCK14 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 390.60772 | (05112506) | 631271.26 | 4175803.84 | 392.08898 | (05112506) |
| 631271.58 | 4175783.85 | 419.57368 | (05022619) | 631271.90 | 4175763.86 | 446.80927 | (06011108) |
| 631272.21 | 4175743.87 | 509.69256 | (08091907) | 631272.53 | 4175723.88 | 506.87639 | (06110119) |
| 631272.85 | 4175703.89 | 458.71906 | (06110119) | 631273.16 | 4175683.90 | 392.09919 | (06033021) |
| 631273.48 | 4175663.91 | 524.45172 | (06033021) | 631273.79 | 4175643.92 | 820.77127 | (06121423) |
| 631274.11 | 4175623.94 | 1325.22183 | (05071702) | 631274.43 | 4175603.95 | 1770.18135 | (05071702) |
| 631274.74 | 4175583.96 | 1402.73099 | (05071702) | 631275.06 | 4175563.97 | 909.48598 | (06041020) |
| 631275.37 | 4175543.98 | 1275.85341 | (06041020) | 631285.68 | 4175509.06 | 1253.23022 | (06011109) |
| 631295.68 | 4175494.14 | 1262.18440 | (06102817) | 631305.67 | 4175479.21 | 1421.92530 | (06102817) |
| 631315.67 | 4175464.28 | 1139.18283 | (06102817) | 631325.66 | 4175449.35 | 824.14150 | (07100818) |
| 631335.66 | 4175434.43 | 493.39946 | (06102817) | 631358.67 | 4175426.77 | 435.77465 | (04102623) |
| 631371.70 | 4175434.03 | 508.90648 | (04102617) | 631402.59 | 4175441.45 | 583.48010 | (04102617) |
| 631420.46 | 4175441.60 | 569.14983 | (05011817) | 631438.33 | 4175441.76 | 570.66345 | (08071406) |
| 631456.19 | 4175441.91 | 548.83950 | (08031018) | 631474.06 | 4175442.06 | 555.05787 | (08031018) |
| 631491.93 | 4175428.58 | 402.74685 | (05011317) | 631474.21 | 4175414.65 | 393.69324 | (08031018) |
| 631456.50 | 4175414.35 | 436.94650 | (06052001) | 631438.78 | 4175414.05 | 432.38152 | (08071406) |
| 631421.06 | 4175413.74 | 487.83030 | (08102618) | 631403.35 | 4175413.44 | 492.68945 | (08102618) |
| 631372.00 | 4175404.51 | 399.33492 | (07030618) | 631371.09 | 4175381.11 | 365.35289 | (07030618) |
| 631383.81 | 4175366.34 | 353.07899 | (04102617) | 631396.53 | 4175351.58 | 347.91679 | (04102617) |
| 631425.06 | 4175326.73 | 317.82595 | (04102617) | 631440.87 | 4175316.64 | 292.33357 | (05011817) |
| 631456.68 | 4175306.56 | 297.07808 | (05011817) | 631472.49 | 4175296.47 | 294.61659 | (05011817) |
| 631488.30 | 4175286.39 | 286.24205 | (05011817) | 631504.11 | 4175276.30 | 275.51320 | (08071406) |
| 631519.92 | 4175266.22 | 261.10580 | (08071406) | 631535.73 | 4175256.13 | 244.13203 | (08071406) |
| 631551.54 | 4175246.05 | 225.58660 | (08071406) | 631579.95 | 4175222.15 | 213.65781 | (08031018) |
| 631592.55 | 4175208.34 | 207.76103 | (08031018) | 631605.15 | 4175194.53 | 201.80110 | (08031018) |
| 631617.74 | 4175180.72 | 195.82448 | (08031018) | 631630.34 | 4175166.91 | 189.87291 | (08031018) |
| 631642.94 | 4175153.10 | 183.97367 | (08031018) | 631655.54 | 4175139.29 | 178.15003 | (08031018) |
| 631668.14 | 4175125.47 | 172.41624 | (08031018) | 631680.74 | 4175111.66 | 166.79483 | (08031018) |
| 631693.34 | 4175097.85 | 161.29254 | (08031018) | 631705.94 | 4175084.04 | 155.91798 | (08031018) |
| 631718.53 | 4175070.23 | 150.67893 | (08031018) | 631731.13 | 4175056.42 | 145.57812 | (08031018) |
| 631743.73 | 4175042.61 | 140.94755 | (05011521) | 631773.29 | 4175020.32 | 137.67718 | (05011521) |
| 631790.26 | 4175011.84 | 135.39784 | (05011521) | 631822.21 | 4174999.50 | 130.64485 | (05011520) |
| 631837.20 | 4174995.64 | 129.02315 | (05011520) | 631852.19 | 4174991.77 | 126.17813 | (05011520) |
| 631866.84 | 4175007.53 | 120.68139 | (04022018) | 631866.50 | 4175027.14 | 127.67616 | (04022018) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631866.16 | 4175046.76 | 132.67594 | (04022018) | 631865.83 | 4175066.37 | 135.17375 | (04022018) |
| 631865.49 | 4175085.99 | 135.07310 | (06122122) | 631865.15 | 4175105.60 | 139.96400 | (05021018) |
| 631864.81 | 4175125.22 | 142.19176 | (05021018) | 631864.47 | 4175144.83 | 145.32886 | (08030618) |
| 631864.13 | 4175164.45 | 146.55497 | (08030618) | 631863.80 | 4175184.06 | 146.82128 | (05102601) |
| 631863.46 | 4175203.68 | 153.63053 | (07021118) | 631863.12 | 4175223.29 | 158.46620 | (07021118) |
| 631862.78 | 4175242.91 | 160.50907 | (05102522) | 631862.44 | 4175262.52 | 164.34389 | (05112917) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK14 ***

INCLUDING SOURCE(S): STCK14 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 170.14214 | (05020802) | 631861.77 | 4175301.75 | 176.01975 | (05020802) |
| 631861.43 | 4175321.37 | 179.79722 | (06120617) | 631861.09 | 4175340.98 | 186.35425 | (04022223) |
| 631860.75 | 4175360.60 | 199.90053 | (04022223) | 631860.41 | 4175380.21 | 203.60554 | (08010918) |
| 631860.07 | 4175399.83 | 205.12604 | (05021801) | 631859.73 | 4175419.44 | 209.18271 | (07010217) |
| 631859.40 | 4175439.06 | 219.51864 | (07010217) | 631859.06 | 4175458.67 | 231.36335 | (07020218) |
| 631858.72 | 4175478.29 | 243.75672 | (07020218) | 631858.38 | 4175497.90 | 245.93199 | (06011618) |
| 631858.04 | 4175517.52 | 243.17023 | (06011618) | 631857.70 | 4175537.13 | 256.07369 | (05122223) |
| 631857.37 | 4175556.75 | 262.76385 | (05020819) | 631857.03 | 4175576.36 | 264.02866 | (07021102) |
| 631856.69 | 4175595.98 | 264.20456 | (05121018) | 631856.35 | 4175615.59 | 262.56992 | (07012318) |
| 631856.01 | 4175635.21 | 295.60210 | (07012318) | 631855.67 | 4175654.82 | 292.07690 | (07012318) |
| 631855.33 | 4175674.44 | 296.28583 | (07012418) | 631855.00 | 4175694.05 | 294.91404 | (05012018) |
| 631854.66 | 4175713.67 | 291.21880 | (06012918) | 631854.32 | 4175733.28 | 284.79668 | (08010924) |
| 631853.98 | 4175752.90 | 283.51497 | (05122401) | 631853.64 | 4175772.51 | 277.34348 | (05122401) |
| 631853.30 | 4175792.13 | 275.28205 | (06121503) | 631852.97 | 4175811.74 | 269.26889 | (05011418) |
| 631852.63 | 4175831.36 | 262.60719 | (05011418) | 631852.29 | 4175850.97 | 250.62291 | (04121024) |
| 631851.95 | 4175870.59 | 249.83701 | (04121022) | 631851.61 | 4175890.20 | 249.72887 | (05011818) |
| 631851.27 | 4175909.82 | 245.68031 | (07120406) | 631850.94 | 4175929.43 | 238.81658 | (07031619) |
| 631850.60 | 4175949.05 | 232.73807 | (08021808) | 631850.26 | 4175968.66 | 227.53857 | (08021808) |
| 631830.54 | 4175988.13 | 223.14546 | (05083120) | 631811.15 | 4175987.98 | 227.88609 | (06122320) |
| 631791.77 | 4175987.83 | 236.61294 | (08021908) | 631772.39 | 4175987.67 | 244.38190 | (08021908) |
| 631753.00 | 4175987.52 | 249.23759 | (07110618) | 631733.62 | 4175987.37 | 248.26520 | (08051502) |
| 631714.24 | 4175987.22 | 256.44645 | (06062806) | 631694.85 | 4175987.07 | 277.73647 | (06062806) |
| 631675.47 | 4175986.92 | 292.58854 | (06062806) | 631656.09 | 4175986.77 | 299.23942 | (06062806) |
| 631636.70 | 4175986.62 | 296.47557 | (06062806) | 631617.32 | 4175986.46 | 284.72494 | (06062806) |
| 631597.94 | 4175986.31 | 265.38417 | (06062806) | 631578.55 | 4175986.16 | 270.17700 | (05102804) |
| 631559.17 | 4175986.01 | 262.98922 | (06013003) | 631539.79 | 4175985.86 | 273.77887 | (07091007) |
| 631520.40 | 4175985.71 | 308.45799 | (07091007) | 631501.02 | 4175985.56 | 335.92147 | (07091007) |
| 631481.64 | 4175985.40 | 352.96190 | (07091007) | 631462.25 | 4175985.25 | 357.08574 | (07091007) |
| 631442.87 | 4175985.10 | 347.07363 | (07091007) | 631423.49 | 4175984.95 | 323.33868 | (07091007) |
| 631404.10 | 4175984.80 | 334.23392 | (07091007) | 631384.72 | 4175984.65 | 334.05512 | (07091007) |
| 631365.34 | 4175984.50 | 278.54410 | (07091007) | 631345.95 | 4175984.35 | 245.93699 | (05122221) |
| 631326.57 | 4175984.19 | 243.50035 | (07030418) | 631307.19 | 4175984.04 | 240.06892 | (07080306) |
| 631287.80 | 4175983.89 | 236.91169 | (07010319) | | | | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK15 ***
INCLUDING SOURCE(S): STCK15 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 134.20244 | (08071406) | 632304.44 | 4174354.52 | 73.60710 | (04022218) |
| 632192.15 | 4174956.32 | 114.62285 | (08071406) | 632420.62 | 4175510.15 | 162.90645 | (08010918) |
| 632418.97 | 4175552.92 | 161.69828 | (05021801) | 631187.00 | 4175727.00 | 258.52195 | (06051906) |
| 631166.00 | 4175729.00 | 246.21584 | (06032819) | 631121.00 | 4175719.00 | 223.18887 | (06051906) |
| 631035.00 | 4174830.00 | 109.35476 | (07121217) | 631106.00 | 4174825.00 | 136.89039 | (06011109) |
| 631937.00 | 4174528.00 | 98.98967 | (07012317) | 631322.00 | 4174522.00 | 94.78559 | (06102817) |
| 629800.63 | 4173850.44 | 20.24052 | (06121421) | 630150.63 | 4173850.44 | 23.69149 | (04121302) |
| 630500.63 | 4173850.44 | 45.55492 | (06011109) | 630850.63 | 4173850.44 | 44.43738 | (05012117) |
| 631200.63 | 4173850.44 | 43.29261 | (06121017) | 631550.63 | 4173850.44 | 46.70608 | (06121420) |
| 631900.63 | 4173850.44 | 41.76329 | (04122823) | 632250.63 | 4173850.44 | 45.93428 | (04122824) |
| 632600.63 | 4173850.44 | 40.87985 | (06020105) | 632950.63 | 4173850.44 | 35.71336 | (05020818) |
| 633300.63 | 4173850.44 | 30.94479 | (05011520) | 629800.63 | 4174200.44 | 26.19744 | (06121421) |
| 630150.63 | 4174200.44 | 27.74767 | (06121421) | 630500.63 | 4174200.44 | 36.76865 | (06011109) |
| 630850.63 | 4174200.44 | 69.78434 | (06011109) | 631200.63 | 4174200.44 | 61.50439 | (05010318) |
| 631550.63 | 4174200.44 | 72.42411 | (06121420) | 631900.63 | 4174200.44 | 58.18391 | (07012317) |
| 632250.63 | 4174200.44 | 66.99745 | (07011417) | 632600.63 | 4174200.44 | 51.00230 | (04122822) |
| 632950.63 | 4174200.44 | 44.33042 | (05011521) | 633300.63 | 4174200.44 | 38.57997 | (04022018) |
| 629800.63 | 4174550.44 | 32.35042 | (04011017) | 630150.63 | 4174550.44 | 33.01285 | (06121421) |
| 630500.63 | 4174550.44 | 43.45592 | (06121421) | 630850.63 | 4174550.44 | 76.69744 | (06011109) |
| 631200.63 | 4174550.44 | 99.83538 | (06011021) | 631550.63 | 4174550.44 | 99.61831 | (06121420) |
| 631900.63 | 4174550.44 | 91.12961 | (07012317) | 632250.63 | 4174550.44 | 85.54874 | (04022218) |
| 632600.63 | 4174550.44 | 65.74708 | (05020818) | 632950.63 | 4174550.44 | 58.96062 | (04022018) |
| 633300.63 | 4174550.44 | 42.07970 | (06011617) | 629800.63 | 4174900.44 | 33.42285 | (06121217) |
| 630150.63 | 4174900.44 | 44.00475 | (06120217) | 630500.63 | 4174900.44 | 59.89824 | (07020624) |
| 630850.63 | 4174900.44 | 84.07168 | (04012317) | 631200.63 | 4174900.44 | 165.35247 | (06011109) |
| 631550.63 | 4174900.44 | 139.44279 | (07111022) | 631900.63 | 4174900.44 | 136.91559 | (04102617) |
| 632250.63 | 4174900.44 | 109.57135 | (04122822) | 632600.63 | 4174900.44 | 93.56715 | (04022018) |
| 632950.63 | 4174900.44 | 74.72444 | (06011617) | 633300.63 | 4174900.44 | 49.43985 | (07012703) |
| 629800.63 | 4175250.44 | 40.03356 | (04022207) | 630150.63 | 4175250.44 | 50.27572 | (06020109) |
| 630500.63 | 4175250.44 | 71.25039 | (06121217) | 630850.63 | 4175250.44 | 136.94994 | (06120217) |
| 631200.63 | 4175250.44 | 184.81793 | (05110618) | 631550.63 | 4175250.44 | 256.65349 | (06102817) |
| 631900.63 | 4175250.44 | 195.05426 | (04102617) | 632250.63 | 4175250.44 | 161.38430 | (05011317) |
| 632600.63 | 4175250.44 | 112.14293 | (06011617) | 632950.63 | 4175250.44 | 77.63802 | (04022223) |
| 633300.63 | 4175250.44 | 57.75684 | (07010217) | 629800.63 | 4175600.44 | 37.67412 | (04121304) |
| 630150.63 | 4175600.44 | 46.90606 | (04121224) | 630500.63 | 4175600.44 | 76.25801 | (08012221) |
| 630850.63 | 4175600.44 | 136.07607 | (04022207) | 631200.63 | 4175600.44 | 387.06394 | (06020109) |
| 631550.63 | 4175600.44 | 809.95249 | (06052306) | 631900.63 | 4175600.44 | 461.34628 | (08071406) |
| 632250.63 | 4175600.44 | 205.82205 | (06092719) | 632600.63 | 4175600.44 | 136.21780 | (07020218) |
| 632950.63 | 4175600.44 | 82.63566 | (08011001) | 633300.63 | 4175600.44 | 58.83975 | (05122223) |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK15 ***

INCLUDING SOURCE(S): STCK15 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 64.24495 | (07020701) | 630850.63 | 4175950.44 | 122.23498 | (06011024) |
| 631200.63 | 4175950.44 | 214.14723 | (05030324) | 631550.63 | 4175950.44 | 386.07236 | (04082001) |
| 631900.63 | 4175950.44 | 740.81954 | (06062806) | 632250.63 | 4175950.44 | 280.34961 | (05122401) |
| 632600.63 | 4175950.44 | 143.87168 | (06121320) | 632950.63 | 4175950.44 | 86.07355 | (07012418) |
| 633300.63 | 4175950.44 | 59.78641 | (07012318) | 629800.63 | 4176300.44 | 33.53899 | (06011024) |
| 630150.63 | 4176300.44 | 40.47366 | (07120621) | 630500.63 | 4176300.44 | 68.20600 | (07120622) |
| 630850.63 | 4176300.44 | 95.03585 | (06122121) | 631200.63 | 4176300.44 | 137.61725 | (04021521) |
| 631550.63 | 4176300.44 | 201.98916 | (08091907) | 631900.63 | 4176300.44 | 224.14152 | (06032303) |
| 632250.63 | 4176300.44 | 223.30676 | (05010604) | 632600.63 | 4176300.44 | 148.00454 | (05011818) |
| 632950.63 | 4176300.44 | 82.61563 | (04011021) | 633300.63 | 4176300.44 | 57.68660 | (05122401) |
| 629800.63 | 4176650.44 | 35.41726 | (07120622) | 630150.63 | 4176650.44 | 39.05827 | (06122121) |
| 630500.63 | 4176650.44 | 59.91050 | (04021520) | 630850.63 | 4176650.44 | 81.33167 | (04021521) |
| 631200.63 | 4176650.44 | 101.72681 | (07012719) | 631550.63 | 4176650.44 | 122.45194 | (08011009) |
| 631900.63 | 4176650.44 | 134.10591 | (08021903) | 632250.63 | 4176650.44 | 148.04256 | (06120218) |
| 632600.63 | 4176650.44 | 111.77417 | (05021219) | 632950.63 | 4176650.44 | 92.49417 | (08021808) |
| 633300.63 | 4176650.44 | 52.29259 | (05011818) | 629800.63 | 4177000.44 | 32.18817 | (06122121) |
| 630150.63 | 4177000.44 | 38.89679 | (04021520) | 630500.63 | 4177000.44 | 47.96514 | (04021521) |
| 630850.63 | 4177000.44 | 64.37656 | (04120908) | 631200.63 | 4177000.44 | 78.84690 | (04022021) |
| 631550.63 | 4177000.44 | 93.03326 | (07021108) | 631900.63 | 4177000.44 | 95.34913 | (05122220) |
| 632250.63 | 4177000.44 | 95.12794 | (05021722) | 632600.63 | 4177000.44 | 81.18548 | (07121908) |
| 632950.63 | 4177000.44 | 63.23099 | (08021908) | 633300.63 | 4177000.44 | 51.69242 | (08021808) |
| 629800.63 | 4177350.44 | 25.96599 | (04021521) | 630150.63 | 4177350.44 | 31.79770 | (04010518) |
| 630500.63 | 4177350.44 | 38.88430 | (04121223) | 630850.63 | 4177350.44 | 51.23687 | (07122917) |
| 631200.63 | 4177350.44 | 57.82440 | (07012722) | 631550.63 | 4177350.44 | 64.09305 | (06020124) |
| 631900.63 | 4177350.44 | 65.59507 | (05122220) | 632250.63 | 4177350.44 | 67.01901 | (04021506) |
| 632600.63 | 4177350.44 | 58.19334 | (06013003) | 632950.63 | 4177350.44 | 51.75891 | (07022408) |
| 633300.63 | 4177350.44 | 43.32285 | (08021908) | 631670.70 | 4175493.59 | 365.17615 | (06081406) |
| 631669.80 | 4175641.41 | 1095.11837 | (06062806) | 631665.32 | 4175796.39 | 206.60980 | (06072903) |
| 631417.17 | 4175826.85 | 410.94267 | (06101118) | 631417.17 | 4175673.66 | 784.00762 | (06020109) |
| 631422.55 | 4175484.63 | 461.07864 | (06121421) | 631268.42 | 4175983.74 | 213.85836 | (06011217) |
| 631275.69 | 4175523.99 | 278.40959 | (06020109) | 631345.65 | 4175419.50 | 262.72763 | (06121421) |
| 631384.72 | 4175441.30 | 539.47170 | (04012317) | 631491.93 | 4175442.21 | 408.08391 | (04110819) |
| 631491.93 | 4175414.95 | 441.88432 | (07121217) | 631385.63 | 4175413.14 | 288.87424 | (04012317) |
| 631358.37 | 4175395.87 | 252.71170 | (05110618) | 631409.25 | 4175336.81 | 234.35852 | (04012317) |
| 631567.35 | 4175235.96 | 261.28202 | (06102817) | 631756.33 | 4175028.80 | 130.90656 | (05010417) |
| 631807.22 | 4175003.36 | 134.22052 | (05021805) | 631867.18 | 4174987.91 | 147.72571 | (04102617) |
| 631849.92 | 4175988.28 | 583.82788 | (06081406) | 631268.74 | 4175963.75 | 227.17406 | (06011217) |
| 631269.05 | 4175943.76 | 243.25119 | (05030324) | 631269.37 | 4175923.77 | 241.67218 | (05030324) |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK15 ***

INCLUDING SOURCE(S): STCK15 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631269.68 | 4175903.78 | 250.03804 | (06011024) | 631270.00 | 4175883.79 | 245.77357 | (07042002) |
| 631270.32 | 4175863.81 | 253.78345 | (06101118) | 631270.63 | 4175843.82 | 279.62125 | (05122618) |
| 631270.95 | 4175823.83 | 308.42914 | (05122618) | 631271.26 | 4175803.84 | 300.72608 | (05122618) |
| 631271.58 | 4175783.85 | 305.54002 | (04121304) | 631271.90 | 4175763.86 | 314.15990 | (06032819) |
| 631272.21 | 4175743.87 | 308.90893 | (06032819) | 631272.53 | 4175723.88 | 310.35012 | (06051906) |
| 631272.85 | 4175703.89 | 300.14858 | (06020109) | 631273.16 | 4175683.90 | 352.38911 | (06020109) |
| 631273.48 | 4175663.91 | 395.11716 | (06020109) | 631273.79 | 4175643.92 | 423.81139 | (06020109) |
| 631274.11 | 4175623.94 | 435.62715 | (06020109) | 631274.43 | 4175603.95 | 429.77630 | (06020109) |
| 631274.74 | 4175583.96 | 407.58355 | (06020109) | 631275.06 | 4175563.97 | 372.12991 | (06020109) |
| 631275.37 | 4175543.98 | 327.57415 | (06020109) | 631285.68 | 4175509.06 | 271.27879 | (06120217) |
| 631295.68 | 4175494.14 | 271.22519 | (04011017) | 631305.67 | 4175479.21 | 265.35755 | (07020624) |
| 631315.67 | 4175464.28 | 240.98428 | (04101819) | 631325.66 | 4175449.35 | 256.19370 | (04101819) |
| 631335.66 | 4175434.43 | 254.25978 | (06121421) | 631358.67 | 4175426.77 | 275.40137 | (06121421) |
| 631371.70 | 4175434.03 | 420.11551 | (04012317) | 631402.59 | 4175441.45 | 428.58316 | (07082819) |
| 631420.46 | 4175441.60 | 673.43466 | (05110618) | 631438.33 | 4175441.76 | 448.83817 | (07082819) |
| 631456.19 | 4175441.91 | 440.01033 | (04110819) | 631474.06 | 4175442.06 | 436.15998 | (04110819) |
| 631491.93 | 4175428.58 | 421.15379 | (07121217) | 631474.21 | 4175414.65 | 422.63639 | (07121217) |
| 631456.50 | 4175414.35 | 457.51182 | (04110819) | 631438.78 | 4175414.05 | 470.71522 | (04110819) |
| 631421.06 | 4175413.74 | 465.50335 | (08121017) | 631403.35 | 4175413.44 | 633.13274 | (04012317) |
| 631372.00 | 4175404.51 | 266.50664 | (04012317) | 631371.09 | 4175381.11 | 244.30109 | (04012317) |
| 631383.81 | 4175366.34 | 250.87861 | (04012317) | 631396.53 | 4175351.58 | 247.38235 | (04012317) |
| 631425.06 | 4175326.73 | 261.53342 | (06011109) | 631440.87 | 4175316.64 | 285.52398 | (06011109) |
| 631456.68 | 4175306.56 | 299.41089 | (06011109) | 631472.49 | 4175296.47 | 301.58149 | (06011109) |
| 631488.30 | 4175286.39 | 291.80556 | (06011109) | 631504.11 | 4175276.30 | 271.21506 | (06011109) |
| 631519.92 | 4175266.22 | 248.83698 | (05012117) | 631535.73 | 4175256.13 | 240.79857 | (06102817) |
| 631551.54 | 4175246.05 | 255.58309 | (06102817) | 631579.95 | 4175222.15 | 254.96100 | (06102817) |
| 631592.55 | 4175208.34 | 242.10981 | (06102817) | 631605.15 | 4175194.53 | 212.07571 | (06102817) |
| 631617.74 | 4175180.72 | 202.36719 | (07111022) | 631630.34 | 4175166.91 | 190.44731 | (04112917) |
| 631642.94 | 4175153.10 | 187.28257 | (05071804) | 631655.54 | 4175139.29 | 187.33053 | (05071804) |
| 631668.14 | 4175125.47 | 183.91206 | (04102621) | 631680.74 | 4175111.66 | 180.43785 | (04102621) |
| 631693.34 | 4175097.85 | 179.22572 | (05050803) | 631705.94 | 4175084.04 | 173.73563 | (05050803) |
| 631718.53 | 4175070.23 | 162.22805 | (05050803) | 631731.13 | 4175056.42 | 146.30712 | (05050803) |
| 631743.73 | 4175042.61 | 136.89233 | (05122422) | 631773.29 | 4175020.32 | 126.94397 | (05021805) |
| 631790.26 | 4175011.84 | 132.04862 | (05021805) | 631822.21 | 4174999.50 | 135.79505 | (06040124) |
| 631837.20 | 4174995.64 | 141.04227 | (06040124) | 631852.19 | 4174991.77 | 143.21576 | (04102617) |
| 631866.84 | 4175007.53 | 151.83687 | (04102617) | 631866.50 | 4175027.14 | 156.04759 | (04102617) |
| 631866.16 | 4175046.76 | 160.36564 | (04102617) | 631865.83 | 4175066.37 | 164.79277 | (04102617) |
| 631865.49 | 4175085.99 | 169.33176 | (04102617) | 631865.15 | 4175105.60 | 173.98448 | (04102617) |
| 631864.81 | 4175125.22 | 178.75791 | (04102617) | 631864.47 | 4175144.83 | 183.62575 | (04102617) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631864.13 | 4175164.45 | 188.61715 | (04102617) | 631863.80 | 4175184.06 | 193.73038 | (04102617) |
| 631863.46 | 4175203.68 | 198.96749 | (04102617) | 631863.12 | 4175223.29 | 204.31723 | (04102617) |
| 631862.78 | 4175242.91 | 212.79764 | (04102617) | 631862.44 | 4175262.52 | 220.73457 | (04102617) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK15 ***

INCLUDING SOURCE(S): STCK15 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 256.66545 | (04102617) | 631861.77 | 4175301.75 | 265.00150 | (04102617) |
| 631861.43 | 4175321.37 | 244.11082 | (04102623) | 631861.09 | 4175340.98 | 304.41792 | (04102617) |
| 631860.75 | 4175360.60 | 316.10438 | (04102617) | 631860.41 | 4175380.21 | 328.62035 | (04102617) |
| 631860.07 | 4175399.83 | 341.97476 | (04102617) | 631859.73 | 4175419.44 | 356.12625 | (04102617) |
| 631859.40 | 4175439.06 | 349.80235 | (04102617) | 631859.06 | 4175458.67 | 367.03994 | (04102617) |
| 631858.72 | 4175478.29 | 384.61019 | (04102617) | 631858.38 | 4175497.90 | 402.26677 | (04102617) |
| 631858.04 | 4175517.52 | 419.59913 | (04102617) | 631857.70 | 4175537.13 | 436.27865 | (04122824) |
| 631857.37 | 4175556.75 | 455.80524 | (04122824) | 631857.03 | 4175576.36 | 463.75242 | (04122824) |
| 631856.69 | 4175595.98 | 470.14555 | (04102617) | 631856.35 | 4175615.59 | 545.94731 | (08102618) |
| 631856.01 | 4175635.21 | 561.41401 | (08102618) | 631855.67 | 4175654.82 | 566.77186 | (05110117) |
| 631855.33 | 4175674.44 | 772.82375 | (05011817) | 631855.00 | 4175694.05 | 774.10302 | (08071406) |
| 631854.66 | 4175713.67 | 675.02659 | (08071406) | 631854.32 | 4175733.28 | 498.81176 | (08071406) |
| 631853.98 | 4175752.90 | 564.41667 | (08090903) | 631853.64 | 4175772.51 | 308.27201 | (08031018) |
| 631853.30 | 4175792.13 | 850.79082 | (07020602) | 631852.97 | 4175811.74 | 1385.01626 | (07121418) |
| 631852.63 | 4175831.36 | 1785.43077 | (04121018) | 631852.29 | 4175850.97 | 1842.26680 | (06052306) |
| 631851.95 | 4175870.59 | 1960.47008 | (06062806) | 631851.61 | 4175890.20 | 1648.78708 | (08103007) |
| 631851.27 | 4175909.82 | 1403.65266 | (06112624) | 631850.94 | 4175929.43 | 831.52887 | (06080603) |
| 631850.60 | 4175949.05 | 725.32140 | (06081406) | 631850.26 | 4175968.66 | 658.20081 | (06081406) |
| 631830.54 | 4175988.13 | 546.56556 | (06080603) | 631811.15 | 4175987.98 | 636.11538 | (07020803) |
| 631791.77 | 4175987.83 | 711.07268 | (08011008) | 631772.39 | 4175987.67 | 705.02756 | (08122724) |
| 631753.00 | 4175987.52 | 629.97845 | (08122907) | 631733.62 | 4175987.37 | 435.46142 | (07102902) |
| 631714.24 | 4175987.22 | 399.10524 | (05042719) | 631694.85 | 4175987.07 | 426.52716 | (08091907) |
| 631675.47 | 4175986.92 | 383.08371 | (06110119) | 631656.09 | 4175986.77 | 328.62879 | (06110119) |
| 631636.70 | 4175986.62 | 368.93311 | (05081406) | 631617.32 | 4175986.46 | 372.91572 | (04082205) |
| 631597.94 | 4175986.31 | 366.13419 | (07082502) | 631578.55 | 4175986.16 | 359.96370 | (07082502) |
| 631559.17 | 4175986.01 | 351.03933 | (04082001) | 631539.79 | 4175985.86 | 324.48197 | (04082001) |
| 631520.40 | 4175985.71 | 317.68267 | (04082001) | 631501.02 | 4175985.56 | 303.56889 | (04082001) |
| 631481.64 | 4175985.40 | 288.80326 | (07120623) | 631462.25 | 4175985.25 | 279.29394 | (07102702) |
| 631442.87 | 4175985.10 | 277.88839 | (06033021) | 631423.49 | 4175984.95 | 274.19955 | (06033021) |
| 631404.10 | 4175984.80 | 267.26475 | (06033021) | 631384.72 | 4175984.65 | 257.83923 | (06033021) |
| 631365.34 | 4175984.50 | 246.56110 | (06033021) | 631345.95 | 4175984.35 | 234.92866 | (08081602) |
| 631326.57 | 4175984.19 | 225.08919 | (05072902) | 631307.19 | 4175984.04 | 217.33149 | (06011217) |
| 631287.80 | 4175983.89 | 216.23587 | (06011217) | | | | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK16 ***

INCLUDING SOURCE(S): STCK16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 140.20374 | (08071406) | 632304.44 | 4174354.52 | 70.85555 | (04022218) |
| 632192.15 | 4174956.32 | 126.53952 | (04122822) | 632420.62 | 4175510.15 | 196.31165 | (07020218) |
| 632418.97 | 4175552.92 | 218.96117 | (07020218) | 631187.00 | 4175727.00 | 301.32212 | (05122618) |
| 631166.00 | 4175729.00 | 285.39193 | (05122618) | 631121.00 | 4175719.00 | 255.86138 | (05122618) |
| 631035.00 | 4174830.00 | 113.47234 | (04012317) | 631106.00 | 4174825.00 | 117.56969 | (07121217) |
| 631937.00 | 4174528.00 | 102.24473 | (07012317) | 631322.00 | 4174522.00 | 97.39098 | (06102817) |
| 629800.63 | 4173850.44 | 23.84441 | (06121421) | 630150.63 | 4173850.44 | 24.92570 | (05122423) |
| 630500.63 | 4173850.44 | 44.36198 | (06011109) | 630850.63 | 4173850.44 | 50.91006 | (05012117) |
| 631200.63 | 4173850.44 | 46.47185 | (06121017) | 631550.63 | 4173850.44 | 50.15949 | (06121420) |
| 631900.63 | 4173850.44 | 44.92088 | (04122823) | 632250.63 | 4173850.44 | 48.17585 | (04122824) |
| 632600.63 | 4173850.44 | 42.29508 | (06020105) | 632950.63 | 4173850.44 | 36.45112 | (05020818) |
| 633300.63 | 4173850.44 | 31.37661 | (05011520) | 629800.63 | 4174200.44 | 23.27821 | (06121421) |
| 630150.63 | 4174200.44 | 33.24000 | (06121421) | 630500.63 | 4174200.44 | 37.41971 | (05122423) |
| 630850.63 | 4174200.44 | 74.72351 | (06011109) | 631200.63 | 4174200.44 | 62.90757 | (05010318) |
| 631550.63 | 4174200.44 | 74.58280 | (06121420) | 631900.63 | 4174200.44 | 64.36919 | (07012317) |
| 632250.63 | 4174200.44 | 72.54815 | (07011417) | 632600.63 | 4174200.44 | 56.64393 | (04122822) |
| 632950.63 | 4174200.44 | 46.65527 | (05011520) | 633300.63 | 4174200.44 | 37.32053 | (06122122) |
| 629800.63 | 4174550.44 | 32.68501 | (06120217) | 630150.63 | 4174550.44 | 37.35275 | (07020624) |
| 630500.63 | 4174550.44 | 55.01739 | (06121421) | 630850.63 | 4174550.44 | 66.54965 | (04121302) |
| 631200.63 | 4174550.44 | 106.57204 | (05012117) | 631550.63 | 4174550.44 | 98.36286 | (08022002) |
| 631900.63 | 4174550.44 | 98.01235 | (07012317) | 632250.63 | 4174550.44 | 87.70058 | (06020105) |
| 632600.63 | 4174550.44 | 73.93251 | (05011521) | 632950.63 | 4174550.44 | 56.92331 | (06122122) |
| 633300.63 | 4174550.44 | 51.67510 | (06011617) | 629800.63 | 4174900.44 | 40.11543 | (06020109) |
| 630150.63 | 4174900.44 | 44.76468 | (05022818) | 630500.63 | 4174900.44 | 73.65456 | (04011017) |
| 630850.63 | 4174900.44 | 109.29589 | (06121421) | 631200.63 | 4174900.44 | 147.74645 | (06011109) |
| 631550.63 | 4174900.44 | 154.27175 | (06102817) | 631900.63 | 4174900.44 | 150.52340 | (04102617) |
| 632250.63 | 4174900.44 | 116.93626 | (05020818) | 632600.63 | 4174900.44 | 101.13693 | (05112916) |
| 632950.63 | 4174900.44 | 78.27990 | (06011617) | 633300.63 | 4174900.44 | 54.04214 | (06120617) |
| 629800.63 | 4175250.44 | 38.28946 | (04022207) | 630150.63 | 4175250.44 | 54.99341 | (04022207) |
| 630500.63 | 4175250.44 | 77.66738 | (06020109) | 630850.63 | 4175250.44 | 126.50462 | (06121217) |
| 631200.63 | 4175250.44 | 198.79810 | (04101819) | 631550.63 | 4175250.44 | 280.02387 | (06011109) |
| 631900.63 | 4175250.44 | 208.74222 | (05011817) | 632250.63 | 4175250.44 | 188.96488 | (05112916) |
| 632600.63 | 4175250.44 | 127.48495 | (06120617) | 632950.63 | 4175250.44 | 80.19999 | (07010217) |
| 633300.63 | 4175250.44 | 60.93551 | (07010217) | 629800.63 | 4175600.44 | 41.76121 | (04121304) |
| 630150.63 | 4175600.44 | 54.11532 | (04121304) | 630500.63 | 4175600.44 | 81.34748 | (04121224) |
| 630850.63 | 4175600.44 | 147.26479 | (04121224) | 631200.63 | 4175600.44 | 288.79377 | (04110818) |
| 631550.63 | 4175600.44 | 615.93682 | (07110617) | 631900.63 | 4175600.44 | 531.51196 | (06052002) |
| 632250.63 | 4175600.44 | 308.55703 | (06011618) | 632600.63 | 4175600.44 | 160.88832 | (05122223) |
| 632950.63 | 4175600.44 | 88.60886 | (05121217) | 633300.63 | 4175600.44 | 58.20840 | (08011019) |
| 629800.63 | 4175950.44 | 33.25867 | (07020701) | 630150.63 | 4175950.44 | 48.44079 | (06011024) |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK16 ***

INCLUDING SOURCE(S): STCK16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 76.19246 | (06011024) | 630850.63 | 4175950.44 | 111.50034 | (05030324) |
| 631200.63 | 4175950.44 | 215.87035 | (07120622) | 631550.63 | 4175950.44 | 435.39640 | (07082502) |
| 631900.63 | 4175950.44 | 389.48103 | (06081406) | 632250.63 | 4175950.44 | 267.38305 | (05020806) |
| 632600.63 | 4175950.44 | 164.21587 | (05122401) | 632950.63 | 4175950.44 | 85.37957 | (06012918) |
| 633300.63 | 4175950.44 | 59.19645 | (06121320) | 629800.63 | 4176300.44 | 29.82584 | (07120621) |
| 630150.63 | 4176300.44 | 44.45912 | (07120622) | 630500.63 | 4176300.44 | 65.98980 | (07120622) |
| 630850.63 | 4176300.44 | 100.88294 | (06122121) | 631200.63 | 4176300.44 | 130.23480 | (04010518) |
| 631550.63 | 4176300.44 | 192.82679 | (08091907) | 631900.63 | 4176300.44 | 216.23651 | (07091007) |
| 632250.63 | 4176300.44 | 226.60119 | (06062806) | 632600.63 | 4176300.44 | 148.38216 | (08021808) |
| 632950.63 | 4176300.44 | 81.72813 | (05020806) | 633300.63 | 4176300.44 | 55.59609 | (05020719) |
| 629800.63 | 4176650.44 | 31.52805 | (07120622) | 630150.63 | 4176650.44 | 43.84851 | (06122121) |
| 630500.63 | 4176650.44 | 57.95509 | (04021520) | 630850.63 | 4176650.44 | 79.86156 | (04010518) |
| 631200.63 | 4176650.44 | 99.70117 | (07122917) | 631550.63 | 4176650.44 | 114.44733 | (08011009) |
| 631900.63 | 4176650.44 | 116.14154 | (08122906) | 632250.63 | 4176650.44 | 118.59872 | (06122319) |
| 632600.63 | 4176650.44 | 100.39393 | (06062806) | 632950.63 | 4176650.44 | 72.38457 | (08121517) |
| 633300.63 | 4176650.44 | 52.60584 | (04121101) | 629800.63 | 4177000.44 | 30.49120 | (04021520) |
| 630150.63 | 4177000.44 | 36.23356 | (04021521) | 630500.63 | 4177000.44 | 48.92941 | (04010518) |
| 630850.63 | 4177000.44 | 60.48906 | (04120908) | 631200.63 | 4177000.44 | 75.09657 | (07012720) |
| 631550.63 | 4177000.44 | 82.85750 | (07021108) | 631900.63 | 4177000.44 | 84.53911 | (05122220) |
| 632250.63 | 4177000.44 | 81.58690 | (06012820) | 632600.63 | 4177000.44 | 71.72148 | (06010521) |
| 632950.63 | 4177000.44 | 57.29093 | (08122905) | 633300.63 | 4177000.44 | 49.38424 | (08021908) |
| 629800.63 | 4177350.44 | 27.90281 | (04021521) | 630150.63 | 4177350.44 | 33.06414 | (04010518) |
| 630500.63 | 4177350.44 | 39.96414 | (04120908) | 630850.63 | 4177350.44 | 49.50387 | (08122718) |
| 631200.63 | 4177350.44 | 56.23617 | (07012722) | 631550.63 | 4177350.44 | 60.01541 | (06020124) |
| 631900.63 | 4177350.44 | 59.11111 | (05122220) | 632250.63 | 4177350.44 | 60.56768 | (07091007) |
| 632600.63 | 4177350.44 | 53.40134 | (06122319) | 632950.63 | 4177350.44 | 45.75973 | (07121908) |
| 633300.63 | 4177350.44 | 37.88891 | (08122905) | 631670.70 | 4175493.59 | 299.80078 | (06062806) |
| 631669.80 | 4175641.41 | 1336.81134 | (06102818) | 631665.32 | 4175796.39 | 257.31346 | (06033021) |
| 631417.17 | 4175826.85 | 347.14378 | (05030324) | 631417.17 | 4175673.66 | 650.52769 | (04041821) |
| 631422.55 | 4175484.63 | 694.16932 | (04011017) | 631268.42 | 4175983.74 | 199.34971 | (05030120) |
| 631275.69 | 4175523.99 | 431.76337 | (06020109) | 631345.65 | 4175419.50 | 294.21961 | (07020624) |
| 631384.72 | 4175441.30 | 313.67110 | (04011017) | 631491.93 | 4175442.21 | 548.88670 | (05111717) |
| 631491.93 | 4175414.95 | 561.39377 | (05110618) | 631385.63 | 4175413.14 | 276.32733 | (07020624) |
| 631358.37 | 4175395.87 | 266.82857 | (07020624) | 631409.25 | 4175336.81 | 270.23367 | (05110618) |
| 631567.35 | 4175235.96 | 250.96510 | (06102817) | 631756.33 | 4175028.80 | 158.09160 | (05010417) |
| 631807.22 | 4175003.36 | 159.17833 | (05021805) | 631867.18 | 4174987.91 | 166.97595 | (04102617) |
| 631849.92 | 4175988.28 | 416.54360 | (07091007) | 631268.74 | 4175963.75 | 215.47788 | (05110619) |
| 631269.05 | 4175943.76 | 230.36911 | (05110619) | 631269.37 | 4175923.77 | 236.56089 | (07120622) |
| 631269.68 | 4175903.78 | 241.85063 | (05030321) | 631270.00 | 4175883.79 | 240.81649 | (06011217) |
| 631270.32 | 4175863.81 | 274.68242 | (05030324) | 631270.63 | 4175843.82 | 303.32225 | (05030324) |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK16 ***

INCLUDING SOURCE(S): STCK16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 301.44215 | (05030324) | 631271.26 | 4175803.84 | 311.42952 | (06011024) |
| 631271.58 | 4175783.85 | 304.60184 | (07042002) | 631271.90 | 4175763.86 | 309.90507 | (07042002) |
| 631272.21 | 4175743.87 | 327.80637 | (05122618) | 631272.53 | 4175723.88 | 367.85759 | (05122618) |
| 631272.85 | 4175703.89 | 357.34591 | (05122618) | 631273.16 | 4175683.90 | 364.40108 | (04121304) |
| 631273.48 | 4175663.91 | 365.60531 | (06032819) | 631273.79 | 4175643.92 | 359.05101 | (06032819) |
| 631274.11 | 4175623.94 | 355.90789 | (06051906) | 631274.43 | 4175603.95 | 333.23436 | (04110818) |
| 631274.74 | 4175583.96 | 349.94805 | (06020109) | 631275.06 | 4175563.97 | 392.35043 | (06020109) |
| 631275.37 | 4175543.98 | 420.58239 | (06020109) | 631285.68 | 4175509.06 | 432.94931 | (06020109) |
| 631295.68 | 4175494.14 | 418.87526 | (06020109) | 631305.67 | 4175479.21 | 390.64014 | (06020109) |
| 631315.67 | 4175464.28 | 350.87751 | (06020109) | 631325.66 | 4175449.35 | 303.29804 | (06020109) |
| 631335.66 | 4175434.43 | 297.65467 | (06120217) | 631358.67 | 4175426.77 | 300.19439 | (07020624) |
| 631371.70 | 4175434.03 | 306.25154 | (07020624) | 631402.59 | 4175441.45 | 318.35400 | (07020624) |
| 631420.46 | 4175441.60 | 559.15954 | (08081806) | 631438.33 | 4175441.76 | 574.21604 | (04101819) |
| 631456.19 | 4175441.91 | 572.35238 | (04101819) | 631474.06 | 4175442.06 | 555.34530 | (05111717) |
| 631491.93 | 4175428.58 | 555.17417 | (05111717) | 631474.21 | 4175414.65 | 580.63876 | (05111717) |
| 631456.50 | 4175414.35 | 582.97508 | (05111717) | 631438.78 | 4175414.05 | 571.40362 | (05111717) |
| 631421.06 | 4175413.74 | 344.95148 | (06041020) | 631403.35 | 4175413.44 | 408.47077 | (04012317) |
| 631372.00 | 4175404.51 | 271.54584 | (07020624) | 631371.09 | 4175381.11 | 271.50108 | (04101819) |
| 631383.81 | 4175366.34 | 270.62761 | (06121421) | 631396.53 | 4175351.58 | 271.55152 | (08062901) |
| 631425.06 | 4175326.73 | 278.23988 | (04012317) | 631440.87 | 4175316.64 | 282.68747 | (04012317) |
| 631456.68 | 4175306.56 | 275.11154 | (04012317) | 631472.49 | 4175296.47 | 275.38852 | (04012317) |
| 631488.30 | 4175286.39 | 298.17465 | (06011109) | 631504.11 | 4175276.30 | 312.33188 | (06011109) |
| 631519.92 | 4175266.22 | 312.45544 | (06011109) | 631535.73 | 4175256.13 | 298.52358 | (06011109) |
| 631551.54 | 4175246.05 | 272.42028 | (06011109) | 631579.95 | 4175222.15 | 263.96623 | (06102817) |
| 631592.55 | 4175208.34 | 267.91531 | (06102817) | 631605.15 | 4175194.53 | 262.74942 | (06102817) |
| 631617.74 | 4175180.72 | 240.29375 | (06102817) | 631630.34 | 4175166.91 | 222.69388 | (06102817) |
| 631642.94 | 4175153.10 | 200.40846 | (06102817) | 631655.54 | 4175139.29 | 183.28437 | (05021806) |
| 631668.14 | 4175125.47 | 184.61061 | (05071804) | 631680.74 | 4175111.66 | 181.66164 | (05021806) |
| 631693.34 | 4175097.85 | 177.97043 | (04102621) | 631705.94 | 4175084.04 | 180.61079 | (05122422) |
| 631718.53 | 4175070.23 | 181.74666 | (05122422) | 631731.13 | 4175056.42 | 177.22309 | (05122422) |
| 631743.73 | 4175042.61 | 167.89881 | (05122422) | 631773.29 | 4175020.32 | 150.89268 | (05021805) |
| 631790.26 | 4175011.84 | 157.16627 | (05021805) | 631822.21 | 4174999.50 | 158.45586 | (05021805) |
| 631837.20 | 4174995.64 | 158.15514 | (04102617) | 631852.19 | 4174991.77 | 163.71968 | (04102617) |
| 631866.84 | 4175007.53 | 171.79655 | (04102617) | 631866.50 | 4175027.14 | 176.74078 | (04102617) |
| 631866.16 | 4175046.76 | 181.81703 | (04102617) | 631865.83 | 4175066.37 | 187.02493 | (04102617) |
| 631865.49 | 4175085.99 | 192.37052 | (04102617) | 631865.15 | 4175105.60 | 197.85228 | (04102617) |
| 631864.81 | 4175125.22 | 203.47550 | (04102617) | 631864.47 | 4175144.83 | 209.21041 | (04102617) |
| 631864.13 | 4175164.45 | 215.08163 | (04102617) | 631863.80 | 4175184.06 | 221.07597 | (04102617) |
| 631863.46 | 4175203.68 | 227.19177 | (04102617) | 631863.12 | 4175223.29 | 233.40400 | (04102617) |
| 631862.78 | 4175242.91 | 242.89237 | (04102617) | 631862.44 | 4175262.52 | 252.33704 | (04102617) |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK16 ***

INCLUDING SOURCE(S): STCK16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 299.76451 | (04102617) | 631861.77 | 4175301.75 | 307.83339 | (04102617) |
| 631861.43 | 4175321.37 | 310.20960 | (08102618) | 631861.09 | 4175340.98 | 284.09398 | (04102623) |
| 631860.75 | 4175360.60 | 349.88337 | (04102617) | 631860.41 | 4175380.21 | 361.35769 | (04102617) |
| 631860.07 | 4175399.83 | 373.12124 | (04102617) | 631859.73 | 4175419.44 | 384.84455 | (04102617) |
| 631859.40 | 4175439.06 | 396.14266 | (04102617) | 631859.06 | 4175458.67 | 380.62252 | (04102617) |
| 631858.72 | 4175478.29 | 391.08851 | (04102617) | 631858.38 | 4175497.90 | 398.05774 | (04102617) |
| 631858.04 | 4175517.52 | 399.59498 | (04102617) | 631857.70 | 4175537.13 | 393.02685 | (04102617) |
| 631857.37 | 4175556.75 | 374.57620 | (04102617) | 631857.03 | 4175576.36 | 339.68298 | (04102617) |
| 631856.69 | 4175595.98 | 287.01183 | (06052002) | 631856.35 | 4175615.59 | 445.28685 | (06052002) |
| 631856.01 | 4175635.21 | 721.96799 | (04110905) | 631855.67 | 4175654.82 | 1484.55925 | (04110905) |
| 631855.33 | 4175674.44 | 2084.17374 | (04101518) | 631855.00 | 4175694.05 | 2148.98413 | (04030118) |
| 631854.66 | 4175713.67 | 2494.48322 | (08112619) | 631854.32 | 4175733.28 | 2691.70471 | (06111908) |
| 631853.98 | 4175752.90 | 2051.87153 | (06111908) | 631853.64 | 4175772.51 | 1647.94888 | (07092306) |
| 631853.30 | 4175792.13 | 1406.42305 | (06110304) | 631852.97 | 4175811.74 | 1186.16803 | (06110304) |
| 631852.63 | 4175831.36 | 1057.10507 | (06062806) | 631852.29 | 4175850.97 | 914.43208 | (06062806) |
| 631851.95 | 4175870.59 | 736.64594 | (06062806) | 631851.61 | 4175890.20 | 693.05153 | (06081406) |
| 631851.27 | 4175909.82 | 779.28892 | (07102901) | 631850.94 | 4175929.43 | 547.20515 | (07091007) |
| 631850.60 | 4175949.05 | 463.76473 | (07091007) | 631850.26 | 4175968.66 | 440.03840 | (07091007) |
| 631830.54 | 4175988.13 | 405.93952 | (07020803) | 631811.15 | 4175987.98 | 479.82948 | (07020803) |
| 631791.77 | 4175987.83 | 486.87135 | (06010202) | 631772.39 | 4175987.67 | 480.74424 | (05122403) |
| 631753.00 | 4175987.52 | 469.83025 | (08122907) | 631733.62 | 4175987.37 | 389.77367 | (08122907) |
| 631714.24 | 4175987.22 | 359.35531 | (07080306) | 631694.85 | 4175987.07 | 387.46786 | (05112506) |
| 631675.47 | 4175986.92 | 405.13177 | (08091907) | 631656.09 | 4175986.77 | 401.39856 | (08091907) |
| 631636.70 | 4175986.62 | 390.52325 | (07090905) | 631617.32 | 4175986.46 | 375.76838 | (04083005) |
| 631597.94 | 4175986.31 | 389.47988 | (04101820) | 631578.55 | 4175986.16 | 392.62514 | (04101820) |
| 631559.17 | 4175986.01 | 270.15470 | (04022205) | 631539.79 | 4175985.86 | 263.74547 | (04082205) |
| 631520.40 | 4175985.71 | 261.64113 | (05122508) | 631501.02 | 4175985.56 | 253.26160 | (05122508) |
| 631481.64 | 4175985.40 | 255.44076 | (04022119) | 631462.25 | 4175985.25 | 250.96068 | (04022119) |
| 631442.87 | 4175985.10 | 243.74666 | (07010318) | 631423.49 | 4175984.95 | 241.15870 | (05122621) |
| 631404.10 | 4175984.80 | 242.21082 | (05122621) | 631384.72 | 4175984.65 | 238.92975 | (05122621) |
| 631365.34 | 4175984.50 | 231.97592 | (05122621) | 631345.95 | 4175984.35 | 222.34947 | (07120623) |
| 631326.57 | 4175984.19 | 217.00418 | (07120623) | 631307.19 | 4175984.04 | 209.37817 | (07120623) |
| 631287.80 | 4175983.89 | 204.55645 | (07070904) | | | | |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK17 ***

INCLUDING SOURCE(S): STCK17 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 142.89548 | (04122822) | 632304.44 | 4174354.52 | 77.95101 | (06020105) |
| 632192.15 | 4174956.32 | 154.20746 | (08031018) | 632420.62 | 4175510.15 | 236.49966 | (05122223) |
| 632418.97 | 4175552.92 | 231.93756 | (05121217) | 631187.00 | 4175727.00 | 289.05867 | (06011024) |
| 631166.00 | 4175729.00 | 280.28936 | (06011024) | 631121.00 | 4175719.00 | 259.54362 | (06011024) |
| 631035.00 | 4174830.00 | 113.29314 | (04012317) | 631106.00 | 4174825.00 | 124.38286 | (04012317) |
| 631937.00 | 4174528.00 | 106.31749 | (07012317) | 631322.00 | 4174522.00 | 94.40778 | (06102817) |
| 629800.63 | 4173850.44 | 26.20276 | (06121421) | 630150.63 | 4173850.44 | 25.46710 | (06011022) |
| 630500.63 | 4173850.44 | 41.54158 | (06011109) | 630850.63 | 4173850.44 | 54.00242 | (05012117) |
| 631200.63 | 4173850.44 | 47.82721 | (06121017) | 631550.63 | 4173850.44 | 53.76969 | (06121420) |
| 631900.63 | 4173850.44 | 48.45012 | (04122823) | 632250.63 | 4173850.44 | 50.36376 | (05021804) |
| 632600.63 | 4173850.44 | 42.46454 | (06020105) | 632950.63 | 4173850.44 | 36.62004 | (05011521) |
| 633300.63 | 4173850.44 | 33.17889 | (04022018) | 629800.63 | 4174200.44 | 27.54340 | (07020624) |
| 630150.63 | 4174200.44 | 35.79293 | (06121421) | 630500.63 | 4174200.44 | 38.22655 | (06011022) |
| 630850.63 | 4174200.44 | 73.84181 | (06011109) | 631200.63 | 4174200.44 | 64.40229 | (06011021) |
| 631550.63 | 4174200.44 | 76.76214 | (06121420) | 631900.63 | 4174200.44 | 71.19934 | (07012317) |
| 632250.63 | 4174200.44 | 77.15163 | (07011417) | 632600.63 | 4174200.44 | 59.96349 | (05020818) |
| 632950.63 | 4174200.44 | 47.28061 | (05011520) | 633300.63 | 4174200.44 | 37.31298 | (05021018) |
| 629800.63 | 4174550.44 | 30.52158 | (05022818) | 630150.63 | 4174550.44 | 43.03146 | (04011017) |
| 630500.63 | 4174550.44 | 54.60098 | (06121421) | 630850.63 | 4174550.44 | 70.11962 | (04012317) |
| 631200.63 | 4174550.44 | 114.36026 | (06011109) | 631550.63 | 4174550.44 | 104.29565 | (08022002) |
| 631900.63 | 4174550.44 | 105.86037 | (07012317) | 632250.63 | 4174550.44 | 93.17589 | (06020105) |
| 632600.63 | 4174550.44 | 82.48299 | (05011520) | 632950.63 | 4174550.44 | 58.20302 | (05112916) |
| 633300.63 | 4174550.44 | 54.23060 | (06011617) | 629800.63 | 4174900.44 | 42.39129 | (06020109) |
| 630150.63 | 4174900.44 | 44.92045 | (06121217) | 630500.63 | 4174900.44 | 66.18482 | (06120217) |
| 630850.63 | 4174900.44 | 86.48351 | (04101819) | 631200.63 | 4174900.44 | 143.64272 | (04012317) |
| 631550.63 | 4174900.44 | 176.57183 | (06102817) | 631900.63 | 4174900.44 | 166.94732 | (04102617) |
| 632250.63 | 4174900.44 | 138.06751 | (08031018) | 632600.63 | 4174900.44 | 108.98690 | (05112916) |
| 632950.63 | 4174900.44 | 77.64242 | (07012703) | 633300.63 | 4174900.44 | 52.81435 | (04022223) |
| 629800.63 | 4175250.44 | 37.11085 | (08012221) | 630150.63 | 4175250.44 | 49.67375 | (04022207) |
| 630500.63 | 4175250.44 | 86.17699 | (04022207) | 630850.63 | 4175250.44 | 159.18738 | (06020109) |
| 631200.63 | 4175250.44 | 220.37625 | (06120217) | 631550.63 | 4175250.44 | 319.67863 | (06011109) |
| 631900.63 | 4175250.44 | 288.21744 | (05011817) | 632250.63 | 4175250.44 | 223.29188 | (05110817) |
| 632600.63 | 4175250.44 | 150.08579 | (05021801) | 632950.63 | 4175250.44 | 96.06047 | (07010217) |
| 633300.63 | 4175250.44 | 56.43038 | (07020218) | 629800.63 | 4175600.44 | 37.97122 | (05122618) |
| 630150.63 | 4175600.44 | 49.68157 | (05122618) | 630500.63 | 4175600.44 | 69.77065 | (05122618) |
| 630850.63 | 4175600.44 | 127.10677 | (04010517) | 631200.63 | 4175600.44 | 295.74174 | (05122618) |
| 631550.63 | 4175600.44 | 1278.51528 | (06072903) | 631900.63 | 4175600.44 | 1808.07540 | (08112619) |
| 632250.63 | 4175600.44 | 284.60241 | (06011619) | 632600.63 | 4175600.44 | 139.62358 | (06011619) |
| 632950.63 | 4175600.44 | 84.67869 | (06011619) | 633300.63 | 4175600.44 | 59.64201 | (06011619) |
| 629800.63 | 4175950.44 | 38.43542 | (06011024) | 630150.63 | 4175950.44 | 50.02544 | (06011024) |



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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK17 ***

INCLUDING SOURCE(S): STCK17 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 62.61716 | (05040705) | 630850.63 | 4175950.44 | 130.45191 | (07120622) |
| 631200.63 | 4175950.44 | 213.86694 | (06122121) | 631550.63 | 4175950.44 | 520.51759 | (04101820) |
| 631900.63 | 4175950.44 | 378.71067 | (07091007) | 632250.63 | 4175950.44 | 215.22223 | (06052306) |
| 632600.63 | 4175950.44 | 149.19882 | (05011418) | 632950.63 | 4175950.44 | 88.97879 | (05122401) |
| 633300.63 | 4175950.44 | 58.48368 | (06012918) | 629800.63 | 4176300.44 | 31.58720 | (07120621) |
| 630150.63 | 4176300.44 | 48.09787 | (07120622) | 630500.63 | 4176300.44 | 67.41233 | (06122121) |
| 630850.63 | 4176300.44 | 105.83890 | (04021520) | 631200.63 | 4176300.44 | 130.35309 | (04121223) |
| 631550.63 | 4176300.44 | 172.58590 | (08091907) | 631900.63 | 4176300.44 | 187.46504 | (07091007) |
| 632250.63 | 4176300.44 | 156.95050 | (06062806) | 632600.63 | 4176300.44 | 116.61568 | (08021908) |
| 632950.63 | 4176300.44 | 83.16230 | (05011818) | 633300.63 | 4176300.44 | 55.45586 | (04011021) |
| 629800.63 | 4176650.44 | 29.90321 | (06122121) | 630150.63 | 4176650.44 | 41.22629 | (06122121) |
| 630500.63 | 4176650.44 | 59.07918 | (04021521) | 630850.63 | 4176650.44 | 82.10027 | (04120903) |
| 631200.63 | 4176650.44 | 99.83265 | (08122718) | 631550.63 | 4176650.44 | 111.43027 | (07021108) |
| 631900.63 | 4176650.44 | 107.10117 | (06020918) | 632250.63 | 4176650.44 | 99.71580 | (05022620) |
| 632600.63 | 4176650.44 | 96.14433 | (06062806) | 632950.63 | 4176650.44 | 77.54950 | (08021908) |
| 633300.63 | 4176650.44 | 58.97355 | (08021808) | 629800.63 | 4177000.44 | 30.77957 | (04021520) |
| 630150.63 | 4177000.44 | 38.29148 | (04021521) | 630500.63 | 4177000.44 | 48.76261 | (04120903) |
| 630850.63 | 4177000.44 | 60.71593 | (07122917) | 631200.63 | 4177000.44 | 70.29228 | (07012720) |
| 631550.63 | 4177000.44 | 77.63974 | (06021703) | 631900.63 | 4177000.44 | 77.87663 | (05122220) |
| 632250.63 | 4177000.44 | 75.83488 | (07091007) | 632600.63 | 4177000.44 | 64.77134 | (06010522) |
| 632950.63 | 4177000.44 | 59.82550 | (07022408) | 633300.63 | 4177000.44 | 52.07894 | (08021908) |
| 629800.63 | 4177350.44 | 27.49568 | (04021521) | 630150.63 | 4177350.44 | 32.06528 | (04120903) |
| 630500.63 | 4177350.44 | 38.60665 | (04120908) | 630850.63 | 4177350.44 | 49.06832 | (07021218) |
| 631200.63 | 4177350.44 | 53.76187 | (07012722) | 631550.63 | 4177350.44 | 56.75725 | (06020124) |
| 631900.63 | 4177350.44 | 54.48841 | (05122220) | 632250.63 | 4177350.44 | 58.56759 | (07091007) |
| 632600.63 | 4177350.44 | 49.34591 | (05121501) | 632950.63 | 4177350.44 | 42.00522 | (07121908) |
| 633300.63 | 4177350.44 | 39.53735 | (07022408) | 631670.70 | 4175493.59 | 407.83350 | (07092306) |
| 631669.80 | 4175641.41 | 1229.10027 | (04110905) | 631665.32 | 4175796.39 | 219.19598 | (04101820) |
| 631417.17 | 4175826.85 | 300.02779 | (04082206) | 631417.17 | 4175673.66 | 450.15750 | (06072906) |
| 631422.55 | 4175484.63 | 524.68579 | (06020109) | 631268.42 | 4175983.74 | 215.09446 | (04021520) |
| 631275.69 | 4175523.99 | 345.66351 | (06051906) | 631345.65 | 4175419.50 | 451.89321 | (06020109) |
| 631384.72 | 4175441.30 | 489.73132 | (06020109) | 631491.93 | 4175442.21 | 945.92972 | (07110617) |
| 631491.93 | 4175414.95 | 681.13687 | (07110617) | 631385.63 | 4175413.14 | 436.23597 | (06020109) |
| 631358.37 | 4175395.87 | 403.11470 | (06020109) | 631409.25 | 4175336.81 | 274.14622 | (07020624) |
| 631567.35 | 4175235.96 | 315.27954 | (06011109) | 631756.33 | 4175028.80 | 195.81293 | (05010417) |
| 631807.22 | 4175003.36 | 192.60963 | (05021805) | 631867.18 | 4174987.91 | 191.46505 | (04102617) |
| 631849.92 | 4175988.28 | 334.62872 | (07091007) | 631268.74 | 4175963.75 | 227.61442 | (04021520) |
| 631269.05 | 4175943.76 | 227.37388 | (04021520) | 631269.37 | 4175923.77 | 231.53319 | (06041301) |
| 631269.68 | 4175903.78 | 236.50958 | (06122121) | 631270.00 | 4175883.79 | 239.81951 | (05030120) |
| 631270.32 | 4175863.81 | 244.65292 | (05110619) | 631270.63 | 4175843.82 | 264.25497 | (05110619) |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK17 ***

INCLUDING SOURCE(S): STCK17 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 278.54015 | (07120622) | 631271.26 | 4175803.84 | 280.47470 | (05030321) |
| 631271.58 | 4175783.85 | 273.28923 | (04041820) | 631271.90 | 4175763.86 | 295.90243 | (05030324) |
| 631272.21 | 4175743.87 | 330.06096 | (05030324) | 631272.53 | 4175723.88 | 328.51541 | (05030324) |
| 631272.85 | 4175703.89 | 339.78787 | (06011024) | 631273.16 | 4175683.90 | 332.29615 | (07042002) |
| 631273.48 | 4175663.91 | 339.00414 | (07042002) | 631273.79 | 4175643.92 | 329.88619 | (04101604) |
| 631274.11 | 4175623.94 | 370.47298 | (05122618) | 631274.43 | 4175603.95 | 360.11457 | (05122618) |
| 631274.74 | 4175583.96 | 366.99972 | (04121304) | 631275.06 | 4175563.97 | 366.54986 | (04121304) |
| 631275.37 | 4175543.98 | 347.41113 | (06032819) | 631285.68 | 4175509.06 | 337.27146 | (04110818) |
| 631295.68 | 4175494.14 | 343.79312 | (06020109) | 631305.67 | 4175479.21 | 391.12658 | (06020109) |
| 631315.67 | 4175464.28 | 429.23160 | (06020109) | 631325.66 | 4175449.35 | 453.84383 | (06020109) |
| 631335.66 | 4175434.43 | 461.86315 | (06020109) | 631358.67 | 4175426.77 | 464.58078 | (06020109) |
| 631371.70 | 4175434.03 | 477.20137 | (06020109) | 631402.59 | 4175441.45 | 493.70908 | (06020109) |
| 631420.46 | 4175441.60 | 494.03971 | (06020109) | 631438.33 | 4175441.76 | 490.32491 | (06020109) |
| 631456.19 | 4175441.91 | 887.15829 | (04041822) | 631474.06 | 4175442.06 | 672.22120 | (06020109) |
| 631491.93 | 4175428.58 | 816.34027 | (07110617) | 631474.21 | 4175414.65 | 885.13832 | (06051905) |
| 631456.50 | 4175414.35 | 408.30623 | (06020109) | 631438.78 | 4175414.05 | 402.59842 | (06020109) |
| 631421.06 | 4175413.74 | 417.50816 | (06020109) | 631403.35 | 4175413.44 | 428.69002 | (06020109) |
| 631372.00 | 4175404.51 | 419.56464 | (06020109) | 631371.09 | 4175381.11 | 354.22968 | (06020109) |
| 631383.81 | 4175366.34 | 296.40060 | (06020109) | 631396.53 | 4175351.58 | 288.03056 | (07020624) |
| 631425.06 | 4175326.73 | 267.07941 | (05122619) | 631440.87 | 4175316.64 | 267.00460 | (06120517) |
| 631456.68 | 4175306.56 | 274.68174 | (06120517) | 631472.49 | 4175296.47 | 290.99863 | (04012317) |
| 631488.30 | 4175286.39 | 314.15049 | (04012317) | 631504.11 | 4175276.30 | 318.49652 | (04012317) |
| 631519.92 | 4175266.22 | 303.01108 | (04012317) | 631535.73 | 4175256.13 | 303.82867 | (06011109) |
| 631551.54 | 4175246.05 | 318.11442 | (06011109) | 631579.95 | 4175222.15 | 293.34424 | (06011109) |
| 631592.55 | 4175208.34 | 260.28156 | (06011109) | 631605.15 | 4175194.53 | 264.08999 | (06102817) |
| 631617.74 | 4175180.72 | 267.08011 | (06102817) | 631630.34 | 4175166.91 | 264.24472 | (06102817) |
| 631642.94 | 4175153.10 | 251.91669 | (06102817) | 631655.54 | 4175139.29 | 232.01119 | (06102817) |
| 631668.14 | 4175125.47 | 206.91110 | (06102817) | 631680.74 | 4175111.66 | 206.53855 | (05021806) |
| 631693.34 | 4175097.85 | 203.82834 | (05021806) | 631705.94 | 4175084.04 | 212.63417 | (05122422) |
| 631718.53 | 4175070.23 | 221.00340 | (05122422) | 631731.13 | 4175056.42 | 220.12361 | (05122422) |
| 631743.73 | 4175042.61 | 210.98206 | (05122422) | 631773.29 | 4175020.32 | 184.23657 | (05010417) |
| 631790.26 | 4175011.84 | 191.20525 | (05021805) | 631822.21 | 4174999.50 | 191.03818 | (04122823) |
| 631837.20 | 4174995.64 | 186.97243 | (04122823) | 631852.19 | 4174991.77 | 190.37446 | (04102617) |
| 631866.84 | 4175007.53 | 197.20278 | (04102617) | 631866.50 | 4175027.14 | 203.08383 | (04102617) |
| 631866.16 | 4175046.76 | 209.11414 | (04102617) | 631865.83 | 4175066.37 | 215.28435 | (04102617) |
| 631865.49 | 4175085.99 | 221.59897 | (04102617) | 631865.15 | 4175105.60 | 228.04330 | (04102617) |
| 631864.81 | 4175125.22 | 234.60917 | (04102617) | 631864.47 | 4175144.83 | 241.24886 | (04102617) |
| 631864.13 | 4175164.45 | 247.96202 | (04102617) | 631863.80 | 4175184.06 | 254.69405 | (04102617) |
| 631863.46 | 4175203.68 | 261.40811 | (04102617) | 631863.12 | 4175223.29 | 268.01048 | (04102617) |
| 631862.78 | 4175242.91 | 277.17797 | (04102617) | 631862.44 | 4175262.52 | 287.37984 | (04102617) |

*** AERMOD - VERSION 19191 *** *** C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C *** 06/06/22

*** AERMET - VERSION 18081 *** *** *** 12:14:02

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK17 ***

INCLUDING SOURCE(S): STCK17 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 350.41692 | (04102617) | 631861.77 | 4175301.75 | 444.03801 | (05011817) |
| 631861.43 | 4175321.37 | 483.81565 | (08102618) | 631861.09 | 4175340.98 | 310.35690 | (04102623) |
| 631860.75 | 4175360.60 | 375.23532 | (04102617) | 631860.41 | 4175380.21 | 379.46719 | (04102617) |
| 631860.07 | 4175399.83 | 381.14451 | (04102617) | 631859.73 | 4175419.44 | 378.72612 | (04102617) |
| 631859.40 | 4175439.06 | 399.42076 | (05051824) | 631859.06 | 4175458.67 | 498.75731 | (05051824) |
| 631858.72 | 4175478.29 | 617.71854 | (07102905) | 631858.38 | 4175497.90 | 830.74333 | (07102905) |
| 631858.04 | 4175517.52 | 1011.55544 | (06052002) | 631857.70 | 4175537.13 | 1473.75187 | (06052002) |
| 631857.37 | 4175556.75 | 1735.36648 | (06052002) | 631857.03 | 4175576.36 | 1913.85028 | (04101518) |
| 631856.69 | 4175595.98 | 2800.14303 | (04030118) | 631856.35 | 4175615.59 | 1894.42177 | (04030118) |
| 631856.01 | 4175635.21 | 1943.34839 | (06111908) | 631855.67 | 4175654.82 | 1698.54371 | (06102818) |
| 631855.33 | 4175674.44 | 1170.98087 | (06102818) | 631855.00 | 4175694.05 | 866.34259 | (07092306) |
| 631854.66 | 4175713.67 | 632.05794 | (07092306) | 631854.32 | 4175733.28 | 509.14239 | (06110304) |
| 631853.98 | 4175752.90 | 403.29974 | (06110304) | 631853.64 | 4175772.51 | 366.57763 | (08112318) |
| 631853.30 | 4175792.13 | 351.45088 | (04111519) | 631852.97 | 4175811.74 | 352.58752 | (04111519) |
| 631852.63 | 4175831.36 | 259.67277 | (08011006) | 631852.29 | 4175850.97 | 276.36391 | (08011006) |
| 631851.95 | 4175870.59 | 287.09819 | (08011006) | 631851.61 | 4175890.20 | 381.43221 | (06081406) |
| 631851.27 | 4175909.82 | 548.10484 | (07091007) | 631850.94 | 4175929.43 | 398.71379 | (07091007) |
| 631850.60 | 4175949.05 | 375.49252 | (07091007) | 631850.26 | 4175968.66 | 354.57299 | (07091007) |
| 631830.54 | 4175988.13 | 331.97760 | (07020803) | 631811.15 | 4175987.98 | 348.43885 | (07020803) |
| 631791.77 | 4175987.83 | 350.21718 | (06010202) | 631772.39 | 4175987.67 | 348.08145 | (05122403) |
| 631753.00 | 4175987.52 | 342.85455 | (08122907) | 631733.62 | 4175987.37 | 352.25949 | (07030418) |
| 631714.24 | 4175987.22 | 365.86869 | (05112506) | 631694.85 | 4175987.07 | 395.08556 | (05112506) |
| 631675.47 | 4175986.92 | 403.64727 | (05112506) | 631656.09 | 4175986.77 | 430.88693 | (08091907) |
| 631636.70 | 4175986.62 | 446.69417 | (08091907) | 631617.32 | 4175986.46 | 438.97658 | (07090905) |
| 631597.94 | 4175986.31 | 442.86518 | (07090905) | 631578.55 | 4175986.16 | 291.42668 | (05112504) |
| 631559.17 | 4175986.01 | 234.17259 | (05122507) | 631539.79 | 4175985.86 | 231.02853 | (07012721) |
| 631520.40 | 4175985.71 | 230.62338 | (04022205) | 631501.02 | 4175985.56 | 229.95200 | (04022205) |
| 631481.64 | 4175985.40 | 222.32614 | (04022205) | 631462.25 | 4175985.25 | 213.51372 | (04082205) |
| 631442.87 | 4175985.10 | 216.61279 | (05122508) | 631423.49 | 4175984.95 | 214.91485 | (05122508) |
| 631404.10 | 4175984.80 | 222.07623 | (05051803) | 631384.72 | 4175984.65 | 223.44742 | (05051803) |
| 631365.34 | 4175984.50 | 217.76644 | (07111102) | 631345.95 | 4175984.35 | 214.43670 | (07080202) |
| 631326.57 | 4175984.19 | 209.17260 | (07080202) | 631307.19 | 4175984.04 | 206.36455 | (04081205) |
| 631287.80 | 4175983.89 | 205.24595 | (04021520) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK18 ***

INCLUDING SOURCE(S): STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 204.52958 | (08031018) | 632304.44 | 4174354.52 | 83.44176 | (06020105) |
| 632192.15 | 4174956.32 | 186.11110 | (05011520) | 632420.62 | 4175510.15 | 198.87329 | (06011619) |
| 632418.97 | 4175552.92 | 224.24159 | (07012318) | 631187.00 | 4175727.00 | 248.26512 | (05030321) |
| 631166.00 | 4175729.00 | 234.99494 | (05030321) | 631121.00 | 4175719.00 | 228.00992 | (04041820) |
| 631035.00 | 4174830.00 | 112.97854 | (06121421) | 631106.00 | 4174825.00 | 116.61299 | (04012317) |
| 631937.00 | 4174528.00 | 113.77453 | (07012317) | 631322.00 | 4174522.00 | 101.18371 | (06011021) |
| 629800.63 | 4173850.44 | 26.64136 | (06121421) | 630150.63 | 4173850.44 | 24.42284 | (06121421) |
| 630500.63 | 4173850.44 | 37.61760 | (06011109) | 630850.63 | 4173850.44 | 55.40318 | (06011109) |
| 631200.63 | 4173850.44 | 47.95609 | (06121017) | 631550.63 | 4173850.44 | 58.01750 | (06121420) |
| 631900.63 | 4173850.44 | 52.68159 | (07012317) | 632250.63 | 4173850.44 | 58.52369 | (07011417) |
| 632600.63 | 4173850.44 | 44.71974 | (04122822) | 632950.63 | 4173850.44 | 41.82480 | (05011521) |
| 633300.63 | 4173850.44 | 37.10687 | (04022018) | 629800.63 | 4174200.44 | 30.87434 | (04011017) |
| 630150.63 | 4174200.44 | 34.29799 | (06121421) | 630500.63 | 4174200.44 | 35.50047 | (06121421) |
| 630850.63 | 4174200.44 | 68.65873 | (06011109) | 631200.63 | 4174200.44 | 72.99217 | (06011021) |
| 631550.63 | 4174200.44 | 79.93259 | (06121420) | 631900.63 | 4174200.44 | 79.65522 | (07012317) |
| 632250.63 | 4174200.44 | 80.40159 | (07011417) | 632600.63 | 4174200.44 | 65.13055 | (05020818) |
| 632950.63 | 4174200.44 | 55.55125 | (04022018) | 633300.63 | 4174200.44 | 35.53733 | (06011617) |
| 629800.63 | 4174550.44 | 32.00077 | (06121217) | 630150.63 | 4174550.44 | 43.43492 | (06120217) |
| 630500.63 | 4174550.44 | 47.68315 | (07020624) | 630850.63 | 4174550.44 | 67.69385 | (04012317) |
| 631200.63 | 4174550.44 | 125.46026 | (06011109) | 631550.63 | 4174550.44 | 110.17681 | (08022002) |
| 631900.63 | 4174550.44 | 117.49475 | (07012317) | 632250.63 | 4174550.44 | 101.92290 | (04122822) |
| 632600.63 | 4174550.44 | 88.85371 | (04022018) | 632950.63 | 4174550.44 | 65.83441 | (06011617) |
| 633300.63 | 4174550.44 | 47.69515 | (07012703) | 629800.63 | 4174900.44 | 38.26923 | (06020109) |
| 630150.63 | 4174900.44 | 48.98303 | (06020109) | 630500.63 | 4174900.44 | 63.99517 | (06121217) |
| 630850.63 | 4174900.44 | 104.89840 | (04011017) | 631200.63 | 4174900.44 | 143.30030 | (04012317) |
| 631550.63 | 4174900.44 | 190.18037 | (06102817) | 631900.63 | 4174900.44 | 189.21932 | (04102617) |
| 632250.63 | 4174900.44 | 171.22760 | (05011520) | 632600.63 | 4174900.44 | 138.69468 | (06011617) |
| 632950.63 | 4174900.44 | 85.14116 | (06120617) | 633300.63 | 4174900.44 | 53.17294 | (05021801) |
| 629800.63 | 4175250.44 | 34.27751 | (04121224) | 630150.63 | 4175250.44 | 48.34285 | (08012221) |
| 630500.63 | 4175250.44 | 73.71553 | (08012221) | 630850.63 | 4175250.44 | 135.69919 | (04022207) |
| 631200.63 | 4175250.44 | 311.75256 | (06020109) | 631550.63 | 4175250.44 | 328.15726 | (04012317) |
| 631900.63 | 4175250.44 | 373.82105 | (08071406) | 632250.63 | 4175250.44 | 257.61571 | (04022219) |
| 632600.63 | 4175250.44 | 170.74115 | (07010217) | 632950.63 | 4175250.44 | 83.78370 | (08011001) |
| 633300.63 | 4175250.44 | 56.30783 | (08011001) | 629800.63 | 4175600.44 | 39.44856 | (05122618) |
| 630150.63 | 4175600.44 | 50.50871 | (05122618) | 630500.63 | 4175600.44 | 67.98269 | (05122618) |
| 630850.63 | 4175600.44 | 126.23315 | (07020701) | 631200.63 | 4175600.44 | 299.82514 | (06011024) |
| 631550.63 | 4175600.44 | 588.78444 | (08110218) | 631900.63 | 4175600.44 | 743.83471 | (06102818) |
| 632250.63 | 4175600.44 | 302.18501 | (05012018) | 632600.63 | 4175600.44 | 154.37661 | (07012418) |
| 632950.63 | 4175600.44 | 88.77503 | (07012318) | 633300.63 | 4175600.44 | 59.38598 | (07012318) |
| 629800.63 | 4175950.44 | 36.84100 | (06011024) | 630150.63 | 4175950.44 | 39.56720 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK18 ***

INCLUDING SOURCE(S): STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 72.78113 | (07120621) | 630850.63 | 4175950.44 | 122.43804 | (07120404) |
| 631200.63 | 4175950.44 | 192.42909 | (07102703) | 631550.63 | 4175950.44 | 501.25366 | (06102618) |
| 631900.63 | 4175950.44 | 354.02932 | (07091007) | 632250.63 | 4175950.44 | 184.73640 | (06052306) |
| 632600.63 | 4175950.44 | 126.60459 | (04121022) | 632950.63 | 4175950.44 | 83.55633 | (06121503) |
| 633300.63 | 4175950.44 | 57.30668 | (05122401) | 629800.63 | 4176300.44 | 35.60548 | (07120622) |
| 630150.63 | 4176300.44 | 43.68873 | (07120404) | 630500.63 | 4176300.44 | 71.30434 | (06122121) |
| 630850.63 | 4176300.44 | 114.13945 | (04021521) | 631200.63 | 4176300.44 | 144.31315 | (04120908) |
| 631550.63 | 4176300.44 | 148.77062 | (06033022) | 631900.63 | 4176300.44 | 161.02095 | (07091007) |
| 632250.63 | 4176300.44 | 121.98994 | (06010522) | 632600.63 | 4176300.44 | 110.06993 | (08021908) |
| 632950.63 | 4176300.44 | 84.07381 | (08021808) | 633300.63 | 4176300.44 | 52.43356 | (05020806) |
| 629800.63 | 4176650.44 | 32.79302 | (06122121) | 630150.63 | 4176650.44 | 42.59767 | (04021520) |
| 630500.63 | 4176650.44 | 60.15894 | (04021521) | 630850.63 | 4176650.44 | 79.12188 | (04121223) |
| 631200.63 | 4176650.44 | 101.11220 | (07021218) | 631550.63 | 4176650.44 | 110.83037 | (07021108) |
| 631900.63 | 4176650.44 | 102.82366 | (05122220) | 632250.63 | 4176650.44 | 93.55114 | (05021722) |
| 632600.63 | 4176650.44 | 81.83114 | (06062806) | 632950.63 | 4176650.44 | 70.15444 | (08021908) |
| 633300.63 | 4176650.44 | 56.49926 | (08021808) | 629800.63 | 4177000.44 | 27.87036 | (04021520) |
| 630150.63 | 4177000.44 | 35.53044 | (04021521) | 630500.63 | 4177000.44 | 45.87517 | (04120903) |
| 630850.63 | 4177000.44 | 63.78964 | (07122917) | 631200.63 | 4177000.44 | 65.90189 | (07012722) |
| 631550.63 | 4177000.44 | 76.03571 | (06020124) | 631900.63 | 4177000.44 | 73.34916 | (05122220) |
| 632250.63 | 4177000.44 | 77.94537 | (07091007) | 632600.63 | 4177000.44 | 60.63346 | (06120218) |
| 632950.63 | 4177000.44 | 55.84822 | (07022408) | 633300.63 | 4177000.44 | 47.48308 | (08021908) |
| 629800.63 | 4177350.44 | 24.97182 | (04021521) | 630150.63 | 4177350.44 | 31.27402 | (04120903) |
| 630500.63 | 4177350.44 | 36.97475 | (07012719) | 630850.63 | 4177350.44 | 46.31046 | (07021218) |
| 631200.63 | 4177350.44 | 50.09373 | (07012722) | 631550.63 | 4177350.44 | 54.12289 | (06020124) |
| 631900.63 | 4177350.44 | 50.77247 | (05122220) | 632250.63 | 4177350.44 | 56.10364 | (07091007) |
| 632600.63 | 4177350.44 | 47.14512 | (05022620) | 632950.63 | 4177350.44 | 40.69865 | (06010521) |
| 633300.63 | 4177350.44 | 40.32551 | (07022408) | 631670.70 | 4175493.59 | 1091.76523 | (04030118) |
| 631669.80 | 4175641.41 | 564.04266 | (05051824) | 631665.32 | 4175796.39 | 218.04250 | (07102801) |
| 631417.17 | 4175826.85 | 361.51411 | (04110906) | 631417.17 | 4175673.66 | 535.40343 | (05061703) |
| 631422.55 | 4175484.63 | 508.90549 | (04101624) | 631268.42 | 4175983.74 | 202.14753 | (04021018) |
| 631275.69 | 4175523.99 | 364.35311 | (05122618) | 631345.65 | 4175419.50 | 343.37620 | (04110818) |
| 631384.72 | 4175441.30 | 383.58932 | (06051906) | 631491.93 | 4175442.21 | 725.59254 | (04041821) |
| 631491.93 | 4175414.95 | 840.64508 | (06020109) | 631385.63 | 4175413.14 | 409.72186 | (06020109) |
| 631358.37 | 4175395.87 | 414.17554 | (06020109) | 631409.25 | 4175336.81 | 476.06765 | (06020109) |
| 631567.35 | 4175235.96 | 318.57929 | (04012317) | 631756.33 | 4175028.80 | 254.80981 | (05122422) |
| 631807.22 | 4175003.36 | 238.77852 | (05021805) | 631867.18 | 4174987.91 | 225.02924 | (04102617) |
| 631849.92 | 4175988.28 | 266.09558 | (07091007) | 631268.74 | 4175963.75 | 209.63968 | (04021521) |
| 631269.05 | 4175943.76 | 217.13127 | (04021521) | 631269.37 | 4175923.77 | 214.37536 | (04021521) |
| 631269.68 | 4175903.78 | 215.99311 | (07102703) | 631270.00 | 4175883.79 | 228.46943 | (04021520) |
| 631270.32 | 4175863.81 | 243.69547 | (04021520) | 631270.63 | 4175843.82 | 244.12250 | (04021520) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP:

STCK18 ***

INCLUDING SOURCE(S): STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 245.68526 | (06041301) | 631271.26 | 4175803.84 | 252.90809 | (06122121) |
| 631271.58 | 4175783.85 | 254.31262 | (05030120) | 631271.90 | 4175763.86 | 256.55112 | (05030322) |
| 631272.21 | 4175743.87 | 275.93748 | (05110619) | 631272.53 | 4175723.88 | 288.91159 | (07120622) |
| 631272.85 | 4175703.89 | 292.28164 | (05030321) | 631273.16 | 4175683.90 | 282.87688 | (04041820) |
| 631273.48 | 4175663.91 | 299.05611 | (04041820) | 631273.79 | 4175643.92 | 329.00232 | (05030324) |
| 631274.11 | 4175623.94 | 328.13637 | (05030324) | 631274.43 | 4175603.95 | 344.22228 | (06011024) |
| 631274.74 | 4175583.96 | 335.43158 | (06011024) | 631275.06 | 4175563.97 | 338.30879 | (07042002) |
| 631275.37 | 4175543.98 | 330.24905 | (04101604) | 631285.68 | 4175509.06 | 369.95630 | (05122618) |
| 631295.68 | 4175494.14 | 356.51500 | (04121304) | 631305.67 | 4175479.21 | 388.23029 | (04121304) |
| 631315.67 | 4175464.28 | 385.31994 | (04121304) | 631325.66 | 4175449.35 | 361.97237 | (06072904) |
| 631335.66 | 4175434.43 | 348.66986 | (06051906) | 631358.67 | 4175426.77 | 359.47995 | (04110818) |
| 631371.70 | 4175434.03 | 372.98992 | (04110818) | 631402.59 | 4175441.45 | 398.26332 | (04110818) |
| 631420.46 | 4175441.60 | 412.64284 | (04110818) | 631438.33 | 4175441.76 | 426.14270 | (04110818) |
| 631456.19 | 4175441.91 | 448.64004 | (06020109) | 631474.06 | 4175442.06 | 553.91045 | (06020109) |
| 631491.93 | 4175428.58 | 790.73472 | (06020109) | 631474.21 | 4175414.65 | 577.82693 | (06020109) |
| 631456.50 | 4175414.35 | 535.69080 | (06020109) | 631438.78 | 4175414.05 | 490.70517 | (06020109) |
| 631421.06 | 4175413.74 | 463.25551 | (06020109) | 631403.35 | 4175413.44 | 436.18086 | (06020109) |
| 631372.00 | 4175404.51 | 412.87349 | (06020109) | 631371.09 | 4175381.11 | 459.15796 | (06020109) |
| 631383.81 | 4175366.34 | 487.17764 | (06020109) | 631396.53 | 4175351.58 | 493.50320 | (06020109) |
| 631425.06 | 4175326.73 | 448.32397 | (06020109) | 631440.87 | 4175316.64 | 405.72630 | (06020109) |
| 631456.68 | 4175306.56 | 351.58393 | (06020109) | 631472.49 | 4175296.47 | 306.71040 | (05072102) |
| 631488.30 | 4175286.39 | 301.56900 | (05072102) | 631504.11 | 4175276.30 | 295.68564 | (04041824) |
| 631519.92 | 4175266.22 | 302.36492 | (04041824) | 631535.73 | 4175256.13 | 313.10546 | (04012317) |
| 631551.54 | 4175246.05 | 326.00252 | (04012317) | 631579.95 | 4175222.15 | 311.80467 | (06011109) |
| 631592.55 | 4175208.34 | 322.88360 | (06011109) | 631605.15 | 4175194.53 | 314.72262 | (06011109) |
| 631617.74 | 4175180.72 | 289.50099 | (06011109) | 631630.34 | 4175166.91 | 277.09157 | (06102817) |
| 631642.94 | 4175153.10 | 286.98742 | (06102817) | 631655.54 | 4175139.29 | 283.78082 | (06102817) |
| 631668.14 | 4175125.47 | 268.94731 | (06102817) | 631680.74 | 4175111.66 | 245.18805 | (06102817) |
| 631693.34 | 4175097.85 | 238.27086 | (08081805) | 631705.94 | 4175084.04 | 243.84012 | (05122422) |
| 631718.53 | 4175070.23 | 268.74473 | (05122422) | 631731.13 | 4175056.42 | 278.31313 | (05122422) |
| 631743.73 | 4175042.61 | 272.82309 | (05122422) | 631773.29 | 4175020.32 | 236.54232 | (05010417) |
| 631790.26 | 4175011.84 | 239.07174 | (05021805) | 631822.21 | 4174999.50 | 235.34192 | (04122823) |
| 631837.20 | 4174995.64 | 225.68215 | (04122823) | 631852.19 | 4174991.77 | 227.47952 | (04102617) |
| 631866.84 | 4175007.53 | 231.79460 | (04102617) | 631866.50 | 4175027.14 | 238.65333 | (04102617) |
| 631866.16 | 4175046.76 | 245.59037 | (04102617) | 631865.83 | 4175066.37 | 252.56292 | (04102617) |
| 631865.49 | 4175085.99 | 259.54930 | (04102617) | 631865.15 | 4175105.60 | 266.48425 | (04102617) |
| 631864.81 | 4175125.22 | 273.29989 | (04102617) | 631864.47 | 4175144.83 | 279.87330 | (04102617) |
| 631864.13 | 4175164.45 | 286.10455 | (04102617) | 631863.80 | 4175184.06 | 308.47240 | (05011817) |
| 631863.46 | 4175203.68 | 333.43801 | (05011817) | 631863.12 | 4175223.29 | 359.34131 | (05011817) |
| 631862.78 | 4175242.91 | 385.75647 | (05011817) | 631862.44 | 4175262.52 | 411.97167 | (05011817) |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK18 ***

INCLUDING SOURCE(S): STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 449.28553 | (05011817) | 631861.77 | 4175301.75 | 818.41968 | (08071406) |
| 631861.43 | 4175321.37 | 837.86126 | (08071406) | 631861.09 | 4175340.98 | 931.78907 | (06052001) |
| 631860.75 | 4175360.60 | 1148.91074 | (05051824) | 631860.41 | 4175380.21 | 1096.17635 | (05051824) |
| 631860.07 | 4175399.83 | 1465.46651 | (07102905) | 631859.73 | 4175419.44 | 1459.84840 | (07102905) |
| 631859.40 | 4175439.06 | 1797.05748 | (06052002) | 631859.06 | 4175458.67 | 2955.08296 | (06052002) |
| 631858.72 | 4175478.29 | 2304.70361 | (05071701) | 631858.38 | 4175497.90 | 2373.30753 | (05020803) |
| 631858.04 | 4175517.52 | 2645.48416 | (07102907) | 631857.70 | 4175537.13 | 2094.10944 | (08010919) |
| 631857.37 | 4175556.75 | 1056.05926 | (08010919) | 631857.03 | 4175576.36 | 387.41221 | (06102818) |
| 631856.69 | 4175595.98 | 364.70050 | (06021018) | 631856.35 | 4175615.59 | 439.79678 | (06021018) |
| 631856.01 | 4175635.21 | 499.82508 | (06021018) | 631855.67 | 4175654.82 | 518.09139 | (06021018) |
| 631855.33 | 4175674.44 | 513.90216 | (08112520) | 631855.00 | 4175694.05 | 470.59420 | (05072006) |
| 631854.66 | 4175713.67 | 465.82844 | (05072006) | 631854.32 | 4175733.28 | 456.23662 | (05072006) |
| 631853.98 | 4175752.90 | 406.00425 | (07080305) | 631853.64 | 4175772.51 | 362.43763 | (06013006) |
| 631853.30 | 4175792.13 | 345.81070 | (08112318) | 631852.97 | 4175811.74 | 336.32699 | (08112318) |
| 631852.63 | 4175831.36 | 312.92187 | (04111519) | 631852.29 | 4175850.97 | 304.39644 | (04111519) |
| 631851.95 | 4175870.59 | 296.09539 | (04111519) | 631851.61 | 4175890.20 | 427.79445 | (07091007) |
| 631851.27 | 4175909.82 | 407.60804 | (07091007) | 631850.94 | 4175929.43 | 320.00742 | (05072006) |
| 631850.60 | 4175949.05 | 299.00770 | (07091007) | 631850.26 | 4175968.66 | 282.07711 | (07091007) |
| 631830.54 | 4175988.13 | 263.15233 | (07020803) | 631811.15 | 4175987.98 | 265.53998 | (08011008) |
| 631791.77 | 4175987.83 | 266.44480 | (07020802) | 631772.39 | 4175987.67 | 274.12504 | (07030418) |
| 631753.00 | 4175987.52 | 308.97785 | (07030418) | 631733.62 | 4175987.37 | 332.19600 | (07030418) |
| 631714.24 | 4175987.22 | 327.37452 | (05112506) | 631694.85 | 4175987.07 | 368.14014 | (05112506) |
| 631675.47 | 4175986.92 | 395.36602 | (05112506) | 631656.09 | 4175986.77 | 408.44826 | (05112506) |
| 631636.70 | 4175986.62 | 435.64145 | (08091907) | 631617.32 | 4175986.46 | 394.81518 | (08091907) |
| 631597.94 | 4175986.31 | 326.88683 | (07090905) | 631578.55 | 4175986.16 | 276.23947 | (08091907) |
| 631559.17 | 4175986.01 | 255.98242 | (08091907) | 631539.79 | 4175985.86 | 228.40762 | (08091907) |
| 631520.40 | 4175985.71 | 224.19757 | (07021218) | 631501.02 | 4175985.56 | 215.52783 | (08122718) |
| 631481.64 | 4175985.40 | 216.98962 | (07122917) | 631462.25 | 4175985.25 | 215.69598 | (04081204) |
| 631442.87 | 4175985.10 | 220.04827 | (04081204) | 631423.49 | 4175984.95 | 220.57606 | (04120908) |
| 631404.10 | 4175984.80 | 216.66461 | (04120908) | 631384.72 | 4175984.65 | 206.13039 | (04121223) |
| 631365.34 | 4175984.50 | 206.61779 | (04120903) | 631345.95 | 4175984.35 | 209.03251 | (04120903) |
| 631326.57 | 4175984.19 | 202.06913 | (04120903) | 631307.19 | 4175984.04 | 202.84823 | (04021018) |
| 631287.80 | 4175983.89 | 206.34551 | (04021018) | | | | |



*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK19 ***

INCLUDING SOURCE(S): STCK19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 273.16598 | (08031018) | 632304.44 | 4174354.52 | 98.58106 | (04122822) |
| 632192.15 | 4174956.32 | 265.47112 | (05011317) | 632420.62 | 4175510.15 | 188.10942 | (06121320) |
| 632418.97 | 4175552.92 | 185.58171 | (06012918) | 631187.00 | 4175727.00 | 210.14069 | (05030120) |
| 631166.00 | 4175729.00 | 204.62341 | (05030322) | 631121.00 | 4175719.00 | 186.12128 | (05110619) |
| 631035.00 | 4174830.00 | 101.58570 | (04101819) | 631106.00 | 4174825.00 | 122.61552 | (06121421) |
| 631937.00 | 4174528.00 | 131.01801 | (04102617) | 631322.00 | 4174522.00 | 119.22831 | (06011109) |
| 629800.63 | 4173850.44 | 24.87738 | (06121421) | 630150.63 | 4173850.44 | 30.19177 | (06121421) |
| 630500.63 | 4173850.44 | 32.92724 | (07121217) | 630850.63 | 4173850.44 | 60.70936 | (06011109) |
| 631200.63 | 4173850.44 | 51.90100 | (05010318) | 631550.63 | 4173850.44 | 63.16121 | (06121420) |
| 631900.63 | 4173850.44 | 60.03124 | (07012317) | 632250.63 | 4173850.44 | 70.28357 | (07011417) |
| 632600.63 | 4173850.44 | 53.88209 | (04122822) | 632950.63 | 4173850.44 | 44.36517 | (05011520) |
| 633300.63 | 4173850.44 | 37.80539 | (04022018) | 629800.63 | 4174200.44 | 32.28278 | (04011017) |
| 630150.63 | 4174200.44 | 33.06680 | (07020624) | 630500.63 | 4174200.44 | 45.28180 | (06121421) |
| 630850.63 | 4174200.44 | 61.44714 | (06011109) | 631200.63 | 4174200.44 | 80.52282 | (05012117) |
| 631550.63 | 4174200.44 | 84.43370 | (06121420) | 631900.63 | 4174200.44 | 93.25912 | (07012317) |
| 632250.63 | 4174200.44 | 86.58764 | (04022218) | 632600.63 | 4174200.44 | 71.82008 | (05011521) |
| 632950.63 | 4174200.44 | 59.51143 | (04022018) | 633300.63 | 4174200.44 | 47.10623 | (06011617) |
| 629800.63 | 4174550.44 | 36.85475 | (06020109) | 630150.63 | 4174550.44 | 40.95598 | (05022818) |
| 630500.63 | 4174550.44 | 58.81748 | (04011017) | 630850.63 | 4174550.44 | 78.23945 | (06121421) |
| 631200.63 | 4174550.44 | 126.21222 | (06011109) | 631550.63 | 4174550.44 | 116.62783 | (06102817) |
| 631900.63 | 4174550.44 | 139.85163 | (07012317) | 632250.63 | 4174550.44 | 145.72506 | (04122822) |
| 632600.63 | 4174550.44 | 110.30464 | (04022018) | 632950.63 | 4174550.44 | 83.96179 | (06011617) |
| 633300.63 | 4174550.44 | 51.18634 | (06120617) | 629800.63 | 4174900.44 | 39.88089 | (04022207) |
| 630150.63 | 4174900.44 | 49.56084 | (04022207) | 630500.63 | 4174900.44 | 65.04942 | (05122617) |
| 630850.63 | 4174900.44 | 96.04380 | (06120217) | 631200.63 | 4174900.44 | 140.45711 | (06121421) |
| 631550.63 | 4174900.44 | 194.65316 | (06102817) | 631900.63 | 4174900.44 | 242.21624 | (05112422) |
| 632250.63 | 4174900.44 | 226.45825 | (05011317) | 632600.63 | 4174900.44 | 126.59421 | (05020802) |
| 632950.63 | 4174900.44 | 78.75755 | (05021801) | 633300.63 | 4174900.44 | 60.75183 | (07010217) |
| 629800.63 | 4175250.44 | 40.74343 | (04121304) | 630150.63 | 4175250.44 | 51.04191 | (04121304) |
| 630500.63 | 4175250.44 | 69.99478 | (04121224) | 630850.63 | 4175250.44 | 119.79232 | (08012221) |
| 631200.63 | 4175250.44 | 285.83031 | (06020109) | 631550.63 | 4175250.44 | 425.55281 | (06020109) |
| 631900.63 | 4175250.44 | 699.41995 | (08031018) | 632250.63 | 4175250.44 | 255.83390 | (07010217) |
| 632600.63 | 4175250.44 | 141.42905 | (06011618) | 632950.63 | 4175250.44 | 85.74897 | (05122223) |
| 633300.63 | 4175250.44 | 59.68999 | (05121217) | 629800.63 | 4175600.44 | 33.19475 | (05122618) |
| 630150.63 | 4175600.44 | 44.27175 | (07020701) | 630500.63 | 4175600.44 | 73.31993 | (06011024) |
| 630850.63 | 4175600.44 | 136.14656 | (06011024) | 631200.63 | 4175600.44 | 233.22833 | (04041820) |
| 631550.63 | 4175600.44 | 518.10333 | (06051904) | 631900.63 | 4175600.44 | 455.19934 | (05082502) |
| 632250.63 | 4175600.44 | 224.27560 | (06111908) | 632600.63 | 4175600.44 | 138.12074 | (07120624) |
| 632950.63 | 4175600.44 | 85.63660 | (06121320) | 633300.63 | 4175600.44 | 59.65820 | (07012418) |
| 629800.63 | 4175950.44 | 29.73172 | (05030324) | 630150.63 | 4175950.44 | 44.56792 | (07120621) |

*** AERMOD - VERSION 19191 *** *** C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C *** 06/06/22

*** AERMET - VERSION 18081 *** *** *** 12:14:02



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK19 ***

INCLUDING SOURCE(S): STCK19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 76.61714 | (07120622) | 630850.63 | 4175950.44 | 129.30807 | (06122121) |
| 631200.63 | 4175950.44 | 176.04796 | (04021018) | 631550.63 | 4175950.44 | 458.79352 | (07012720) |
| 631900.63 | 4175950.44 | 308.24437 | (07091007) | 632250.63 | 4175950.44 | 187.85099 | (06062806) |
| 632600.63 | 4175950.44 | 119.84606 | (08021808) | 632950.63 | 4175950.44 | 82.10789 | (04011021) |
| 633300.63 | 4175950.44 | 55.63528 | (06121503) | 629800.63 | 4176300.44 | 34.17731 | (07120622) |
| 630150.63 | 4176300.44 | 44.48168 | (06122121) | 630500.63 | 4176300.44 | 69.02696 | (04021520) |
| 630850.63 | 4176300.44 | 99.24022 | (04010518) | 631200.63 | 4176300.44 | 142.88615 | (07122917) |
| 631550.63 | 4176300.44 | 156.97432 | (06013008) | 631900.63 | 4176300.44 | 135.15334 | (08122906) |
| 632250.63 | 4176300.44 | 117.49361 | (06010520) | 632600.63 | 4176300.44 | 96.47865 | (08122905) |
| 632950.63 | 4176300.44 | 80.61355 | (08021808) | 633300.63 | 4176300.44 | 53.63007 | (05011818) |
| 629800.63 | 4176650.44 | 31.34780 | (06122121) | 630150.63 | 4176650.44 | 38.85512 | (07120403) |
| 630500.63 | 4176650.44 | 56.61238 | (04010518) | 630850.63 | 4176650.44 | 81.68573 | (04120908) |
| 631200.63 | 4176650.44 | 104.69275 | (04022021) | 631550.63 | 4176650.44 | 107.84136 | (07021108) |
| 631900.63 | 4176650.44 | 100.67221 | (05122220) | 632250.63 | 4176650.44 | 97.53143 | (07091007) |
| 632600.63 | 4176650.44 | 75.41934 | (06121107) | 632950.63 | 4176650.44 | 59.23933 | (05010604) |
| 633300.63 | 4176650.44 | 46.13078 | (07021220) | 629800.63 | 4177000.44 | 27.58537 | (04021521) |
| 630150.63 | 4177000.44 | 34.88661 | (04010518) | 630500.63 | 4177000.44 | 44.27657 | (04120908) |
| 630850.63 | 4177000.44 | 60.14376 | (08122718) | 631200.63 | 4177000.44 | 70.96159 | (07012722) |
| 631550.63 | 4177000.44 | 75.71241 | (06020124) | 631900.63 | 4177000.44 | 69.51345 | (05122220) |
| 632250.63 | 4177000.44 | 78.24989 | (07091007) | 632600.63 | 4177000.44 | 57.99015 | (06013003) |
| 632950.63 | 4177000.44 | 48.07513 | (07121908) | 633300.63 | 4177000.44 | 39.02157 | (05010604) |
| 629800.63 | 4177350.44 | 24.90452 | (04010518) | 630150.63 | 4177350.44 | 28.05534 | (04120903) |
| 630500.63 | 4177350.44 | 37.68117 | (07122917) | 630850.63 | 4177350.44 | 45.58468 | (04022021) |
| 631200.63 | 4177350.44 | 50.84429 | (06013008) | 631550.63 | 4177350.44 | 51.61641 | (06020124) |
| 631900.63 | 4177350.44 | 47.44003 | (05122220) | 632250.63 | 4177350.44 | 53.02364 | (07091007) |
| 632600.63 | 4177350.44 | 45.10081 | (06013004) | 632950.63 | 4177350.44 | 38.96314 | (07010323) |
| 633300.63 | 4177350.44 | 38.01276 | (07022408) | 631670.70 | 4175493.59 | 984.20914 | (05011317) |
| 631669.80 | 4175641.41 | 599.49752 | (08090903) | 631665.32 | 4175796.39 | 279.63612 | (08102618) |
| 631417.17 | 4175826.85 | 499.08545 | (04041819) | 631417.17 | 4175673.66 | 285.23089 | (05110620) |
| 631422.55 | 4175484.63 | 371.80406 | (05030324) | 631268.42 | 4175983.74 | 190.49905 | (04120903) |
| 631275.69 | 4175523.99 | 282.68129 | (05030324) | 631345.65 | 4175419.50 | 342.29036 | (05122618) |
| 631384.72 | 4175441.30 | 363.78621 | (04101604) | 631491.93 | 4175442.21 | 436.22729 | (06101118) |
| 631491.93 | 4175414.95 | 460.22177 | (05122618) | 631385.63 | 4175413.14 | 369.95372 | (05122618) |
| 631358.37 | 4175395.87 | 334.81948 | (04101624) | 631409.25 | 4175336.81 | 363.82248 | (06020109) |
| 631567.35 | 4175235.96 | 358.34297 | (05072102) | 631756.33 | 4175028.80 | 347.01575 | (05122422) |
| 631807.22 | 4175003.36 | 305.32474 | (04122823) | 631867.18 | 4174987.91 | 282.48838 | (04102617) |
| 631849.92 | 4175988.28 | 206.08520 | (07091007) | 631268.74 | 4175963.75 | 195.15657 | (04120903) |
| 631269.05 | 4175943.76 | 195.72639 | (04010518) | 631269.37 | 4175923.77 | 200.31240 | (04010518) |
| 631269.68 | 4175903.78 | 196.76216 | (04010518) | 631270.00 | 4175883.79 | 198.93178 | (05051803) |
| 631270.32 | 4175863.81 | 204.71540 | (04021521) | 631270.63 | 4175843.82 | 213.25011 | (04021521) |

*** AERMOD - VERSION 19191 *** *** C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C *** 06/06/22

*** AERMET - VERSION 18081 *** *** *** 12:14:02

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*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK19 ***

INCLUDING SOURCE(S): STCK19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 210.71803 | (04021521) | 631271.26 | 4175803.84 | 214.44057 | (07102703) |
| 631271.58 | 4175783.85 | 218.53098 | (05110620) | 631271.90 | 4175763.86 | 228.86793 | (04021520) |
| 631272.21 | 4175743.87 | 229.88584 | (04021520) | 631272.53 | 4175723.88 | 232.01382 | (06041301) |
| 631272.85 | 4175703.89 | 238.28418 | (06122121) | 631273.16 | 4175683.90 | 239.93477 | (05030120) |
| 631273.48 | 4175663.91 | 242.30026 | (05030322) | 631273.79 | 4175643.92 | 252.90306 | (05110619) |
| 631274.11 | 4175623.94 | 259.55839 | (07071004) | 631274.43 | 4175603.95 | 263.31068 | (05030321) |
| 631274.74 | 4175583.96 | 253.12531 | (04041820) | 631275.06 | 4175563.97 | 269.19579 | (04041820) |
| 631275.37 | 4175543.98 | 282.78370 | (05030324) | 631285.68 | 4175509.06 | 288.93524 | (06011024) |
| 631295.68 | 4175494.14 | 302.21934 | (06011024) | 631305.67 | 4175479.21 | 301.06235 | (07042002) |
| 631315.67 | 4175464.28 | 315.45364 | (07042002) | 631325.66 | 4175449.35 | 323.04199 | (04101604) |
| 631335.66 | 4175434.43 | 320.50354 | (04101604) | 631358.67 | 4175426.77 | 342.45577 | (05122618) |
| 631371.70 | 4175434.03 | 348.49344 | (04101604) | 631402.59 | 4175441.45 | 376.65742 | (04101604) |
| 631420.46 | 4175441.60 | 389.00344 | (04101604) | 631438.33 | 4175441.76 | 524.85654 | (05071702) |
| 631456.19 | 4175441.91 | 562.97491 | (05071702) | 631474.06 | 4175442.06 | 426.29897 | (06101118) |
| 631491.93 | 4175428.58 | 473.10538 | (06101118) | 631474.21 | 4175414.65 | 438.49656 | (05122618) |
| 631456.50 | 4175414.35 | 540.74661 | (05030320) | 631438.78 | 4175414.05 | 520.53367 | (05030320) |
| 631421.06 | 4175413.74 | 394.91518 | (05122618) | 631403.35 | 4175413.44 | 382.29140 | (05122618) |
| 631372.00 | 4175404.51 | 353.40636 | (05122618) | 631371.09 | 4175381.11 | 355.47379 | (04121304) |
| 631383.81 | 4175366.34 | 362.25753 | (06072904) | 631396.53 | 4175351.58 | 340.16340 | (06072904) |
| 631425.06 | 4175326.73 | 423.77646 | (06020109) | 631440.87 | 4175316.64 | 480.25547 | (06020109) |
| 631456.68 | 4175306.56 | 527.72364 | (06020109) | 631472.49 | 4175296.47 | 560.22048 | (06020109) |
| 631488.30 | 4175286.39 | 572.12044 | (06020109) | 631504.11 | 4175276.30 | 559.38528 | (06020109) |
| 631519.92 | 4175266.22 | 523.70866 | (06020109) | 631535.73 | 4175256.13 | 462.30719 | (06020109) |
| 631551.54 | 4175246.05 | 398.47186 | (06020109) | 631579.95 | 4175222.15 | 351.58503 | (04041824) |
| 631592.55 | 4175208.34 | 353.33280 | (04012317) | 631605.15 | 4175194.53 | 354.33808 | (04012317) |
| 631617.74 | 4175180.72 | 343.73004 | (06011109) | 631630.34 | 4175166.91 | 358.02314 | (06011109) |
| 631642.94 | 4175153.10 | 345.93024 | (06011109) | 631655.54 | 4175139.29 | 323.99364 | (05030118) |
| 631668.14 | 4175125.47 | 327.64447 | (06102817) | 631680.74 | 4175111.66 | 324.97114 | (06102817) |
| 631693.34 | 4175097.85 | 306.22157 | (06102817) | 631705.94 | 4175084.04 | 286.06867 | (08081805) |
| 631718.53 | 4175070.23 | 314.64540 | (05122422) | 631731.13 | 4175056.42 | 353.36598 | (05122422) |
| 631743.73 | 4175042.61 | 363.49820 | (05122422) | 631773.29 | 4175020.32 | 318.34023 | (05010417) |
| 631790.26 | 4175011.84 | 309.25883 | (05021805) | 631822.21 | 4174999.50 | 295.65956 | (04122823) |
| 631837.20 | 4174995.64 | 297.60819 | (04102617) | 631852.19 | 4174991.77 | 294.25223 | (04102617) |
| 631866.84 | 4175007.53 | 290.27471 | (04102617) | 631866.50 | 4175027.14 | 302.12704 | (05112422) |
| 631866.16 | 4175046.76 | 318.11635 | (05112422) | 631865.83 | 4175066.37 | 346.73401 | (05011817) |
| 631865.49 | 4175085.99 | 381.24450 | (05011817) | 631865.15 | 4175105.60 | 417.40390 | (05011817) |
| 631864.81 | 4175125.22 | 454.39621 | (05011817) | 631864.47 | 4175144.83 | 490.98381 | (05011817) |
| 631864.13 | 4175164.45 | 532.62045 | (08071406) | 631863.80 | 4175184.06 | 572.30469 | (08071406) |
| 631863.46 | 4175203.68 | 606.83515 | (08071406) | 631863.12 | 4175223.29 | 633.00541 | (08071406) |
| 631862.78 | 4175242.91 | 707.44820 | (08031018) | 631862.44 | 4175262.52 | 803.31176 | (08031018) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK19 ***

INCLUDING SOURCE(S): STCK19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 870.72111 | (08031018) | 631861.77 | 4175301.75 | 1136.12992 | (08071406) |
| 631861.43 | 4175321.37 | 1479.97900 | (08031018) | 631861.09 | 4175340.98 | 1487.80623 | (05011317) |
| 631860.75 | 4175360.60 | 1957.54720 | (05111917) | 631860.41 | 4175380.21 | 1067.60594 | (07111901) |
| 631860.07 | 4175399.83 | 893.30983 | (06011619) | 631859.73 | 4175419.44 | 894.81436 | (08040222) |
| 631859.40 | 4175439.06 | 720.36285 | (08040222) | 631859.06 | 4175458.67 | 457.23245 | (08010919) |
| 631858.72 | 4175478.29 | 598.59348 | (06112624) | 631858.38 | 4175497.90 | 675.00625 | (05082502) |
| 631858.04 | 4175517.52 | 651.86722 | (07102901) | 631857.70 | 4175537.13 | 561.63609 | (04020106) |
| 631857.37 | 4175556.75 | 554.84227 | (06021018) | 631857.03 | 4175576.36 | 558.64011 | (06021018) |
| 631856.69 | 4175595.98 | 560.51758 | (06021018) | 631856.35 | 4175615.59 | 548.48420 | (04070706) |
| 631856.01 | 4175635.21 | 518.58234 | (06021018) | 631855.67 | 4175654.82 | 494.07791 | (08112520) |
| 631855.33 | 4175674.44 | 468.33407 | (05072006) | 631855.00 | 4175694.05 | 450.03884 | (05072006) |
| 631854.66 | 4175713.67 | 431.17560 | (05072006) | 631854.32 | 4175733.28 | 412.39473 | (05072006) |
| 631853.98 | 4175752.90 | 360.15668 | (07080305) | 631853.64 | 4175772.51 | 325.64551 | (06013006) |
| 631853.30 | 4175792.13 | 313.17873 | (06013006) | 631852.97 | 4175811.74 | 301.26731 | (06013006) |
| 631852.63 | 4175831.36 | 286.45574 | (08112318) | 631852.29 | 4175850.97 | 276.92769 | (08112318) |
| 631851.95 | 4175870.59 | 262.78772 | (04111519) | 631851.61 | 4175890.20 | 313.61396 | (07091007) |
| 631851.27 | 4175909.82 | 298.40234 | (07091007) | 631850.94 | 4175929.43 | 260.99335 | (05072006) |
| 631850.60 | 4175949.05 | 231.28114 | (07091007) | 631850.26 | 4175968.66 | 218.30520 | (07091007) |
| 631830.54 | 4175988.13 | 210.49846 | (07020803) | 631811.15 | 4175987.98 | 211.28208 | (08122707) |
| 631791.77 | 4175987.83 | 216.02815 | (07030418) | 631772.39 | 4175987.67 | 260.21858 | (06110120) |
| 631753.00 | 4175987.52 | 310.78813 | (06110120) | 631733.62 | 4175987.37 | 320.60329 | (06110120) |
| 631714.24 | 4175987.22 | 300.12979 | (06111524) | 631694.85 | 4175987.07 | 296.40158 | (05112506) |
| 631675.47 | 4175986.92 | 334.59620 | (05112506) | 631656.09 | 4175986.77 | 412.67471 | (06013008) |
| 631636.70 | 4175986.62 | 439.44049 | (06013008) | 631617.32 | 4175986.46 | 342.01263 | (08091907) |
| 631597.94 | 4175986.31 | 248.99139 | (04083006) | 631578.55 | 4175986.16 | 257.43916 | (08091907) |
| 631559.17 | 4175986.01 | 258.26280 | (08091907) | 631539.79 | 4175985.86 | 250.29666 | (08091907) |
| 631520.40 | 4175985.71 | 234.49753 | (08091907) | 631501.02 | 4175985.56 | 230.80188 | (04022021) |
| 631481.64 | 4175985.40 | 223.79068 | (07021218) | 631462.25 | 4175985.25 | 221.08246 | (07021218) |
| 631442.87 | 4175985.10 | 212.89148 | (08122718) | 631423.49 | 4175984.95 | 215.67118 | (07122917) |
| 631404.10 | 4175984.80 | 207.81268 | (07122917) | 631384.72 | 4175984.65 | 203.85113 | (07012719) |
| 631365.34 | 4175984.50 | 200.56159 | (06041524) | 631345.95 | 4175984.35 | 203.24418 | (04120908) |
| 631326.57 | 4175984.19 | 198.42251 | (04120908) | 631307.19 | 4175984.04 | 191.71799 | (04121223) |
| 631287.80 | 4175983.89 | 183.54913 | (04120903) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK2 ***
INCLUDING SOURCE(S): STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC |
|---|---|---|---|---|---|---|

(YYMMDDHH)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 119.09580 | (08071406) | 632304.44 | 4174354.52 | 64.23506 | (04022218) |
| 632192.15 | 4174956.32 | 107.54737 | (04122822) | 632420.62 | 4175510.15 | 160.69357 | (07010217) |
| 632418.97 | 4175552.92 | 176.33697 | (07020218) | 631187.00 | 4175727.00 | 223.67446 | (05122618) |
| 631166.00 | 4175729.00 | 212.79205 | (05122618) | 631121.00 | 4175719.00 | 192.64268 | (05122618) |
| 631035.00 | 4174830.00 | 95.69858 | (04012317) | 631106.00 | 4174825.00 | 100.95543 | (07121217) |
| 631937.00 | 4174528.00 | 84.75397 | (07012317) | 631322.00 | 4174522.00 | 85.24796 | (06102817) |
| 629800.63 | 4173850.44 | 26.34472 | (06121421) | 630150.63 | 4173850.44 | 27.71820 | (04012317) |
| 630500.63 | 4173850.44 | 38.99199 | (07011517) | 630850.63 | 4173850.44 | 48.95955 | (05012117) |
| 631200.63 | 4173850.44 | 43.62795 | (06121017) | 631550.63 | 4173850.44 | 48.49298 | (06121420) |
| 631900.63 | 4173850.44 | 46.43595 | (04122823) | 632250.63 | 4173850.44 | 47.57534 | (04122824) |
| 632600.63 | 4173850.44 | 42.71715 | (06020105) | 632950.63 | 4173850.44 | 37.95597 | (05020818) |
| 633300.63 | 4173850.44 | 33.59508 | (05011520) | 629800.63 | 4174200.44 | 25.28791 | (06121421) |
| 630150.63 | 4174200.44 | 35.45043 | (06121421) | 630500.63 | 4174200.44 | 37.82782 | (04012317) |
| 630850.63 | 4174200.44 | 57.50927 | (07011517) | 631200.63 | 4174200.44 | 59.03789 | (06102817) |
| 631550.63 | 4174200.44 | 66.92717 | (06121420) | 631900.63 | 4174200.44 | 58.63313 | (04122823) |
| 632250.63 | 4174200.44 | 65.28681 | (07011417) | 632600.63 | 4174200.44 | 54.54634 | (04122822) |
| 632950.63 | 4174200.44 | 47.07174 | (05011520) | 633300.63 | 4174200.44 | 38.83352 | (06122122) |
| 629800.63 | 4174550.44 | 35.15826 | (06120217) | 630150.63 | 4174550.44 | 39.21811 | (07020624) |
| 630500.63 | 4174550.44 | 53.82339 | (06121421) | 630850.63 | 4174550.44 | 60.00821 | (07121217) |
| 631200.63 | 4174550.44 | 88.82345 | (05012117) | 631550.63 | 4174550.44 | 83.96087 | (08022002) |
| 631900.63 | 4174550.44 | 82.03612 | (07012317) | 632250.63 | 4174550.44 | 77.12118 | (06020105) |
| 632600.63 | 4174550.44 | 68.27272 | (05011521) | 632950.63 | 4174550.44 | 54.84908 | (06122122) |
| 633300.63 | 4174550.44 | 50.84283 | (06011617) | 629800.63 | 4174900.44 | 34.13790 | (06121217) |
| 630150.63 | 4174900.44 | 43.07073 | (05022818) | 630500.63 | 4174900.44 | 67.90579 | (04011017) |
| 630850.63 | 4174900.44 | 94.66676 | (06121421) | 631200.63 | 4174900.44 | 120.29653 | (07121217) |
| 631550.63 | 4174900.44 | 127.61518 | (06102817) | 631900.63 | 4174900.44 | 123.01987 | (04102617) |
| 632250.63 | 4174900.44 | 100.10764 | (05020818) | 632600.63 | 4174900.44 | 84.39245 | (05021018) |
| 632950.63 | 4174900.44 | 70.53283 | (06011617) | 633300.63 | 4174900.44 | 53.93135 | (06120617) |
| 629800.63 | 4175250.44 | 39.76427 | (04022207) | 630150.63 | 4175250.44 | 54.24826 | (04022207) |
| 630500.63 | 4175250.44 | 69.04226 | (04022208) | 630850.63 | 4175250.44 | 107.88896 | (07111023) |
| 631200.63 | 4175250.44 | 167.74752 | (04101819) | 631550.63 | 4175250.44 | 236.00621 | (06011109) |
| 631900.63 | 4175250.44 | 178.54303 | (05011817) | 632250.63 | 4175250.44 | 154.75991 | (05011417) |
| 632600.63 | 4175250.44 | 110.23863 | (06120617) | 632950.63 | 4175250.44 | 73.84642 | (05021801) |
| 633300.63 | 4175250.44 | 59.38512 | (07010217) | 629800.63 | 4175600.44 | 43.47239 | (04121304) |
| 630150.63 | 4175600.44 | 54.19178 | (04121304) | 630500.63 | 4175600.44 | 73.17902 | (04121224) |
| 630850.63 | 4175600.44 | 122.04558 | (04121224) | 631200.63 | 4175600.44 | 235.70360 | (04110818) |
| 631550.63 | 4175600.44 | 497.46643 | (07110617) | 631900.63 | 4175600.44 | 450.50184 | (06052002) |
| 632250.63 | 4175600.44 | 248.62443 | (06011618) | 632600.63 | 4175600.44 | 135.02864 | (05122223) |
| 632950.63 | 4175600.44 | 80.76882 | (05121217) | 633300.63 | 4175600.44 | 57.74112 | (05011522) |
| 629800.63 | 4175950.44 | 34.38966 | (06011024) | 630150.63 | 4175950.44 | 49.06569 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK2 ***

INCLUDING SOURCE(S): STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 71.64939 | (06011024) | 630850.63 | 4175950.44 | 100.65858 | (05030324) |
| 631200.63 | 4175950.44 | 177.83195 | (07071004) | 631550.63 | 4175950.44 | 373.49316 | (07082502) |
| 631900.63 | 4175950.44 | 328.07289 | (06081406) | 632250.63 | 4175950.44 | 249.48420 | (07071002) |
| 632600.63 | 4175950.44 | 140.76559 | (05122401) | 632950.63 | 4175950.44 | 77.55098 | (05012018) |
| 633300.63 | 4175950.44 | 58.46261 | (06121320) | 629800.63 | 4176300.44 | 32.61833 | (04041820) |
| 630150.63 | 4176300.44 | 45.19934 | (07120622) | 630500.63 | 4176300.44 | 62.90078 | (07120622) |
| 630850.63 | 4176300.44 | 88.43373 | (06122121) | 631200.63 | 4176300.44 | 111.73523 | (04041920) |
| 631550.63 | 4176300.44 | 160.23034 | (08091907) | 631900.63 | 4176300.44 | 161.61079 | (05072006) |
| 632250.63 | 4176300.44 | 180.48361 | (06062806) | 632600.63 | 4176300.44 | 124.33354 | (08021808) |
| 632950.63 | 4176300.44 | 77.90770 | (04121024) | 633300.63 | 4176300.44 | 55.39891 | (05020719) |
| 629800.63 | 4176650.44 | 33.63491 | (07120622) | 630150.63 | 4176650.44 | 44.88502 | (06122121) |
| 630500.63 | 4176650.44 | 56.32050 | (04021520) | 630850.63 | 4176650.44 | 72.35385 | (04010518) |
| 631200.63 | 4176650.44 | 86.71188 | (07122917) | 631550.63 | 4176650.44 | 95.36383 | (07021108) |
| 631900.63 | 4176650.44 | 101.52914 | (06020918) | 632250.63 | 4176650.44 | 103.82996 | (06122319) |
| 632600.63 | 4176650.44 | 88.78347 | (07122918) | 632950.63 | 4176650.44 | 68.25820 | (08121517) |
| 633300.63 | 4176650.44 | 52.91591 | (07120406) | 629800.63 | 4177000.44 | 32.77604 | (04021520) |
| 630150.63 | 4177000.44 | 37.77805 | (04021521) | 630500.63 | 4177000.44 | 48.74773 | (04010518) |
| 630850.63 | 4177000.44 | 57.71784 | (04120908) | 631200.63 | 4177000.44 | 68.58827 | (07012720) |
| 631550.63 | 4177000.44 | 73.34977 | (07021108) | 631900.63 | 4177000.44 | 76.85779 | (05122220) |
| 632250.63 | 4177000.44 | 74.78313 | (06012820) | 632600.63 | 4177000.44 | 67.74056 | (06010521) |
| 632950.63 | 4177000.44 | 56.15214 | (08122905) | 633300.63 | 4177000.44 | 48.18620 | (08021908) |
| 629800.63 | 4177350.44 | 30.36311 | (04021521) | 630150.63 | 4177350.44 | 35.21666 | (04010518) |
| 630500.63 | 4177350.44 | 41.27190 | (04120908) | 630850.63 | 4177350.44 | 48.73518 | (08122718) |
| 631200.63 | 4177350.44 | 54.25063 | (07012722) | 631550.63 | 4177350.44 | 57.46541 | (06020124) |
| 631900.63 | 4177350.44 | 56.78531 | (05122220) | 632250.63 | 4177350.44 | 57.71326 | (04121819) |
| 632600.63 | 4177350.44 | 52.72250 | (06010520) | 632950.63 | 4177350.44 | 46.41535 | (04121820) |
| 633300.63 | 4177350.44 | 39.49911 | (08122905) | 631670.70 | 4175493.59 | 256.26620 | (06062806) |
| 631669.80 | 4175641.41 | 979.86434 | (05072806) | 631665.32 | 4175796.39 | 216.56468 | (06033021) |
| 631417.17 | 4175826.85 | 292.30958 | (05030324) | 631417.17 | 4175673.66 | 544.33642 | (04041821) |
| 631422.55 | 4175484.63 | 565.81691 | (04011017) | 631268.42 | 4175983.74 | 173.02328 | (08100321) |
| 631275.69 | 4175523.99 | 250.68747 | (07101502) | 631345.65 | 4175419.50 | 245.17786 | (07020624) |
| 631384.72 | 4175441.30 | 265.91843 | (06041020) | 631491.93 | 4175442.21 | 448.37902 | (05111717) |
| 631491.93 | 4175414.95 | 451.97174 | (05111717) | 631385.63 | 4175413.14 | 234.67807 | (07020624) |
| 631358.37 | 4175395.87 | 225.64711 | (07020624) | 631409.25 | 4175336.81 | 229.19619 | (05110618) |
| 631567.35 | 4175235.96 | 206.88242 | (06102817) | 631756.33 | 4175028.80 | 122.75821 | (05010417) |
| 631807.22 | 4175003.36 | 119.20444 | (04102617) | 631867.18 | 4174987.91 | 136.19884 | (04102617) |
| 631849.92 | 4175988.28 | 282.02033 | (05072006) | 631268.74 | 4175963.75 | 186.38407 | (05110619) |
| 631269.05 | 4175943.76 | 197.67741 | (05110619) | 631269.37 | 4175923.77 | 202.46571 | (07071004) |
| 631269.68 | 4175903.78 | 203.30261 | (05030321) | 631270.00 | 4175883.79 | 200.33816 | (04041820) |
| 631270.32 | 4175863.81 | 226.47263 | (05030324) | 631270.63 | 4175843.82 | 246.53383 | (05030324) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK2 ***

INCLUDING SOURCE(S): STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 245.70081 | (05030324) | 631271.26 | 4175803.84 | 252.79997 | (06072906) |
| 631271.58 | 4175783.85 | 249.10826 | (07042002) | 631271.90 | 4175763.86 | 254.56896 | (04101623) |
| 631272.21 | 4175743.87 | 254.73362 | (04101604) | 631272.53 | 4175723.88 | 270.52408 | (05122618) |
| 631272.85 | 4175703.89 | 264.75262 | (05122618) | 631273.16 | 4175683.90 | 270.62420 | (04121304) |
| 631273.48 | 4175663.91 | 291.55987 | (06032819) | 631273.79 | 4175643.92 | 287.11329 | (06032819) |
| 631274.11 | 4175623.94 | 285.47225 | (06051906) | 631274.43 | 4175603.95 | 272.12355 | (04110818) |
| 631274.74 | 4175583.96 | 243.66075 | (04022207) | 631275.06 | 4175563.97 | 253.02789 | (04022207) |
| 631275.37 | 4175543.98 | 259.86356 | (06041224) | 631285.68 | 4175509.06 | 246.08861 | (06092518) |
| 631295.68 | 4175494.14 | 255.11722 | (06100918) | 631305.67 | 4175479.21 | 247.30762 | (06121217) |
| 631315.67 | 4175464.28 | 242.95904 | (07111023) | 631325.66 | 4175449.35 | 236.55176 | (06120217) |
| 631335.66 | 4175434.43 | 247.83075 | (06120217) | 631358.67 | 4175426.77 | 250.54321 | (07020624) |
| 631371.70 | 4175434.03 | 256.01115 | (07020624) | 631402.59 | 4175441.45 | 267.74514 | (07020624) |
| 631420.46 | 4175441.60 | 457.96037 | (08081806) | 631438.33 | 4175441.76 | 467.52222 | (08081806) |
| 631456.19 | 4175441.91 | 464.60427 | (08081806) | 631474.06 | 4175442.06 | 454.27684 | (05111717) |
| 631491.93 | 4175428.58 | 453.79485 | (05111717) | 631474.21 | 4175414.65 | 474.51646 | (05111717) |
| 631456.50 | 4175414.35 | 476.28923 | (05111717) | 631438.78 | 4175414.05 | 467.72031 | (05111717) |
| 631421.06 | 4175413.74 | 292.18561 | (04101819) | 631403.35 | 4175413.44 | 354.39121 | (04012317) |
| 631372.00 | 4175404.51 | 230.12572 | (07020624) | 631371.09 | 4175381.11 | 229.76252 | (04101819) |
| 631383.81 | 4175366.34 | 225.42951 | (06121421) | 631396.53 | 4175351.58 | 229.96741 | (08062901) |
| 631425.06 | 4175326.73 | 223.27018 | (04012317) | 631440.87 | 4175316.64 | 226.41882 | (04012317) |
| 631456.68 | 4175306.56 | 221.50372 | (04012317) | 631472.49 | 4175296.47 | 229.55724 | (06011109) |
| 631488.30 | 4175286.39 | 249.59709 | (06011109) | 631504.11 | 4175276.30 | 260.29103 | (06011109) |
| 631519.92 | 4175266.22 | 260.36710 | (06011109) | 631535.73 | 4175256.13 | 249.81228 | (06011109) |
| 631551.54 | 4175246.05 | 229.92854 | (06011109) | 631579.95 | 4175222.15 | 214.93546 | (06102817) |
| 631592.55 | 4175208.34 | 216.82032 | (06102817) | 631605.15 | 4175194.53 | 205.11629 | (06102817) |
| 631617.74 | 4175180.72 | 195.01429 | (06102817) | 631630.34 | 4175166.91 | 182.70742 | (06102817) |
| 631642.94 | 4175153.10 | 167.05491 | (06102817) | 631655.54 | 4175139.29 | 158.07244 | (05071804) |
| 631668.14 | 4175125.47 | 158.87572 | (05071804) | 631680.74 | 4175111.66 | 154.24319 | (04102621) |
| 631693.34 | 4175097.85 | 151.34446 | (04102621) | 631705.94 | 4175084.04 | 150.04706 | (05050803) |
| 631718.53 | 4175070.23 | 144.83456 | (05050803) | 631731.13 | 4175056.42 | 135.73974 | (05050803) |
| 631743.73 | 4175042.61 | 127.87304 | (05122422) | 631773.29 | 4175020.32 | 115.53699 | (05010417) |
| 631790.26 | 4175011.84 | 115.45310 | (05021805) | 631822.21 | 4174999.50 | 125.71518 | (04102617) |
| 631837.20 | 4174995.64 | 130.78487 | (04102617) | 631852.19 | 4174991.77 | 134.29553 | (04102617) |
| 631866.84 | 4175007.53 | 139.91415 | (04102617) | 631866.50 | 4175027.14 | 143.74467 | (04102617) |
| 631866.16 | 4175046.76 | 147.69858 | (04102617) | 631865.83 | 4175066.37 | 151.77657 | (04102617) |
| 631865.49 | 4175085.99 | 155.98522 | (04102617) | 631865.15 | 4175105.60 | 160.32446 | (04102617) |
| 631864.81 | 4175125.22 | 164.80012 | (04102617) | 631864.47 | 4175144.83 | 169.39756 | (04102617) |
| 631864.13 | 4175164.45 | 174.13165 | (04102617) | 631863.80 | 4175184.06 | 178.99394 | (04102617) |
| 631863.46 | 4175203.68 | 183.98557 | (04102617) | 631863.12 | 4175223.29 | 189.09003 | (04102617) |
| 631862.78 | 4175242.91 | 197.10461 | (04102617) | 631862.44 | 4175262.52 | 205.00243 | (04102617) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK2 ***

INCLUDING SOURCE(S): STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 247.34197 | (04102617) | 631861.77 | 4175301.75 | 258.42237 | (08102618) |
| 631861.43 | 4175321.37 | 265.83235 | (08102618) | 631861.09 | 4175340.98 | 243.73555 | (04102623) |
| 631860.75 | 4175360.60 | 295.34424 | (04102617) | 631860.41 | 4175380.21 | 304.14467 | (04102617) |
| 631860.07 | 4175399.83 | 313.09117 | (04102617) | 631859.73 | 4175419.44 | 321.90630 | (04102617) |
| 631859.40 | 4175439.06 | 330.22703 | (04102617) | 631859.06 | 4175458.67 | 313.75397 | (04102617) |
| 631858.72 | 4175478.29 | 321.23983 | (04102617) | 631858.38 | 4175497.90 | 325.66216 | (04102617) |
| 631858.04 | 4175517.52 | 325.47912 | (04102617) | 631857.70 | 4175537.13 | 318.57622 | (04102617) |
| 631857.37 | 4175556.75 | 302.00952 | (04102617) | 631857.03 | 4175576.36 | 272.32565 | (04102617) |
| 631856.69 | 4175595.98 | 256.48241 | (06052002) | 631856.35 | 4175615.59 | 381.08113 | (06052002) |
| 631856.01 | 4175635.21 | 576.72357 | (04110905) | 631855.67 | 4175654.82 | 1113.12920 | (04101518) |
| 631855.33 | 4175674.44 | 1560.69016 | (04101518) | 631855.00 | 4175694.05 | 1592.11497 | (04030118) |
| 631854.66 | 4175713.67 | 1817.51794 | (04030118) | 631854.32 | 4175733.28 | 1891.31800 | (06111908) |
| 631853.98 | 4175752.90 | 1690.24858 | (05072806) | 631853.64 | 4175772.51 | 1393.37784 | (07092306) |
| 631853.30 | 4175792.13 | 1150.41628 | (06110304) | 631852.97 | 4175811.74 | 985.24277 | (06110304) |
| 631852.63 | 4175831.36 | 887.17819 | (06062806) | 631852.29 | 4175850.97 | 777.08380 | (06062806) |
| 631851.95 | 4175870.59 | 637.13540 | (06062806) | 631851.61 | 4175890.20 | 577.46006 | (06081406) |
| 631851.27 | 4175909.82 | 660.28082 | (07102901) | 631850.94 | 4175929.43 | 443.15525 | (08112520) |
| 631850.60 | 4175949.05 | 325.78858 | (05072006) | 631850.26 | 4175968.66 | 294.90324 | (06080603) |
| 631830.54 | 4175988.13 | 294.53735 | (05072006) | 631811.15 | 4175987.98 | 286.97418 | (05072006) |
| 631791.77 | 4175987.83 | 271.93096 | (04111519) | 631772.39 | 4175987.67 | 293.75895 | (07030418) |
| 631753.00 | 4175987.52 | 316.92242 | (07030418) | 631733.62 | 4175987.37 | 320.61319 | (07030418) |
| 631714.24 | 4175987.22 | 309.12684 | (07080306) | 631694.85 | 4175987.07 | 331.91470 | (05112506) |
| 631675.47 | 4175986.92 | 347.02295 | (08091907) | 631656.09 | 4175986.77 | 345.42071 | (08091907) |
| 631636.70 | 4175986.62 | 334.16988 | (07090905) | 631617.32 | 4175986.46 | 325.03972 | (05122507) |
| 631597.94 | 4175986.31 | 333.72283 | (04101820) | 631578.55 | 4175986.16 | 334.91867 | (04101820) |
| 631559.17 | 4175986.01 | 229.64146 | (04022205) | 631539.79 | 4175985.86 | 224.13206 | (05122508) |
| 631520.40 | 4175985.71 | 223.26930 | (05122508) | 631501.02 | 4175985.56 | 216.74430 | (04022119) |
| 631481.64 | 4175985.40 | 217.49882 | (04022119) | 631462.25 | 4175985.25 | 213.60394 | (07010318) |
| 631442.87 | 4175985.10 | 207.71347 | (07010318) | 631423.49 | 4175984.95 | 205.37188 | (05122621) |
| 631404.10 | 4175984.80 | 205.24527 | (05122621) | 631384.72 | 4175984.65 | 202.04559 | (05122621) |
| 631365.34 | 4175984.50 | 196.26966 | (05122621) | 631345.95 | 4175984.35 | 190.78875 | (04082102) |
| 631326.57 | 4175984.19 | 185.88016 | (04082206) | 631307.19 | 4175984.04 | 181.20109 | (06080704) |
| 631287.80 | 4175983.89 | 177.40890 | (05071703) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK20 ***

INCLUDING SOURCE(S): STCK20 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 134.46793 | (05011521) | 632304.44 | 4174354.52 | 71.29847 | (04122822) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 632192.15 | 4174956.32 | 140.05905 | (05011520) | 632420.62 | 4175510.15 | 172.91047 | (07010217) |
| 632418.97 | 4175552.92 | 163.59590 | (04022224) | 631187.00 | 4175727.00 | 384.84863 | (06020109) |
| 631166.00 | 4175729.00 | 346.67493 | (06020109) | 631121.00 | 4175719.00 | 308.63704 | (06020109) |
| 631035.00 | 4174830.00 | 119.11725 | (06011109) | 631106.00 | 4174825.00 | 111.54532 | (06011021) |
| 631937.00 | 4174528.00 | 107.55095 | (07011417) | 631322.00 | 4174522.00 | 90.78134 | (06121420) |
| 629800.63 | 4173850.44 | 22.49409 | (06011022) | 630150.63 | 4173850.44 | 36.93974 | (06011109) |
| 630500.63 | 4173850.44 | 45.30774 | (05012117) | 630850.63 | 4173850.44 | 39.26298 | (05010318) |
| 631200.63 | 4173850.44 | 47.71705 | (06121420) | 631550.63 | 4173850.44 | 40.64988 | (05021805) |
| 631900.63 | 4173850.44 | 52.21948 | (07012317) | 632250.63 | 4173850.44 | 50.16311 | (07011417) |
| 632600.63 | 4173850.44 | 40.13589 | (04122822) | 632950.63 | 4173850.44 | 33.75042 | (05011521) |
| 633300.63 | 4173850.44 | 29.67398 | (04022018) | 629800.63 | 4174200.44 | 29.77354 | (06121421) |
| 630150.63 | 4174200.44 | 31.06801 | (05122423) | 630500.63 | 4174200.44 | 60.19120 | (06011109) |
| 630850.63 | 4174200.44 | 57.84601 | (06011021) | 631200.63 | 4174200.44 | 67.08670 | (08022002) |
| 631550.63 | 4174200.44 | 56.81710 | (05021805) | 631900.63 | 4174200.44 | 69.28268 | (07020623) |
| 632250.63 | 4174200.44 | 63.29830 | (06020105) | 632600.63 | 4174200.44 | 48.24845 | (05020818) |
| 632950.63 | 4174200.44 | 42.13008 | (04022018) | 633300.63 | 4174200.44 | 30.82049 | (05021018) |
| 629800.63 | 4174550.44 | 32.15063 | (07020624) | 630150.63 | 4174550.44 | 43.47686 | (06121421) |
| 630500.63 | 4174550.44 | 47.68891 | (05122423) | 630850.63 | 4174550.44 | 90.98495 | (06011109) |
| 631200.63 | 4174550.44 | 81.22652 | (07122217) | 631550.63 | 4174550.44 | 81.32742 | (05021805) |
| 631900.63 | 4174550.44 | 105.75245 | (05021804) | 632250.63 | 4174550.44 | 94.13345 | (04122822) |
| 632600.63 | 4174550.44 | 66.53923 | (05011520) | 632950.63 | 4174550.44 | 48.19319 | (05112916) |
| 633300.63 | 4174550.44 | 47.32292 | (06011617) | 629800.63 | 4174900.44 | 37.10928 | (05022818) |
| 630150.63 | 4174900.44 | 53.01752 | (04011017) | 630500.63 | 4174900.44 | 72.37113 | (06121421) |
| 630850.63 | 4174900.44 | 95.09071 | (06011109) | 631200.63 | 4174900.44 | 135.73604 | (06102817) |
| 631550.63 | 4174900.44 | 116.26273 | (05021805) | 631900.63 | 4174900.44 | 140.75467 | (05011817) |
| 632250.63 | 4174900.44 | 130.14247 | (05011520) | 632600.63 | 4174900.44 | 89.08798 | (05112916) |
| 632950.63 | 4174900.44 | 60.58132 | (06011617) | 633300.63 | 4174900.44 | 46.21220 | (06120617) |
| 629800.63 | 4175250.44 | 43.33404 | (04022207) | 630150.63 | 4175250.44 | 55.09961 | (05122617) |
| 630500.63 | 4175250.44 | 78.32897 | (06120217) | 630850.63 | 4175250.44 | 116.55128 | (04101819) |
| 631200.63 | 4175250.44 | 212.29846 | (06011109) | 631550.63 | 4175250.44 | 250.02089 | (06040124) |
| 631900.63 | 4175250.44 | 208.36543 | (05061704) | 632250.63 | 4175250.44 | 166.16558 | (07021118) |
| 632600.63 | 4175250.44 | 120.48756 | (06120617) | 632950.63 | 4175250.44 | 66.23331 | (05021801) |
| 633300.63 | 4175250.44 | 52.79032 | (07010217) | 629800.63 | 4175600.44 | 42.62611 | (04121224) |
| 630150.63 | 4175600.44 | 57.45601 | (08012221) | 630500.63 | 4175600.44 | 89.90452 | (08012221) |
| 630850.63 | 4175600.44 | 188.70145 | (06020109) | 631200.63 | 4175600.44 | 329.93198 | (06020109) |
| 631550.63 | 4175600.44 | 732.55625 | (07030618) | 631900.63 | 4175600.44 | 540.46307 | (06052002) |
| 632250.63 | 4175600.44 | 209.14908 | (04022224) | 632600.63 | 4175600.44 | 117.87190 | (08011001) |
| 632950.63 | 4175600.44 | 69.15527 | (05122223) | 633300.63 | 4175600.44 | 49.51768 | (05121217) |
| 629800.63 | 4175950.44 | 42.59042 | (05122618) | 630150.63 | 4175950.44 | 53.16755 | (05122618) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK20 ***

INCLUDING SOURCE(S): STCK20 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 88.64372 | (06011024) | 630850.63 | 4175950.44 | 168.43248 | (06011024) |
| 631200.63 | 4175950.44 | 332.87442 | (07071004) | 631550.63 | 4175950.44 | 809.43033 | (07030418) |
| 631900.63 | 4175950.44 | 319.96926 | (06111908) | 632250.63 | 4175950.44 | 190.89073 | (05012018) |
| 632600.63 | 4175950.44 | 109.94952 | (07012418) | 632950.63 | 4175950.44 | 67.84611 | (07012318) |
| 633300.63 | 4175950.44 | 49.81795 | (07012318) | 629800.63 | 4176300.44 | 34.92004 | (05030324) |
| 630150.63 | 4176300.44 | 53.08863 | (07120622) | 630500.63 | 4176300.44 | 82.80407 | (07120622) |
| 630850.63 | 4176300.44 | 153.79003 | (04021520) | 631200.63 | 4176300.44 | 221.18100 | (06041524) |
| 631550.63 | 4176300.44 | 201.79778 | (05122221) | 631900.63 | 4176300.44 | 201.97481 | (06062806) |
| 632250.63 | 4176300.44 | 138.01047 | (08021808) | 632600.63 | 4176300.44 | 95.26696 | (08121018) |
| 632950.63 | 4176300.44 | 64.28563 | (05011322) | 633300.63 | 4176300.44 | 47.36697 | (08010924) |
| 629800.63 | 4176650.44 | 36.73404 | (07120622) | 630150.63 | 4176650.44 | 53.81060 | (06122121) |
| 630500.63 | 4176650.44 | 75.66377 | (04021521) | 630850.63 | 4176650.44 | 109.46954 | (04121223) |
| 631200.63 | 4176650.44 | 153.10366 | (08091907) | 631550.63 | 4176650.44 | 127.15738 | (07121903) |
| 631900.63 | 4176650.44 | 116.36735 | (05021722) | 632250.63 | 4176650.44 | 115.26621 | (06062806) |
| 632600.63 | 4176650.44 | 80.29630 | (08121517) | 632950.63 | 4176650.44 | 60.31350 | (05011818) |
| 633300.63 | 4176650.44 | 43.96412 | (08121018) | 629800.63 | 4177000.44 | 36.80650 | (04021520) |
| 630150.63 | 4177000.44 | 47.17015 | (04021521) | 630500.63 | 4177000.44 | 62.37985 | (04120903) |
| 630850.63 | 4177000.44 | 83.00951 | (08122718) | 631200.63 | 4177000.44 | 97.42935 | (06013008) |
| 631550.63 | 4177000.44 | 91.35499 | (07121903) | 631900.63 | 4177000.44 | 91.31060 | (07091007) |
| 632250.63 | 4177000.44 | 76.77060 | (06010522) | 632600.63 | 4177000.44 | 66.08576 | (07022408) |
| 632950.63 | 4177000.44 | 55.81519 | (08021908) | 633300.63 | 4177000.44 | 47.14241 | (08021808) |
| 629800.63 | 4177350.44 | 32.53403 | (04021521) | 630150.63 | 4177350.44 | 39.40106 | (04120903) |
| 630500.63 | 4177350.44 | 47.96479 | (07012719) | 630850.63 | 4177350.44 | 60.85393 | (04022021) |
| 631200.63 | 4177350.44 | 72.18609 | (08011009) | 631550.63 | 4177350.44 | 65.91746 | (07121903) |
| 631900.63 | 4177350.44 | 63.91733 | (07021206) | 632250.63 | 4177350.44 | 58.37721 | (05022620) |
| 632600.63 | 4177350.44 | 49.98413 | (07121908) | 632950.63 | 4177350.44 | 42.19873 | (08122905) |
| 633300.63 | 4177350.44 | 41.91939 | (08021908) | 631670.70 | 4175493.59 | 391.76511 | (07090905) |
| 631669.80 | 4175641.41 | 804.07807 | (04101820) | 631665.32 | 4175796.39 | 243.73819 | (05061703) |
| 631417.17 | 4175826.85 | 760.20820 | (06011217) | 631417.17 | 4175673.66 | 323.60764 | (06020109) |
| 631422.55 | 4175484.63 | 279.39955 | (07100818) | 631268.42 | 4175983.74 | 390.41377 | (06020108) |
| 631275.69 | 4175523.99 | 323.57099 | (04012317) | 631345.65 | 4175419.50 | 318.68585 | (06011109) |
| 631384.72 | 4175441.30 | 187.17593 | (05050802) | 631491.93 | 4175442.21 | 229.29063 | (05122422) |
| 631491.93 | 4175414.95 | 219.85829 | (05122422) | 631385.63 | 4175413.14 | 204.46693 | (05091918) |
| 631358.37 | 4175395.87 | 278.87428 | (06011109) | 631409.25 | 4175336.81 | 299.94789 | (06102817) |
| 631567.35 | 4175235.96 | 293.68094 | (06040124) | 631756.33 | 4175028.80 | 171.02213 | (05021804) |
| 631807.22 | 4175003.36 | 171.50618 | (07011417) | 631867.18 | 4174987.91 | 157.18234 | (05011817) |
| 631849.92 | 4175988.28 | 301.49712 | (07112517) | 631268.74 | 4175963.75 | 400.16540 | (04022924) |
| 631269.05 | 4175943.76 | 399.54747 | (06080604) | 631269.37 | 4175923.77 | 403.65304 | (07071004) |
| 631269.68 | 4175903.78 | 405.61013 | (06011217) | 631270.00 | 4175883.79 | 444.17386 | (06011217) |
| 631270.32 | 4175863.81 | 433.18620 | (06011217) | 631270.63 | 4175843.82 | 405.94894 | (07042002) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK20 ***

INCLUDING SOURCE(S): STCK20 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|

- - - -

(YYMMDDHH)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 249.53431 | (05020818) | 631861.77 | 4175301.75 | 290.18804 | (06072804) |
| 631861.43 | 4175321.37 | 381.53982 | (06072804) | 631861.09 | 4175340.98 | 381.40338 | (07111021) |
| 631860.75 | 4175360.60 | 398.41749 | (06112217) | 631860.41 | 4175380.21 | 393.68879 | (06112217) |
| 631860.07 | 4175399.83 | 381.64271 | (05011520) | 631859.73 | 4175419.44 | 372.56934 | (08081804) |
| 631859.40 | 4175439.06 | 362.03308 | (08090902) | 631859.06 | 4175458.67 | 353.41756 | (07062005) |
| 631858.72 | 4175478.29 | 345.06053 | (04022018) | 631858.38 | 4175497.90 | 331.82679 | (06040119) |
| 631858.04 | 4175517.52 | 325.75269 | (08030618) | 631857.70 | 4175537.13 | 316.15490 | (05110817) |
| 631857.37 | 4175556.75 | 315.70963 | (05110817) | 631857.03 | 4175576.36 | 309.07045 | (05081503) |
| 631856.69 | 4175595.98 | 312.59603 | (05081503) | 631856.35 | 4175615.59 | 275.37559 | (05020802) |
| 631856.01 | 4175635.21 | 291.04615 | (06052002) | 631855.67 | 4175654.82 | 401.62146 | (04110905) |
| 631855.33 | 4175674.44 | 515.73937 | (04110905) | 631855.00 | 4175694.05 | 613.11786 | (04110905) |
| 631854.66 | 4175713.67 | 685.88239 | (04101518) | 631854.32 | 4175733.28 | 714.41976 | (04101518) |
| 631853.98 | 4175752.90 | 414.22882 | (07102822) | 631853.64 | 4175772.51 | 505.39269 | (07102822) |
| 631853.30 | 4175792.13 | 512.23600 | (06111521) | 631852.97 | 4175811.74 | 512.83901 | (08040223) |
| 631852.63 | 4175831.36 | 500.62819 | (04081403) | 631852.29 | 4175850.97 | 400.91370 | (08021518) |
| 631851.95 | 4175870.59 | 397.12556 | (08040222) | 631851.61 | 4175890.20 | 376.32835 | (08010919) |
| 631851.27 | 4175909.82 | 370.17758 | (06111908) | 631850.94 | 4175929.43 | 359.94127 | (06111908) |
| 631850.60 | 4175949.05 | 327.66619 | (06111908) | 631850.26 | 4175968.66 | 315.26198 | (05072806) |
| 631830.54 | 4175988.13 | 310.31774 | (07112517) | 631811.15 | 4175987.98 | 320.01321 | (07092306) |
| 631791.77 | 4175987.83 | 331.93991 | (06052306) | 631772.39 | 4175987.67 | 352.03603 | (06052306) |
| 631753.00 | 4175987.52 | 361.93650 | (06052306) | 631733.62 | 4175987.37 | 375.07218 | (06052306) |
| 631714.24 | 4175987.22 | 404.72068 | (06062806) | 631694.85 | 4175987.07 | 428.87997 | (06062806) |
| 631675.47 | 4175986.92 | 429.63547 | (06062806) | 631656.09 | 4175986.77 | 420.62818 | (08091905) |
| 631636.70 | 4175986.62 | 487.61688 | (07091007) | 631617.32 | 4175986.46 | 547.50733 | (07091007) |
| 631597.94 | 4175986.31 | 562.47724 | (07091007) | 631578.55 | 4175986.16 | 463.30228 | (05072006) |
| 631559.17 | 4175986.01 | 445.33163 | (04111519) | 631539.79 | 4175985.86 | 497.15724 | (07030418) |
| 631520.40 | 4175985.71 | 519.45192 | (05112506) | 631501.02 | 4175985.56 | 554.72310 | (08091907) |
| 631481.64 | 4175985.40 | 580.84094 | (08091907) | 631462.25 | 4175985.25 | 571.51700 | (07090905) |
| 631442.87 | 4175985.10 | 550.98621 | (05122507) | 631423.49 | 4175984.95 | 544.95920 | (04022205) |
| 631404.10 | 4175984.80 | 519.95216 | (05112504) | 631384.72 | 4175984.65 | 511.95095 | (05122508) |
| 631365.34 | 4175984.50 | 485.66635 | (05122508) | 631345.95 | 4175984.35 | 476.96108 | (04022119) |
| 631326.57 | 4175984.19 | 453.23766 | (07010318) | 631307.19 | 4175984.04 | 441.53070 | (06020108) |
| 631287.80 | 4175983.89 | 422.37138 | (06020108) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK21 ***

INCLUDING SOURCE(S): STCK21 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 149.50409 | (05011520) | 632304.44 | 4174354.52 | 75.89376 | (04122822) |
| 632192.15 | 4174956.32 | 132.78893 | (04022018) | 632420.62 | 4175510.15 | 170.69703 | (06011618) |
| 632418.97 | 4175552.92 | 173.86408 | (06011618) | 631187.00 | 4175727.00 | 422.96564 | (04101604) |
| 631166.00 | 4175729.00 | 395.98179 | (04101604) | 631121.00 | 4175719.00 | 303.64753 | (04101604) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631035.00 | 4174830.00 | 142.91935 | (06011109) | 631106.00 | 4174825.00 | 121.79102 | (06011109) |
| 631937.00 | 4174528.00 | 108.02686 | (07011417) | 631322.00 | 4174522.00 | 90.55552 | (08022002) |
| 629800.63 | 4173850.44 | 22.54558 | (06011022) | 630150.63 | 4173850.44 | 34.23300 | (06011109) |
| 630500.63 | 4173850.44 | 47.24255 | (06011109) | 630850.63 | 4173850.44 | 42.41791 | (05010318) |
| 631200.63 | 4173850.44 | 48.79962 | (06121420) | 631550.63 | 4173850.44 | 43.34989 | (05021805) |
| 631900.63 | 4173850.44 | 51.62146 | (07012317) | 632250.63 | 4173850.44 | 48.18049 | (04022218) |
| 632600.63 | 4173850.44 | 41.67817 | (04122822) | 632950.63 | 4173850.44 | 34.77790 | (05011520) |
| 633300.63 | 4173850.44 | 31.31843 | (04022018) | 629800.63 | 4174200.44 | 31.78991 | (06121421) |
| 630150.63 | 4174200.44 | 31.90990 | (06011022) | 630500.63 | 4174200.44 | 58.61320 | (06011109) |
| 630850.63 | 4174200.44 | 62.32011 | (06011021) | 631200.63 | 4174200.44 | 70.14712 | (08022002) |
| 631550.63 | 4174200.44 | 60.47853 | (05021805) | 631900.63 | 4174200.44 | 71.25844 | (07020623) |
| 632250.63 | 4174200.44 | 59.60939 | (06020105) | 632600.63 | 4174200.44 | 54.41726 | (05011521) |
| 632950.63 | 4174200.44 | 46.72976 | (04022018) | 633300.63 | 4174200.44 | 29.47432 | (07012702) |
| 629800.63 | 4174550.44 | 36.74326 | (04011017) | 630150.63 | 4174550.44 | 44.50691 | (06121421) |
| 630500.63 | 4174550.44 | 51.26644 | (04012317) | 630850.63 | 4174550.44 | 102.14353 | (06011109) |
| 631200.63 | 4174550.44 | 90.55229 | (06102817) | 631550.63 | 4174550.44 | 85.90206 | (05021805) |
| 631900.63 | 4174550.44 | 108.59613 | (07011417) | 632250.63 | 4174550.44 | 93.17583 | (05020818) |
| 632600.63 | 4174550.44 | 78.22555 | (04022018) | 632950.63 | 4174550.44 | 50.29942 | (06011617) |
| 633300.63 | 4174550.44 | 42.39597 | (06011617) | 629800.63 | 4174900.44 | 39.41943 | (06121217) |
| 630150.63 | 4174900.44 | 54.23762 | (06120217) | 630500.63 | 4174900.44 | 64.49833 | (06121421) |
| 630850.63 | 4174900.44 | 106.15706 | (04012317) | 631200.63 | 4174900.44 | 135.98163 | (06102817) |
| 631550.63 | 4174900.44 | 121.44320 | (05021805) | 631900.63 | 4174900.44 | 145.89363 | (08071406) |
| 632250.63 | 4174900.44 | 126.09372 | (04022018) | 632600.63 | 4174900.44 | 107.04192 | (06011617) |
| 632950.63 | 4174900.44 | 64.71035 | (06120617) | 633300.63 | 4174900.44 | 43.90307 | (04022223) |
| 629800.63 | 4175250.44 | 47.49582 | (04022207) | 630150.63 | 4175250.44 | 58.87067 | (04022207) |
| 630500.63 | 4175250.44 | 87.67502 | (06121217) | 630850.63 | 4175250.44 | 144.30044 | (04011017) |
| 631200.63 | 4175250.44 | 204.83653 | (04012317) | 631550.63 | 4175250.44 | 260.17866 | (04102623) |
| 631900.63 | 4175250.44 | 222.28824 | (05011520) | 632250.63 | 4175250.44 | 178.47000 | (05020802) |
| 632600.63 | 4175250.44 | 120.97320 | (05021801) | 632950.63 | 4175250.44 | 82.72024 | (07010217) |
| 633300.63 | 4175250.44 | 46.81762 | (07020218) | 629800.63 | 4175600.44 | 49.28522 | (04121304) |
| 630150.63 | 4175600.44 | 65.58864 | (04121304) | 630500.63 | 4175600.44 | 97.71945 | (04121224) |
| 630850.63 | 4175600.44 | 163.06357 | (08012221) | 631200.63 | 4175600.44 | 341.45062 | (04041821) |
| 631550.63 | 4175600.44 | 1145.82195 | (07030618) | 631900.63 | 4175600.44 | 717.74530 | (08092319) |
| 632250.63 | 4175600.44 | 249.40861 | (05122223) | 632600.63 | 4175600.44 | 130.80048 | (05121217) |
| 632950.63 | 4175600.44 | 69.19888 | (05121217) | 633300.63 | 4175600.44 | 48.48323 | (08011019) |
| 629800.63 | 4175950.44 | 42.10587 | (06011024) | 630150.63 | 4175950.44 | 62.20391 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK21 ***

INCLUDING SOURCE(S): STCK21 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 90.31326 | (06011024) | 630850.63 | 4175950.44 | 163.85750 | (04041820) |
| 631200.63 | 4175950.44 | 316.05216 | (05122621) | 631550.63 | 4175950.44 | 516.90337 | (07030418) |
| 631900.63 | 4175950.44 | 269.80625 | (07092306) | 632250.63 | 4175950.44 | 190.58191 | (05011322) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 632600.63 | 4175950.44 | 115.59187 | (06012918) | 632950.63 | 4175950.44 | 69.06886 | (06121320) |
| 633300.63 | 4175950.44 | 49.49324 | (07012418) | 629800.63 | 4176300.44 | 37.58685 | (07120621) |
| 630150.63 | 4176300.44 | 58.75598 | (07120622) | 630500.63 | 4176300.44 | 90.23749 | (06122121) |
| 630850.63 | 4176300.44 | 143.35481 | (04021521) | 631200.63 | 4176300.44 | 166.23313 | (06041021) |
| 631550.63 | 4176300.44 | 169.25103 | (05122221) | 631900.63 | 4176300.44 | 152.00697 | (08021819) |
| 632250.63 | 4176300.44 | 131.51768 | (06122320) | 632600.63 | 4176300.44 | 99.21015 | (05011818) |
| 632950.63 | 4176300.44 | 63.91916 | (07122919) | 633300.63 | 4176300.44 | 47.12392 | (05122401) |
| 629800.63 | 4176650.44 | 36.84426 | (06122121) | 630150.63 | 4176650.44 | 52.18500 | (04021520) |
| 630500.63 | 4176650.44 | 73.90615 | (04021521) | 630850.63 | 4176650.44 | 102.48768 | (04120908) |
| 631200.63 | 4176650.44 | 125.44616 | (08091907) | 631550.63 | 4176650.44 | 113.94359 | (07121903) |
| 631900.63 | 4176650.44 | 128.03252 | (07091007) | 632250.63 | 4176650.44 | 112.95444 | (06062806) |
| 632600.63 | 4176650.44 | 90.23381 | (08021908) | 632950.63 | 4176650.44 | 66.09987 | (08021808) |
| 633300.63 | 4176650.44 | 42.68011 | (07022020) | 629800.63 | 4177000.44 | 34.40162 | (04021520) |
| 630150.63 | 4177000.44 | 42.58487 | (04021521) | 630500.63 | 4177000.44 | 55.25178 | (04121223) |
| 630850.63 | 4177000.44 | 76.10663 | (07021218) | 631200.63 | 4177000.44 | 87.80189 | (08011009) |
| 631550.63 | 4177000.44 | 83.61441 | (07121903) | 631900.63 | 4177000.44 | 90.90857 | (07091007) |
| 632250.63 | 4177000.44 | 73.07678 | (06120218) | 632600.63 | 4177000.44 | 68.78562 | (07022408) |
| 632950.63 | 4177000.44 | 59.09723 | (08021908) | 633300.63 | 4177000.44 | 47.27857 | (08021808) |
| 629800.63 | 4177350.44 | 29.05139 | (04021521) | 630150.63 | 4177350.44 | 35.76739 | (04120903) |
| 630500.63 | 4177350.44 | 47.21467 | (07122917) | 630850.63 | 4177350.44 | 53.75720 | (07012720) |
| 631200.63 | 4177350.44 | 65.74419 | (07021108) | 631550.63 | 4177350.44 | 61.11308 | (07121903) |
| 631900.63 | 4177350.44 | 60.24825 | (07021206) | 632250.63 | 4177350.44 | 55.41271 | (06013004) |
| 632600.63 | 4177350.44 | 48.07485 | (06010521) | 632950.63 | 4177350.44 | 45.63053 | (07022408) |
| 633300.63 | 4177350.44 | 41.86101 | (08021908) | 631670.70 | 4175493.59 | 307.96363 | (04101820) |
| 631669.80 | 4175641.41 | 1071.89858 | (08081602) | 631665.32 | 4175796.39 | 302.56167 | (06102818) |
| 631417.17 | 4175826.85 | 972.97691 | (04110906) | 631417.17 | 4175673.66 | 1431.10108 | (04041821) |
| 631422.55 | 4175484.63 | 208.17398 | (07100818) | 631268.42 | 4175983.74 | 308.80281 | (04022119) |
| 631275.69 | 4175523.99 | 340.69715 | (05072102) | 631345.65 | 4175419.50 | 433.32504 | (06011109) |
| 631384.72 | 4175441.30 | 446.03871 | (08121017) | 631491.93 | 4175442.21 | 250.00150 | (07030618) |
| 631491.93 | 4175414.95 | 236.37949 | (07030618) | 631385.63 | 4175413.14 | 255.20094 | (08121017) |
| 631358.37 | 4175395.87 | 450.82525 | (06011109) | 631409.25 | 4175336.81 | 398.32913 | (06102817) |
| 631567.35 | 4175235.96 | 282.57719 | (04102623) | 631756.33 | 4175028.80 | 169.74815 | (05011817) |
| 631807.22 | 4175003.36 | 176.46439 | (05011817) | 631867.18 | 4174987.91 | 164.43611 | (08071406) |
| 631849.92 | 4175988.28 | 289.29981 | (06052306) | 631268.74 | 4175963.75 | 330.96470 | (04022119) |
| 631269.05 | 4175943.76 | 343.66815 | (07010318) | 631269.37 | 4175923.77 | 360.32260 | (05122621) |
| 631269.68 | 4175903.78 | 390.69646 | (05122621) | 631270.00 | 4175883.79 | 401.12325 | (07120623) |
| 631270.32 | 4175863.81 | 412.70712 | (04022924) | 631270.63 | 4175843.82 | 447.49964 | (06033021) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK21 ***

INCLUDING SOURCE(S): STCK21 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 467.47320 | (06033021) | 631271.26 | 4175803.84 | 504.75769 | (06011217) |
| 631271.58 | 4175783.85 | 561.85666 | (06011217) | 631271.90 | 4175763.86 | 546.40176 | (06011217) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631272.21 | 4175743.87 | 566.27660 | (06111024) | 631272.53 | 4175723.88 | 569.86714 | (04101604) |
| 631272.85 | 4175703.89 | 456.76909 | (05030402) | 631273.16 | 4175683.90 | 518.58949 | (05030402) |
| 631273.48 | 4175663.91 | 521.84066 | (06092418) | 631273.79 | 4175643.92 | 519.59811 | (06121422) |
| 631274.11 | 4175623.94 | 466.17259 | (06121422) | 631274.43 | 4175603.95 | 439.26972 | (07110617) |
| 631274.74 | 4175583.96 | 429.26143 | (07110617) | 631275.06 | 4175563.97 | 387.73695 | (07110617) |
| 631275.37 | 4175543.98 | 355.62400 | (04022118) | 631285.68 | 4175509.06 | 332.95379 | (05072102) |
| 631295.68 | 4175494.14 | 317.21932 | (04012317) | 631305.67 | 4175479.21 | 318.96330 | (05111717) |
| 631315.67 | 4175464.28 | 342.13165 | (04012317) | 631325.66 | 4175449.35 | 345.86894 | (04012317) |
| 631335.66 | 4175434.43 | 394.79450 | (06011109) | 631358.67 | 4175426.77 | 455.99797 | (06011109) |
| 631371.70 | 4175434.03 | 411.05275 | (04012317) | 631402.59 | 4175441.45 | 418.19950 | (08121017) |
| 631420.46 | 4175441.60 | 229.40408 | (07100818) | 631438.33 | 4175441.76 | 330.20585 | (07100818) |
| 631456.19 | 4175441.91 | 328.75108 | (08081805) | 631474.06 | 4175442.06 | 237.34202 | (05050803) |
| 631491.93 | 4175428.58 | 243.19939 | (07030618) | 631474.21 | 4175414.65 | 239.13192 | (05050803) |
| 631456.50 | 4175414.35 | 327.83539 | (08081805) | 631438.78 | 4175414.05 | 335.28216 | (07100818) |
| 631421.06 | 4175413.74 | 287.13237 | (08121017) | 631403.35 | 4175413.44 | 341.05936 | (08121017) |
| 631372.00 | 4175404.51 | 459.38953 | (06011109) | 631371.09 | 4175381.11 | 369.83072 | (06011109) |
| 631383.81 | 4175366.34 | 376.29340 | (05030118) | 631396.53 | 4175351.58 | 378.90150 | (06102817) |
| 631425.06 | 4175326.73 | 401.21988 | (06102817) | 631440.87 | 4175316.64 | 362.23856 | (06102817) |
| 631456.68 | 4175306.56 | 313.99570 | (07100818) | 631472.49 | 4175296.47 | 316.01651 | (07100818) |
| 631488.30 | 4175286.39 | 317.11701 | (08081805) | 631504.11 | 4175276.30 | 265.10280 | (08081805) |
| 631519.92 | 4175266.22 | 205.81941 | (08081805) | 631535.73 | 4175256.13 | 227.74445 | (04102623) |
| 631551.54 | 4175246.05 | 256.62015 | (04102623) | 631579.95 | 4175222.15 | 229.51757 | (08102618) |
| 631592.55 | 4175208.34 | 249.03567 | (08102618) | 631605.15 | 4175194.53 | 231.29418 | (04102617) |
| 631617.74 | 4175180.72 | 226.42164 | (04102617) | 631630.34 | 4175166.91 | 224.82915 | (04102617) |
| 631642.94 | 4175153.10 | 220.72528 | (04102617) | 631655.54 | 4175139.29 | 214.50507 | (04102617) |
| 631668.14 | 4175125.47 | 206.56695 | (04102617) | 631680.74 | 4175111.66 | 197.29985 | (04102617) |
| 631693.34 | 4175097.85 | 187.05592 | (04102617) | 631705.94 | 4175084.04 | 179.55431 | (05112422) |
| 631718.53 | 4175070.23 | 177.55870 | (05112422) | 631731.13 | 4175056.42 | 173.95109 | (08071405) |
| 631743.73 | 4175042.61 | 170.51329 | (08071405) | 631773.29 | 4175020.32 | 174.45517 | (05011817) |
| 631790.26 | 4175011.84 | 176.66775 | (05011817) | 631822.21 | 4174999.50 | 175.13371 | (05011817) |
| 631837.20 | 4174995.64 | 172.94404 | (08071406) | 631852.19 | 4174991.77 | 169.57756 | (08071406) |
| 631866.84 | 4175007.53 | 165.69780 | (08071406) | 631866.50 | 4175027.14 | 167.91284 | (06051924) |
| 631866.16 | 4175046.76 | 170.24476 | (06051924) | 631865.83 | 4175066.37 | 170.63151 | (06051924) |
| 631865.49 | 4175085.99 | 173.20093 | (04122822) | 631865.15 | 4175105.60 | 181.80806 | (04122822) |
| 631864.81 | 4175125.22 | 187.97910 | (04122822) | 631864.47 | 4175144.83 | 191.17805 | (04122822) |
| 631864.13 | 4175164.45 | 194.24670 | (08031018) | 631863.80 | 4175184.06 | 205.00930 | (08031018) |
| 631863.46 | 4175203.68 | 214.55026 | (08031018) | 631863.12 | 4175223.29 | 222.43795 | (08031018) |
| 631862.78 | 4175242.91 | 228.22863 | (08031018) | 631862.44 | 4175262.52 | 236.30478 | (05011521) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK21 ***

INCLUDING SOURCE(S): STCK21 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 246.72917 | (05011521) | 631861.77 | 4175301.75 | 262.90896 | (08031018) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631861.43 | 4175321.37 | 435.83382 | (05011317) | 631861.09 | 4175340.98 | 421.77430 | (08090902) |
| 631860.75 | 4175360.60 | 582.23531 | (06051904) | 631860.41 | 4175380.21 | 506.17617 | (08090906) |
| 631860.07 | 4175399.83 | 553.75823 | (07102905) | 631859.73 | 4175419.44 | 507.89558 | (06100507) |
| 631859.40 | 4175439.06 | 524.81296 | (07102905) | 631859.06 | 4175458.67 | 561.19291 | (07102905) |
| 631858.72 | 4175478.29 | 579.24500 | (05102522) | 631858.38 | 4175497.90 | 569.04955 | (05112917) |
| 631858.04 | 4175517.52 | 628.05576 | (06052002) | 631857.70 | 4175537.13 | 686.25579 | (06052002) |
| 631857.37 | 4175556.75 | 702.04604 | (04022223) | 631857.03 | 4175576.36 | 683.82014 | (05021801) |
| 631856.69 | 4175595.98 | 932.00982 | (06111919) | 631856.35 | 4175615.59 | 930.18928 | (06111919) |
| 631856.01 | 4175635.21 | 932.15269 | (06112003) | 631855.67 | 4175654.82 | 947.27382 | (04030118) |
| 631855.33 | 4175674.44 | 965.15393 | (04030118) | 631855.00 | 4175694.05 | 892.32052 | (04030118) |
| 631854.66 | 4175713.67 | 748.54387 | (04030118) | 631854.32 | 4175733.28 | 802.36466 | (04030118) |
| 631853.98 | 4175752.90 | 559.96172 | (06111908) | 631853.64 | 4175772.51 | 484.02885 | (05080806) |
| 631853.30 | 4175792.13 | 524.75715 | (07121418) | 631852.97 | 4175811.74 | 426.75192 | (05072806) |
| 631852.63 | 4175831.36 | 409.21519 | (06111908) | 631852.29 | 4175850.97 | 369.23548 | (06111908) |
| 631851.95 | 4175870.59 | 343.63310 | (05072806) | 631851.61 | 4175890.20 | 325.45595 | (07112517) |
| 631851.27 | 4175909.82 | 312.91695 | (07092306) | 631850.94 | 4175929.43 | 304.61859 | (06052306) |
| 631850.60 | 4175949.05 | 310.92347 | (06052306) | 631850.26 | 4175968.66 | 305.19862 | (06052306) |
| 631830.54 | 4175988.13 | 280.64567 | (06052306) | 631811.15 | 4175987.98 | 295.31995 | (06062806) |
| 631791.77 | 4175987.83 | 320.06077 | (06062806) | 631772.39 | 4175987.67 | 334.60959 | (06062806) |
| 631753.00 | 4175987.52 | 336.39891 | (06062806) | 631733.62 | 4175987.37 | 324.41887 | (06062806) |
| 631714.24 | 4175987.22 | 416.03812 | (06062806) | 631694.85 | 4175987.07 | 433.63013 | (06081406) |
| 631675.47 | 4175986.92 | 451.68453 | (07091007) | 631656.09 | 4175986.77 | 503.55473 | (07091007) |
| 631636.70 | 4175986.62 | 528.24542 | (07091007) | 631617.32 | 4175986.46 | 519.57084 | (07091007) |
| 631597.94 | 4175986.31 | 477.19475 | (07091007) | 631578.55 | 4175986.16 | 391.65988 | (04111519) |
| 631559.17 | 4175986.01 | 361.18032 | (04111519) | 631539.79 | 4175985.86 | 334.53939 | (07030418) |
| 631520.40 | 4175985.71 | 344.27165 | (07030418) | 631501.02 | 4175985.56 | 335.26749 | (07080306) |
| 631481.64 | 4175985.40 | 335.78896 | (05112506) | 631462.25 | 4175985.25 | 362.01220 | (08091907) |
| 631442.87 | 4175985.10 | 369.55351 | (08091907) | 631423.49 | 4175984.95 | 353.65314 | (08091907) |
| 631404.10 | 4175984.80 | 335.41154 | (07090905) | 631384.72 | 4175984.65 | 326.22599 | (05122507) |
| 631365.34 | 4175984.50 | 334.17198 | (04022205) | 631345.95 | 4175984.35 | 334.56581 | (04022205) |
| 631326.57 | 4175984.19 | 320.00587 | (04022205) | 631307.19 | 4175984.04 | 314.34911 | (05122508) |
| 631287.80 | 4175983.89 | 311.74084 | (05122508) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK22 ***

INCLUDING SOURCE(S): STCK22 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 145.41812 | (05011317) | 632304.44 | 4174354.52 | 74.71282 | (05020818) |
| 632192.15 | 4174956.32 | 149.59061 | (05112916) | 632420.62 | 4175510.15 | 182.75805 | (05121217) |
| 632418.97 | 4175552.92 | 157.78237 | (05121217) | 631187.00 | 4175727.00 | 390.33965 | (06011217) |
| 631166.00 | 4175729.00 | 376.57938 | (06011217) | 631121.00 | 4175719.00 | 349.75541 | (06011217) |
| 631035.00 | 4174830.00 | 159.37621 | (06011109) | 631106.00 | 4174825.00 | 163.55134 | (06011109) |
| 631937.00 | 4174528.00 | 102.00479 | (04022218) | 631322.00 | 4174522.00 | 100.26168 | (08022002) |
| 629800.63 | 4173850.44 | 22.96845 | (06121421) | 630150.63 | 4173850.44 | 30.53631 | (06011109) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4173850.44 | 52.05579 | (06011109) | 630850.63 | 4173850.44 | 44.23404 | (05010318) |
| 631200.63 | 4173850.44 | 52.03781 | (08022002) | 631550.63 | 4173850.44 | 46.42022 | (05021805) |
| 631900.63 | 4173850.44 | 50.98221 | (07012317) | 632250.63 | 4173850.44 | 47.36661 | (06020105) |
| 632600.63 | 4173850.44 | 42.74099 | (05020818) | 632950.63 | 4173850.44 | 36.23298 | (05011520) |
| 633300.63 | 4173850.44 | 30.36926 | (04022018) | 629800.63 | 4174200.44 | 30.78517 | (06121421) |
| 630150.63 | 4174200.44 | 32.39907 | (06121421) | 630500.63 | 4174200.44 | 53.97278 | (06011109) |
| 630850.63 | 4174200.44 | 72.22184 | (05012117) | 631200.63 | 4174200.44 | 72.84398 | (08022002) |
| 631550.63 | 4174200.44 | 64.79642 | (05021805) | 631900.63 | 4174200.44 | 73.35301 | (04122824) |
| 632250.63 | 4174200.44 | 60.88650 | (04122822) | 632600.63 | 4174200.44 | 55.65457 | (05011521) |
| 632950.63 | 4174200.44 | 44.22144 | (04022018) | 633300.63 | 4174200.44 | 37.27617 | (06011617) |
| 629800.63 | 4174550.44 | 38.56605 | (06120217) | 630150.63 | 4174550.44 | 39.35110 | (07020624) |
| 630500.63 | 4174550.44 | 52.61578 | (04012317) | 630850.63 | 4174550.44 | 109.38256 | (06011109) |
| 631200.63 | 4174550.44 | 104.69859 | (06102817) | 631550.63 | 4174550.44 | 91.67465 | (05021805) |
| 631900.63 | 4174550.44 | 108.56503 | (07011417) | 632250.63 | 4174550.44 | 85.97339 | (05011521) |
| 632600.63 | 4174550.44 | 72.57999 | (06122122) | 632950.63 | 4174550.44 | 63.96747 | (06011617) |
| 633300.63 | 4174550.44 | 40.63168 | (07012703) | 629800.63 | 4174900.44 | 43.72704 | (06020109) |
| 630150.63 | 4174900.44 | 53.24290 | (05022818) | 630500.63 | 4174900.44 | 83.28380 | (04011017) |
| 630850.63 | 4174900.44 | 116.26066 | (04012317) | 631200.63 | 4174900.44 | 155.06781 | (06011109) |
| 631550.63 | 4174900.44 | 134.03648 | (07030618) | 631900.63 | 4174900.44 | 138.17141 | (08071406) |
| 632250.63 | 4174900.44 | 135.93834 | (05112916) | 632600.63 | 4174900.44 | 96.52458 | (06011617) |
| 632950.63 | 4174900.44 | 66.68424 | (06120617) | 633300.63 | 4174900.44 | 44.27404 | (05021801) |
| 629800.63 | 4175250.44 | 42.38635 | (08012221) | 630150.63 | 4175250.44 | 66.30905 | (04022207) |
| 630500.63 | 4175250.44 | 88.38433 | (04022207) | 630850.63 | 4175250.44 | 153.40179 | (07111023) |
| 631200.63 | 4175250.44 | 270.24005 | (04012317) | 631550.63 | 4175250.44 | 288.66408 | (04102623) |
| 631900.63 | 4175250.44 | 268.60759 | (05112916) | 632250.63 | 4175250.44 | 191.37425 | (04022223) |
| 632600.63 | 4175250.44 | 132.35983 | (07010217) | 632950.63 | 4175250.44 | 66.90420 | (07020218) |
| 633300.63 | 4175250.44 | 47.66923 | (08011001) | 629800.63 | 4175600.44 | 45.04961 | (05122618) |
| 630150.63 | 4175600.44 | 61.12693 | (05122618) | 630500.63 | 4175600.44 | 90.36218 | (04121304) |
| 630850.63 | 4175600.44 | 162.21377 | (04010517) | 631200.63 | 4175600.44 | 351.55151 | (06032819) |
| 631550.63 | 4175600.44 | 0.00000 | (00000000) | 631900.63 | 4175600.44 | 558.62805 | (07102804) |
| 632250.63 | 4175600.44 | 246.00994 | (06011619) | 632600.63 | 4175600.44 | 108.41574 | (06011619) |
| 632950.63 | 4175600.44 | 67.04054 | (06011619) | 633300.63 | 4175600.44 | 49.34688 | (06011619) |
| 629800.63 | 4175950.44 | 45.67069 | (06011024) | 630150.63 | 4175950.44 | 55.65586 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK22 ***

INCLUDING SOURCE(S): STCK22 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 86.38506 | (07120621) | 630850.63 | 4175950.44 | 152.06526 | (05030322) |
| 631200.63 | 4175950.44 | 225.26879 | (04022119) | 631550.63 | 4175950.44 | 374.81614 | (07030418) |
| 631900.63 | 4175950.44 | 264.74795 | (06052306) | 632250.63 | 4175950.44 | 193.05040 | (04121024) |
| 632600.63 | 4175950.44 | 126.25419 | (05122401) | 632950.63 | 4175950.44 | 72.81977 | (08010924) |
| 633300.63 | 4175950.44 | 48.82767 | (05012018) | 629800.63 | 4176300.44 | 41.96023 | (07120622) |
| 630150.63 | 4176300.44 | 50.63646 | (05021923) | 630500.63 | 4176300.44 | 84.92549 | (04021520) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 630850.63 | 4176300.44 | 115.81515 | (04010518) | 631200.63 | 4176300.44 | 137.59556 | (08091907) |
| 631550.63 | 4176300.44 | 148.80232 | (05122221) | 631900.63 | 4176300.44 | 151.34120 | (06010520) |
| 632250.63 | 4176300.44 | 143.58602 | (08021908) | 632600.63 | 4176300.44 | 104.56409 | (08021808) |
| 632950.63 | 4176300.44 | 66.90481 | (08121018) | 633300.63 | 4176300.44 | 46.05468 | (05020719) |
| 629800.63 | 4176650.44 | 38.62712 | (06122121) | 630150.63 | 4176650.44 | 47.65614 | (04021520) |
| 630500.63 | 4176650.44 | 67.70207 | (04010518) | 630850.63 | 4176650.44 | 86.60282 | (07012719) |
| 631200.63 | 4176650.44 | 104.77164 | (08091907) | 631550.63 | 4176650.44 | 106.71754 | (07121903) |
| 631900.63 | 4176650.44 | 136.07850 | (07091007) | 632250.63 | 4176650.44 | 96.64916 | (06062806) |
| 632600.63 | 4176650.44 | 85.73438 | (08021908) | 632950.63 | 4176650.44 | 69.35849 | (08021808) |
| 633300.63 | 4176650.44 | 44.30817 | (05011818) | 629800.63 | 4177000.44 | 32.30010 | (04021521) |
| 630150.63 | 4177000.44 | 42.10220 | (04010518) | 630500.63 | 4177000.44 | 53.95894 | (04120908) |
| 630850.63 | 4177000.44 | 66.12905 | (07021218) | 631200.63 | 4177000.44 | 83.98156 | (08011009) |
| 631550.63 | 4177000.44 | 78.55913 | (07121903) | 631900.63 | 4177000.44 | 88.19515 | (07091007) |
| 632250.63 | 4177000.44 | 72.63048 | (06010520) | 632600.63 | 4177000.44 | 62.60645 | (06062806) |
| 632950.63 | 4177000.44 | 53.54581 | (08021908) | 633300.63 | 4177000.44 | 40.86598 | (08021808) |
| 629800.63 | 4177350.44 | 29.60783 | (04010518) | 630150.63 | 4177350.44 | 34.44114 | (04120908) |
| 630500.63 | 4177350.44 | 43.39685 | (07122917) | 630850.63 | 4177350.44 | 47.09615 | (07012720) |
| 631200.63 | 4177350.44 | 61.28395 | (07021108) | 631550.63 | 4177350.44 | 57.49641 | (07121903) |
| 631900.63 | 4177350.44 | 58.12111 | (05122402) | 632250.63 | 4177350.44 | 53.32944 | (06020201) |
| 632600.63 | 4177350.44 | 46.68800 | (07010323) | 632950.63 | 4177350.44 | 45.45584 | (07022408) |
| 633300.63 | 4177350.44 | 37.69209 | (08021908) | 631670.70 | 4175493.59 | 373.34778 | (06052002) |
| 631669.80 | 4175641.41 | 967.00423 | (06121422) | 631665.32 | 4175796.39 | 309.91259 | (06062806) |
| 631417.17 | 4175826.85 | 487.93955 | (04081204) | 631417.17 | 4175673.66 | 998.80919 | (07102702) |
| 631422.55 | 4175484.63 | 1010.23752 | (06051905) | 631268.42 | 4175983.74 | 229.36443 | (04022205) |
| 631275.69 | 4175523.99 | 501.97499 | (04041821) | 631345.65 | 4175419.50 | 423.53262 | (05111717) |
| 631384.72 | 4175441.30 | 962.56303 | (04012317) | 631491.93 | 4175442.21 | 371.82638 | (08121017) |
| 631491.93 | 4175414.95 | 293.93146 | (08121017) | 631385.63 | 4175413.14 | 556.50140 | (04012317) |
| 631358.37 | 4175395.87 | 477.49582 | (06011109) | 631409.25 | 4175336.81 | 525.91893 | (05030118) |
| 631567.35 | 4175235.96 | 316.09274 | (04102623) | 631756.33 | 4175028.80 | 199.94236 | (05011817) |
| 631807.22 | 4175003.36 | 187.66872 | (08071406) | 631867.18 | 4174987.91 | 152.58696 | (08071406) |
| 631849.92 | 4175988.28 | 302.81934 | (06062806) | 631268.74 | 4175963.75 | 233.64120 | (04022205) |
| 631269.05 | 4175943.76 | 239.62660 | (05112504) | 631269.37 | 4175923.77 | 250.13555 | (05122508) |
| 631269.68 | 4175903.78 | 261.28964 | (05122508) | 631270.00 | 4175883.79 | 273.80874 | (04022119) |
| 631270.32 | 4175863.81 | 291.58869 | (04022119) | 631270.63 | 4175843.82 | 302.50453 | (07010318) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK22 ***

INCLUDING SOURCE(S): STCK22 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 329.29674 | (05122621) | 631271.26 | 4175803.84 | 354.08154 | (05122621) |
| 631271.58 | 4175783.85 | 362.91900 | (07120623) | 631271.90 | 4175763.86 | 379.11490 | (06033021) |
| 631272.21 | 4175743.87 | 427.26130 | (06033021) | 631272.53 | 4175723.88 | 445.74304 | (06033021) |
| 631272.85 | 4175703.89 | 488.64812 | (06011217) | 631273.16 | 4175683.90 | 535.91222 | (06011217) |
| 631273.48 | 4175663.91 | 535.38413 | (06121423) | 631273.79 | 4175643.92 | 540.84193 | (06121424) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631274.11 | 4175623.94 | 542.53794 | (04101604) | 631274.43 | 4175603.95 | 471.79371 | (05030320) |
| 631274.74 | 4175583.96 | 551.83441 | (04101719) | 631275.06 | 4175563.97 | 550.51072 | (04110818) |
| 631275.37 | 4175543.98 | 540.87133 | (06121422) | 631285.68 | 4175509.06 | 543.31186 | (07110617) |
| 631295.68 | 4175494.14 | 553.57534 | (07110617) | 631305.67 | 4175479.21 | 510.35850 | (07110617) |
| 631315.67 | 4175464.28 | 484.04520 | (04022118) | 631325.66 | 4175449.35 | 466.30008 | (05072102) |
| 631335.66 | 4175434.43 | 439.09316 | (05072102) | 631358.67 | 4175426.77 | 442.54564 | (05111717) |
| 631371.70 | 4175434.03 | 825.16474 | (04012317) | 631402.59 | 4175441.45 | 877.41099 | (08121017) |
| 631420.46 | 4175441.60 | 797.95735 | (05111717) | 631438.33 | 4175441.76 | 682.54192 | (05111717) |
| 631456.19 | 4175441.91 | 552.32763 | (05111717) | 631474.06 | 4175442.06 | 451.09137 | (08121017) |
| 631491.93 | 4175428.58 | 333.96816 | (08121017) | 631474.21 | 4175414.65 | 380.54863 | (08121017) |
| 631456.50 | 4175414.35 | 464.80419 | (08121017) | 631438.78 | 4175414.05 | 534.20154 | (08121017) |
| 631421.06 | 4175413.74 | 644.17763 | (07121217) | 631403.35 | 4175413.44 | 957.96149 | (04012317) |
| 631372.00 | 4175404.51 | 565.48831 | (06011109) | 631371.09 | 4175381.11 | 427.37591 | (06011109) |
| 631383.81 | 4175366.34 | 409.37658 | (06011109) | 631396.53 | 4175351.58 | 480.84296 | (05030118) |
| 631425.06 | 4175326.73 | 540.29702 | (05030118) | 631440.87 | 4175316.64 | 529.78144 | (06102817) |
| 631456.68 | 4175306.56 | 437.44133 | (06102817) | 631472.49 | 4175296.47 | 413.92926 | (07100818) |
| 631488.30 | 4175286.39 | 415.70431 | (07100818) | 631504.11 | 4175276.30 | 350.72818 | (08081805) |
| 631519.92 | 4175266.22 | 274.32603 | (08081805) | 631535.73 | 4175256.13 | 254.67732 | (04102623) |
| 631551.54 | 4175246.05 | 286.77087 | (04102623) | 631579.95 | 4175222.15 | 277.75432 | (08102618) |
| 631592.55 | 4175208.34 | 297.33532 | (08102618) | 631605.15 | 4175194.53 | 270.33435 | (04102617) |
| 631617.74 | 4175180.72 | 262.23740 | (04102617) | 631630.34 | 4175166.91 | 254.31786 | (04102617) |
| 631642.94 | 4175153.10 | 243.70497 | (04102617) | 631655.54 | 4175139.29 | 231.13284 | (04102617) |
| 631668.14 | 4175125.47 | 217.24303 | (04102617) | 631680.74 | 4175111.66 | 202.58609 | (04102617) |
| 631693.34 | 4175097.85 | 202.24663 | (05011817) | 631705.94 | 4175084.04 | 204.48362 | (05011817) |
| 631718.53 | 4175070.23 | 205.20602 | (05011817) | 631731.13 | 4175056.42 | 204.57990 | (05011817) |
| 631743.73 | 4175042.61 | 202.77238 | (05011817) | 631773.29 | 4175020.32 | 197.50547 | (05011817) |
| 631790.26 | 4175011.84 | 193.20515 | (08071406) | 631822.21 | 4174999.50 | 181.29979 | (08071406) |
| 631837.20 | 4174995.64 | 173.06437 | (08071406) | 631852.19 | 4174991.77 | 163.35929 | (08071406) |
| 631866.84 | 4175007.53 | 157.20309 | (04122822) | 631866.50 | 4175027.14 | 164.14412 | (08031018) |
| 631866.16 | 4175046.76 | 175.25218 | (08031018) | 631865.83 | 4175066.37 | 185.92688 | (08031018) |
| 631865.49 | 4175085.99 | 195.84599 | (08031018) | 631865.15 | 4175105.60 | 204.63799 | (08031018) |
| 631864.81 | 4175125.22 | 211.91323 | (08031018) | 631864.47 | 4175144.83 | 217.23489 | (08031018) |
| 631864.13 | 4175164.45 | 220.18614 | (08031018) | 631863.80 | 4175184.06 | 220.36667 | (08031018) |
| 631863.46 | 4175203.68 | 220.84541 | (05011317) | 631863.12 | 4175223.29 | 238.89146 | (05011317) |
| 631862.78 | 4175242.91 | 253.64115 | (05011317) | 631862.44 | 4175262.52 | 273.15709 | (05112916) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK22 ***

INCLUDING SOURCE(S): STCK22 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 298.06769 | (05112916) | 631861.77 | 4175301.75 | 318.35457 | (05112916) |
| 631861.43 | 4175321.37 | 332.98187 | (05112916) | 631861.09 | 4175340.98 | 431.47497 | (05011417) |
| 631860.75 | 4175360.60 | 710.88314 | (05110817) | 631860.41 | 4175380.21 | 603.95411 | (07111901) |
| 631860.07 | 4175399.83 | 785.34624 | (08022004) | 631859.73 | 4175419.44 | 742.13879 | (08012218) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631859.40 | 4175439.06 | 762.44850 | (07080303) | 631859.06 | 4175458.67 | 977.15419 | (07080303) |
| 631858.72 | 4175478.29 | 759.35247 | (07080303) | 631858.38 | 4175497.90 | 767.67757 | (04081304) |
| 631858.04 | 4175517.52 | 757.76978 | (05071701) | 631857.70 | 4175537.13 | 705.80946 | (05071701) |
| 631857.37 | 4175556.75 | 812.04655 | (04030118) | 631857.03 | 4175576.36 | 1033.93356 | (04030118) |
| 631856.69 | 4175595.98 | 795.28549 | (04030118) | 631856.35 | 4175615.59 | 805.44550 | (04030118) |
| 631856.01 | 4175635.21 | 676.67819 | (08112619) | 631855.67 | 4175654.82 | 800.35742 | (08112619) |
| 631855.33 | 4175674.44 | 862.70964 | (08112619) | 631855.00 | 4175694.05 | 893.43886 | (06111908) |
| 631854.66 | 4175713.67 | 943.03637 | (06111908) | 631854.32 | 4175733.28 | 918.96144 | (06111908) |
| 631853.98 | 4175752.90 | 883.72919 | (06111908) | 631853.64 | 4175772.51 | 722.97535 | (05072806) |
| 631853.30 | 4175792.13 | 876.23656 | (06110305) | 631852.97 | 4175811.74 | 714.62498 | (05072806) |
| 631852.63 | 4175831.36 | 767.24130 | (04121019) | 631852.29 | 4175850.97 | 542.69356 | (06052306) |
| 631851.95 | 4175870.59 | 574.84495 | (07020318) | 631851.61 | 4175890.20 | 313.65193 | (06052306) |
| 631851.27 | 4175909.82 | 299.84502 | (06062806) | 631850.94 | 4175929.43 | 309.72984 | (06062806) |
| 631850.60 | 4175949.05 | 313.65705 | (06062806) | 631850.26 | 4175968.66 | 311.22855 | (06062806) |
| 631830.54 | 4175988.13 | 303.84086 | (06062806) | 631811.15 | 4175987.98 | 295.07909 | (06062806) |
| 631791.77 | 4175987.83 | 276.81058 | (06062806) | 631772.39 | 4175987.67 | 250.38012 | (06062806) |
| 631753.00 | 4175987.52 | 244.39875 | (06081406) | 631733.62 | 4175987.37 | 272.54707 | (07091007) |
| 631714.24 | 4175987.22 | 318.20852 | (07091007) | 631694.85 | 4175987.07 | 445.57954 | (06081406) |
| 631675.47 | 4175986.92 | 512.86736 | (07091007) | 631656.09 | 4175986.77 | 532.69802 | (07091007) |
| 631636.70 | 4175986.62 | 515.28367 | (07091007) | 631617.32 | 4175986.46 | 472.68483 | (07091007) |
| 631597.94 | 4175986.31 | 410.23021 | (07091007) | 631578.55 | 4175986.16 | 356.05037 | (04111519) |
| 631559.17 | 4175986.01 | 320.24953 | (04111519) | 631539.79 | 4175985.86 | 272.22553 | (04111519) |
| 631520.40 | 4175985.71 | 264.46623 | (07030418) | 631501.02 | 4175985.56 | 262.08746 | (07030418) |
| 631481.64 | 4175985.40 | 259.59765 | (07080306) | 631462.25 | 4175985.25 | 251.92887 | (07020208) |
| 631442.87 | 4175985.10 | 256.94479 | (08091907) | 631423.49 | 4175984.95 | 273.94807 | (08091907) |
| 631404.10 | 4175984.80 | 278.78079 | (08091907) | 631384.72 | 4175984.65 | 269.66375 | (08091907) |
| 631365.34 | 4175984.50 | 248.65334 | (08091907) | 631345.95 | 4175984.35 | 238.21124 | (07090905) |
| 631326.57 | 4175984.19 | 235.31511 | (05122507) | 631307.19 | 4175984.04 | 230.95503 | (07012721) |
| 631287.80 | 4175983.89 | 232.10839 | (04022205) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK23 ***

INCLUDING SOURCE(S): STCK23 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 160.52022 | (05112916) | 632304.44 | 4174354.52 | 70.22691 | (05020818) |
| 632192.15 | 4174956.32 | 145.03329 | (05112916) | 632420.62 | 4175510.15 | 161.28896 | (06011619) |
| 632418.97 | 4175552.92 | 178.07082 | (07012318) | 631187.00 | 4175727.00 | 252.65383 | (07120623) |
| 631166.00 | 4175729.00 | 241.49882 | (07120623) | 631121.00 | 4175719.00 | 227.11245 | (05110619) |
| 631035.00 | 4174830.00 | 149.01253 | (07121217) | 631106.00 | 4174825.00 | 205.36989 | (06011109) |
| 631937.00 | 4174528.00 | 102.79285 | (05011817) | 631322.00 | 4174522.00 | 111.51032 | (08022002) |
| 629800.63 | 4173850.44 | 27.78321 | (06121421) | 630150.63 | 4173850.44 | 29.41045 | (05122423) |
| 630500.63 | 4173850.44 | 56.10121 | (06011109) | 630850.63 | 4173850.44 | 50.30531 | (06011021) |
| 631200.63 | 4173850.44 | 57.31606 | (08022002) | 631550.63 | 4173850.44 | 50.21101 | (05021805) |
| 631900.63 | 4173850.44 | 55.09751 | (07020623) | 632250.63 | 4173850.44 | 50.59266 | (06020105) |

| | | | | | |
|---|---|---|---|---|---|
| 632600.63 | 4173850.44 | 43.01297 (05020818) | 632950.63 | 4173850.44 | 35.43554 (04022018) |
| 633300.63 | 4173850.44 | 30.29035 (05021018) | 629800.63 | 4174200.44 | 28.88075 (07020624) |
| 630150.63 | 4174200.44 | 40.11895 (06121421) | 630500.63 | 4174200.44 | 46.84766 (07121217) |
| 630850.63 | 4174200.44 | 83.70158 (05012117) | 631200.63 | 4174200.44 | 75.49124 (08022002) |
| 631550.63 | 4174200.44 | 70.75950 (05021805) | 631900.63 | 4174200.44 | 76.70775 (05021804) |
| 632250.63 | 4174200.44 | 68.59751 (04122822) | 632600.63 | 4174200.44 | 56.70848 (05011520) |
| 632950.63 | 4174200.44 | 42.93776 (05021018) | 633300.63 | 4174200.44 | 42.74674 (06011617) |
| 629800.63 | 4174550.44 | 36.82568 (06120217) | 630150.63 | 4174550.44 | 48.90938 (07020624) |
| 630500.63 | 4174550.44 | 68.86168 (06121421) | 630850.63 | 4174550.44 | 103.49623 (06011109) |
| 631200.63 | 4174550.44 | 124.21347 (06102817) | 631550.63 | 4174550.44 | 101.16256 (05021805) |
| 631900.63 | 4174550.44 | 107.40370 (05011817) | 632250.63 | 4174550.44 | 93.00779 (05011521) |
| 632600.63 | 4174550.44 | 73.74301 (05112916) | 632950.63 | 4174550.44 | 60.63460 (06011617) |
| 633300.63 | 4174550.44 | 43.29977 (06120617) | 629800.63 | 4174900.44 | 45.23941 (06020109) |
| 630150.63 | 4174900.44 | 54.98341 (06121217) | 630500.63 | 4174900.44 | 89.43195 (06120217) |
| 630850.63 | 4174900.44 | 141.72376 (06121421) | 631200.63 | 4174900.44 | 236.58871 (06011109) |
| 631550.63 | 4174900.44 | 157.21409 (07030618) | 631900.63 | 4174900.44 | 153.31406 (08031018) |
| 632250.63 | 4174900.44 | 132.74114 (05112916) | 632600.63 | 4174900.44 | 92.36627 (06121106) |
| 632950.63 | 4174900.44 | 63.09075 (05021801) | 633300.63 | 4174900.44 | 49.88273 (07010217) |
| 629800.63 | 4175250.44 | 41.68600 (08012221) | 630150.63 | 4175250.44 | 60.64067 (08012221) |
| 630500.63 | 4175250.44 | 105.77029 (04022207) | 630850.63 | 4175250.44 | 161.65284 (04022208) |
| 631200.63 | 4175250.44 | 304.63539 (05122619) | 631550.63 | 4175250.44 | 350.49067 (05110722) |
| 631900.63 | 4175250.44 | 261.51106 (05110817) | 632250.63 | 4175250.44 | 175.69075 (07010217) |
| 632600.63 | 4175250.44 | 111.41630 (07020218) | 632950.63 | 4175250.44 | 66.84522 (06011618) |
| 633300.63 | 4175250.44 | 48.05669 (05122223) | 629800.63 | 4175600.44 | 46.20791 (05122618) |
| 630150.63 | 4175600.44 | 60.69982 (05122618) | 630500.63 | 4175600.44 | 83.85993 (05122618) |
| 630850.63 | 4175600.44 | 167.30786 (06011024) | 631200.63 | 4175600.44 | 363.01385 (05030324) |
| 631550.63 | 4175600.44 | 1206.55534 (06111518) | 631900.63 | 4175600.44 | 1029.33749 (04111603) |
| 632250.63 | 4175600.44 | 255.89033 (07012418) | 632600.63 | 4175600.44 | 128.30236 (07012318) |
| 632950.63 | 4175600.44 | 71.13451 (07012318) | 633300.63 | 4175600.44 | 49.48519 (07011518) |
| 629800.63 | 4175950.44 | 39.20180 (06011024) | 630150.63 | 4175950.44 | 52.07456 (07120621) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK23 ***

INCLUDING SOURCE(S): STCK23 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 92.11178 (07120622) | 630850.63 | 4175950.44 | 132.03547 (06122121) |
| 631200.63 | 4175950.44 | 182.64979 (04022205) | 631550.63 | 4175950.44 | 281.96297 (07030418) |
| 631900.63 | 4175950.44 | 297.49621 (06062806) | 632250.63 | 4175950.44 | 197.18545 (08122903) |
| 632600.63 | 4175950.44 | 119.86647 (07122919) | 632950.63 | 4175950.44 | 74.35330 (05122401) |
| 633300.63 | 4175950.44 | 49.40425 (08010924) | 629800.63 | 4176300.44 | 40.21623 (07120622) |
| 630150.63 | 4176300.44 | 54.38593 (06122121) | 630500.63 | 4176300.44 | 72.46496 (04021520) |
| 630850.63 | 4176300.44 | 104.05727 (04120903) | 631200.63 | 4176300.44 | 143.56329 (08091907) |
| 631550.63 | 4176300.44 | 139.46390 (07121903) | 631900.63 | 4176300.44 | 150.65207 (07091007) |
| 632250.63 | 4176300.44 | 147.04085 (06062806) | 632600.63 | 4176300.44 | 115.20481 (08021808) |

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|---|---|---|---|---|---|---|---|
| 632950.63 | 4176300.44 | 68.13271 | (05011818) | 633300.63 | 4176300.44 | 46.57868 | (04011021) |
| 629800.63 | 4176650.44 | 36.40455 | (04021520) | 630150.63 | 4176650.44 | 47.18391 | (04021521) |
| 630500.63 | 4176650.44 | 64.03893 | (04120903) | 630850.63 | 4176650.44 | 82.81201 | (07122917) |
| 631200.63 | 4176650.44 | 91.02683 | (06013008) | 631550.63 | 4176650.44 | 103.48724 | (07121903) |
| 631900.63 | 4176650.44 | 139.83863 | (07091007) | 632250.63 | 4176650.44 | 100.28916 | (07010323) |
| 632600.63 | 4176650.44 | 80.44576 | (08122905) | 632950.63 | 4176650.44 | 57.83042 | (07021220) |
| 633300.63 | 4176650.44 | 45.98806 | (08021808) | 629800.63 | 4177000.44 | 33.42273 | (04021521) |
| 630150.63 | 4177000.44 | 40.34806 | (04120903) | 630500.63 | 4177000.44 | 49.50042 | (07012719) |
| 630850.63 | 4177000.44 | 62.83402 | (04022021) | 631200.63 | 4177000.44 | 79.60979 | (08011009) |
| 631550.63 | 4177000.44 | 75.45100 | (07121903) | 631900.63 | 4177000.44 | 83.48813 | (07091007) |
| 632250.63 | 4177000.44 | 71.09635 | (06122319) | 632600.63 | 4177000.44 | 60.39513 | (07121908) |
| 632950.63 | 4177000.44 | 46.72569 | (05010604) | 633300.63 | 4177000.44 | 41.01386 | (08021908) |
| 629800.63 | 4177350.44 | 28.71590 | (04010518) | 630150.63 | 4177350.44 | 34.09292 | (04120908) |
| 630500.63 | 4177350.44 | 41.57076 | (08122718) | 630850.63 | 4177350.44 | 45.71939 | (07012722) |
| 631200.63 | 4177350.44 | 57.29045 | (07021108) | 631550.63 | 4177350.44 | 54.79007 | (07121903) |
| 631900.63 | 4177350.44 | 56.25714 | (05122402) | 632250.63 | 4177350.44 | 51.38012 | (06012820) |
| 632600.63 | 4177350.44 | 45.24048 | (06010522) | 632950.63 | 4177350.44 | 40.98925 | (07022408) |
| 633300.63 | 4177350.44 | 31.76362 | (05010604) | 631670.70 | 4175493.59 | 890.69767 | (05030402) |
| 631669.80 | 4175641.41 | 591.93503 | (05111717) | 631665.32 | 4175796.39 | 261.75237 | (06081406) |
| 631417.17 | 4175826.85 | 242.80765 | (05042719) | 631417.17 | 4175673.66 | 318.62045 | (08091907) |
| 631422.55 | 4175484.63 | 1062.06997 | (06092418) | 631268.42 | 4175983.74 | 187.88967 | (05122507) |
| 631275.69 | 4175523.99 | 466.71761 | (05030320) | 631345.65 | 4175419.50 | 744.02977 | (07110617) |
| 631384.72 | 4175441.30 | 899.66136 | (07110617) | 631491.93 | 4175442.21 | 1777.46503 | (07110617) |
| 631491.93 | 4175414.95 | 1305.62451 | (05111717) | 631385.63 | 4175413.14 | 748.12726 | (07110617) |
| 631358.37 | 4175395.87 | 639.15508 | (04022118) | 631409.25 | 4175336.81 | 600.45685 | (04012317) |
| 631567.35 | 4175235.96 | 372.07281 | (04102623) | 631756.33 | 4175028.80 | 218.67432 | (08071406) |
| 631807.22 | 4175003.36 | 182.87353 | (08071406) | 631867.18 | 4174987.91 | 183.98823 | (08031018) |
| 631849.92 | 4175988.28 | 231.86663 | (06062806) | 631268.74 | 4175963.75 | 193.44225 | (05122507) |
| 631269.05 | 4175943.76 | 198.47938 | (07012721) | 631269.37 | 4175923.77 | 201.97366 | (07012721) |
| 631269.68 | 4175903.78 | 210.91463 | (04022205) | 631270.00 | 4175883.79 | 218.24696 | (04022205) |
| 631270.32 | 4175863.81 | 222.42511 | (04022205) | 631270.63 | 4175843.82 | 227.20990 | (05112504) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK23 ***

INCLUDING SOURCE(S): STCK23 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 236.87238 | (05122508) | 631271.26 | 4175803.84 | 247.92895 | (05122508) |
| 631271.58 | 4175783.85 | 253.11434 | (05122508) | 631271.90 | 4175763.86 | 266.86729 | (07082502) |
| 631272.21 | 4175743.87 | 276.30897 | (07082502) | 631272.53 | 4175723.88 | 322.36279 | (04110906) |
| 631272.85 | 4175703.89 | 303.49514 | (04082001) | 631273.16 | 4175683.90 | 311.75839 | (04082001) |
| 631273.48 | 4175663.91 | 321.68799 | (06033021) | 631273.79 | 4175643.92 | 354.64608 | (06033021) |
| 631274.11 | 4175623.94 | 368.64538 | (06033021) | 631274.43 | 4175603.95 | 384.97228 | (06011217) |
| 631274.74 | 4175583.96 | 431.61469 | (06121423) | 631275.06 | 4175563.97 | 465.04496 | (06121423) |
| 631275.37 | 4175543.98 | 470.22959 | (06121424) | 631285.68 | 4175509.06 | 462.09785 | (05030320) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631295.68 | 4175494.14 | 549.36655 | (04101719) | 631305.67 | 4175479.21 | 642.82478 | (04101719) |
| 631315.67 | 4175464.28 | 659.75249 | (04110818) | 631325.66 | 4175449.35 | 645.24433 | (04041821) |
| 631335.66 | 4175434.43 | 689.51193 | (07110617) | 631358.67 | 4175426.77 | 792.76828 | (07110617) |
| 631371.70 | 4175434.03 | 844.61483 | (07110617) | 631402.59 | 4175441.45 | 979.12987 | (07110617) |
| 631420.46 | 4175441.60 | 1135.57726 | (08081806) | 631438.33 | 4175441.76 | 1346.34112 | (08081806) |
| 631456.19 | 4175441.91 | 1897.87781 | (05072102) | 631474.06 | 4175442.06 | 1865.24143 | (05072102) |
| 631491.93 | 4175428.58 | 1429.28628 | (05111717) | 631474.21 | 4175414.65 | 1799.52597 | (05072102) |
| 631456.50 | 4175414.35 | 1577.96910 | (05111717) | 631438.78 | 4175414.05 | 1555.33395 | (08081806) |
| 631421.06 | 4175413.74 | 985.67469 | (06041020) | 631403.35 | 4175413.44 | 1067.61444 | (06041020) |
| 631372.00 | 4175404.51 | 677.01060 | (04022118) | 631371.09 | 4175381.11 | 617.98748 | (05072102) |
| 631383.81 | 4175366.34 | 574.39074 | (05122619) | 631396.53 | 4175351.58 | 584.52272 | (04012317) |
| 631425.06 | 4175326.73 | 616.13045 | (05030118) | 631440.87 | 4175316.64 | 663.92139 | (06102817) |
| 631456.68 | 4175306.56 | 625.11353 | (06102817) | 631472.49 | 4175296.47 | 550.56142 | (07100818) |
| 631488.30 | 4175286.39 | 597.13027 | (07100818) | 631504.11 | 4175276.30 | 482.74972 | (08081805) |
| 631519.92 | 4175266.22 | 382.20129 | (08081805) | 631535.73 | 4175256.13 | 344.78295 | (08081805) |
| 631551.54 | 4175246.05 | 346.74107 | (05110722) | 631579.95 | 4175222.15 | 341.58773 | (04102617) |
| 631592.55 | 4175208.34 | 333.45501 | (04102617) | 631605.15 | 4175194.53 | 319.14302 | (04102617) |
| 631617.74 | 4175180.72 | 302.87928 | (04102617) | 631630.34 | 4175166.91 | 283.75275 | (04102617) |
| 631642.94 | 4175153.10 | 262.76650 | (04102617) | 631655.54 | 4175139.29 | 255.64702 | (05011817) |
| 631668.14 | 4175125.47 | 255.95577 | (05011817) | 631680.74 | 4175111.66 | 253.93596 | (05011817) |
| 631693.34 | 4175097.85 | 250.00168 | (05011817) | 631705.94 | 4175084.04 | 244.95244 | (08071406) |
| 631718.53 | 4175070.23 | 239.76540 | (08071406) | 631731.13 | 4175056.42 | 233.49103 | (08071406) |
| 631743.73 | 4175042.61 | 226.38906 | (08071406) | 631773.29 | 4175020.32 | 208.73581 | (08071406) |
| 631790.26 | 4175011.84 | 196.56205 | (08071406) | 631822.21 | 4174999.50 | 174.51317 | (08031018) |
| 631837.20 | 4174995.64 | 179.52559 | (08031018) | 631852.19 | 4174991.77 | 182.66363 | (08031018) |
| 631866.84 | 4175007.53 | 191.78540 | (08031018) | 631866.50 | 4175027.14 | 198.26466 | (08031018) |
| 631866.16 | 4175046.76 | 203.05708 | (08031018) | 631865.83 | 4175066.37 | 205.76717 | (08031018) |
| 631865.49 | 4175085.99 | 206.02827 | (08031018) | 631865.15 | 4175105.60 | 207.98274 | (05011317) |
| 631864.81 | 4175125.22 | 223.18573 | (05011317) | 631864.47 | 4175144.83 | 235.41289 | (05011317) |
| 631864.13 | 4175164.45 | 243.54959 | (05011317) | 631863.80 | 4175184.06 | 246.71169 | (05011417) |
| 631863.46 | 4175203.68 | 261.58610 | (05011417) | 631863.12 | 4175223.29 | 270.02257 | (05011417) |
| 631862.78 | 4175242.91 | 278.08783 | (05110817) | 631862.44 | 4175262.52 | 286.66137 | (05110817) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK23 ***

INCLUDING SOURCE(S): STCK23 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 286.56035 | (07102905) | 631861.77 | 4175301.75 | 288.87350 | (08022004) |
| 631861.43 | 4175321.37 | 301.59754 | (08021718) | 631861.09 | 4175340.98 | 327.65001 | (06052002) |
| 631860.75 | 4175360.60 | 340.84792 | (08110218) | 631860.41 | 4175380.21 | 369.49110 | (07111901) |
| 631860.07 | 4175399.83 | 401.25048 | (08012218) | 631859.73 | 4175419.44 | 428.91115 | (06111919) |
| 631859.40 | 4175439.06 | 500.87671 | (04081304) | 631859.06 | 4175458.67 | 652.37318 | (05020803) |
| 631858.72 | 4175478.29 | 874.95518 | (05020803) | 631858.38 | 4175497.90 | 1063.13090 | (05020803) |
| 631858.04 | 4175517.52 | 1281.25192 | (08041119) | 631857.70 | 4175537.13 | 1305.62029 | (05071803) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631857.37 | 4175556.75 | 1309.79812 | (05080305) | 631857.03 | 4175576.36 | 1064.22946 | (06081403) |
| 631856.69 | 4175595.98 | 720.76902 | (06111908) | 631856.35 | 4175615.59 | 767.51229 | (06111908) |
| 631856.01 | 4175635.21 | 758.73252 | (06111908) | 631855.67 | 4175654.82 | 700.81486 | (06102818) |
| 631855.33 | 4175674.44 | 633.30888 | (06102818) | 631855.00 | 4175694.05 | 609.41215 | (07120406) |
| 631854.66 | 4175713.67 | 622.94390 | (07031619) | 631854.32 | 4175733.28 | 578.41629 | (07031619) |
| 631853.98 | 4175752.90 | 582.32266 | (06052306) | 631853.64 | 4175772.51 | 598.20189 | (06052306) |
| 631853.30 | 4175792.13 | 591.29355 | (06052306) | 631852.97 | 4175811.74 | 556.10647 | (07110618) |
| 631852.63 | 4175831.36 | 501.42802 | (07110618) | 631852.29 | 4175850.97 | 532.54120 | (06062806) |
| 631851.95 | 4175870.59 | 557.20888 | (07020318) | 631851.61 | 4175890.20 | 373.91003 | (06062806) |
| 631851.27 | 4175909.82 | 344.98411 | (06062806) | 631850.94 | 4175929.43 | 317.23569 | (06062806) |
| 631850.60 | 4175949.05 | 288.98943 | (06062806) | 631850.26 | 4175968.66 | 260.34522 | (06062806) |
| 631830.54 | 4175988.13 | 223.62134 | (05121424) | 631811.15 | 4175987.98 | 228.26666 | (06120218) |
| 631791.77 | 4175987.83 | 235.31549 | (06122319) | 631772.39 | 4175987.67 | 241.57656 | (07091007) |
| 631753.00 | 4175987.52 | 279.49155 | (07091007) | 631733.62 | 4175987.37 | 312.25942 | (07091007) |
| 631714.24 | 4175987.22 | 336.41075 | (07091007) | 631694.85 | 4175987.07 | 364.62240 | (07091007) |
| 631675.47 | 4175986.92 | 476.61318 | (07091007) | 631656.09 | 4175986.77 | 497.77677 | (07091007) |
| 631636.70 | 4175986.62 | 454.02192 | (07091007) | 631617.32 | 4175986.46 | 395.98417 | (07091007) |
| 631597.94 | 4175986.31 | 331.77986 | (05072006) | 631578.55 | 4175986.16 | 326.83319 | (04111519) |
| 631559.17 | 4175986.01 | 292.09993 | (04111519) | 631539.79 | 4175985.86 | 249.36548 | (04111519) |
| 631520.40 | 4175985.71 | 214.06666 | (07030418) | 631501.02 | 4175985.56 | 217.35373 | (07030418) |
| 631481.64 | 4175985.40 | 215.29234 | (07080306) | 631462.25 | 4175985.25 | 212.48767 | (07080306) |
| 631442.87 | 4175985.10 | 210.04209 | (07020208) | 631423.49 | 4175984.95 | 209.12428 | (07020208) |
| 631404.10 | 4175984.80 | 221.02874 | (08091907) | 631384.72 | 4175984.65 | 232.50216 | (08091907) |
| 631365.34 | 4175984.50 | 234.43237 | (08091907) | 631345.95 | 4175984.35 | 227.05793 | (08091907) |
| 631326.57 | 4175984.19 | 211.68816 | (08091907) | 631307.19 | 4175984.04 | 191.60054 | (07090905) |
| 631287.80 | 4175983.89 | 186.20731 | (05122507) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK24 ***

INCLUDING SOURCE(S): STCK24 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 151.35390 | (05110817) | 632304.44 | 4174354.52 | 80.62152 | (05011521) |
| 632192.15 | 4174956.32 | 135.34357 | (06011617) | 632420.62 | 4175510.15 | 164.18906 | (07012418) |
| 632418.97 | 4175552.92 | 164.57954 | (06121320) | 631187.00 | 4175727.00 | 216.37955 | (07010318) |
| 631166.00 | 4175729.00 | 210.42582 | (07010318) | 631121.00 | 4175719.00 | 201.18094 | (06020108) |
| 631035.00 | 4174830.00 | 215.94427 | (04012317) | 631106.00 | 4174825.00 | 199.64633 | (07121217) |
| 631937.00 | 4174528.00 | 108.80681 | (06020105) | 631322.00 | 4174522.00 | 132.20651 | (07111022) |
| 629800.63 | 4173850.44 | 31.01966 | (06121421) | 630150.63 | 4173850.44 | 31.34004 | (06011022) |
| 630500.63 | 4173850.44 | 57.58965 | (06011109) | 630850.63 | 4173850.44 | 59.74166 | (06011021) |
| 631200.63 | 4173850.44 | 64.23290 | (08022002) | 631550.63 | 4173850.44 | 55.32258 | (05021805) |
| 631900.63 | 4173850.44 | 59.99521 | (07020623) | 632250.63 | 4173850.44 | 52.55921 | (06020105) |
| 632600.63 | 4173850.44 | 44.62433 | (05011521) | 632950.63 | 4173850.44 | 40.66702 | (04022018) |
| 633300.63 | 4173850.44 | 29.18545 | (05021018) | 629800.63 | 4174200.44 | 34.58628 | (07020624) |
| 630150.63 | 4174200.44 | 44.25734 | (06121421) | 630500.63 | 4174200.44 | 49.85384 | (05122423) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 630850.63 | 4174200.44 | 101.51964 | (06011109) | 631200.63 | 4174200.44 | 80.69002 | (06121017) |
| 631550.63 | 4174200.44 | 80.10838 | (05021805) | 631900.63 | 4174200.44 | 86.65809 | (07011417) |
| 632250.63 | 4174200.44 | 71.79911 | (05020818) | 632600.63 | 4174200.44 | 59.51184 | (04022018) |
| 632950.63 | 4174200.44 | 40.32176 | (05112916) | 633300.63 | 4174200.44 | 42.69423 | (06011617) |
| 629800.63 | 4174550.44 | 37.44605 | (06121217) | 630150.63 | 4174550.44 | 53.57343 | (04011017) |
| 630500.63 | 4174550.44 | 71.37027 | (06121421) | 630850.63 | 4174550.44 | 101.73402 | (04012317) |
| 631200.63 | 4174550.44 | 153.38103 | (06102817) | 631550.63 | 4174550.44 | 118.91816 | (05021805) |
| 631900.63 | 4174550.44 | 116.15229 | (05011817) | 632250.63 | 4174550.44 | 94.57809 | (05011520) |
| 632600.63 | 4174550.44 | 74.39687 | (06011617) | 632950.63 | 4174550.44 | 55.71238 | (07012703) |
| 633300.63 | 4174550.44 | 42.06210 | (04022223) | 629800.63 | 4174900.44 | 46.52949 | (04022207) |
| 630150.63 | 4174900.44 | 55.61639 | (04022208) | 630500.63 | 4174900.44 | 80.62390 | (06121217) |
| 630850.63 | 4174900.44 | 134.16475 | (07020624) | 631200.63 | 4174900.44 | 300.76409 | (06011109) |
| 631550.63 | 4174900.44 | 195.23728 | (05110722) | 631900.63 | 4174900.44 | 176.35027 | (08031018) |
| 632250.63 | 4174900.44 | 128.85566 | (06011617) | 632600.63 | 4174900.44 | 94.08476 | (04022223) |
| 632950.63 | 4174900.44 | 67.90039 | (07010217) | 633300.63 | 4174900.44 | 48.34352 | (07010217) |
| 629800.63 | 4175250.44 | 47.13093 | (04121304) | 630150.63 | 4175250.44 | 59.75403 | (04121304) |
| 630500.63 | 4175250.44 | 89.06412 | (08012221) | 630850.63 | 4175250.44 | 164.95232 | (04022207) |
| 631200.63 | 4175250.44 | 337.68263 | (05112423) | 631550.63 | 4175250.44 | 525.87137 | (07030618) |
| 631900.63 | 4175250.44 | 285.34301 | (04021502) | 632250.63 | 4175250.44 | 182.85666 | (06011618) |
| 632600.63 | 4175250.44 | 107.31792 | (05122223) | 632950.63 | 4175250.44 | 68.94954 | (05121217) |
| 633300.63 | 4175250.44 | 48.87370 | (05121217) | 629800.63 | 4175600.44 | 38.55225 | (07020701) |
| 630150.63 | 4175600.44 | 57.88388 | (06011024) | 630500.63 | 4175600.44 | 94.50541 | (06011024) |
| 630850.63 | 4175600.44 | 143.40189 | (05040705) | 631200.63 | 4175600.44 | 257.23348 | (07102702) |
| 631550.63 | 4175600.44 | 804.39702 | (05112507) | 631900.63 | 4175600.44 | 477.74190 | (06102818) |
| 632250.63 | 4175600.44 | 209.85082 | (08010924) | 632600.63 | 4175600.44 | 117.69931 | (05012018) |
| 632950.63 | 4175600.44 | 70.12386 | (07012418) | 633300.63 | 4175600.44 | 48.49726 | (07012418) |
| 629800.63 | 4175950.44 | 36.63435 | (07120621) | 630150.63 | 4175950.44 | 57.95019 | (07120622) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK24 ***

INCLUDING SOURCE(S): STCK24 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 77.84486 | (06122121) | 630850.63 | 4175950.44 | 116.08200 | (07102703) |
| 631200.63 | 4175950.44 | 164.23058 | (07090906) | 631550.63 | 4175950.44 | 231.29469 | (06111518) |
| 631900.63 | 4175950.44 | 234.94871 | (06010521) | 632250.63 | 4175950.44 | 180.18253 | (08121517) |
| 632600.63 | 4175950.44 | 116.77507 | (05020806) | 632950.63 | 4175950.44 | 68.67376 | (06121503) |
| 633300.63 | 4175950.44 | 48.82637 | (05122401) | 629800.63 | 4176300.44 | 35.04983 | (05021923) |
| 630150.63 | 4176300.44 | 51.11511 | (06122121) | 630500.63 | 4176300.44 | 76.01339 | (04021521) |
| 630850.63 | 4176300.44 | 99.80427 | (04120908) | 631200.63 | 4176300.44 | 141.31538 | (08091907) |
| 631550.63 | 4176300.44 | 141.49452 | (07121903) | 631900.63 | 4176300.44 | 174.06665 | (07091007) |
| 632250.63 | 4176300.44 | 154.23935 | (06062806) | 632600.63 | 4176300.44 | 99.89539 | (06122320) |
| 632950.63 | 4176300.44 | 65.46345 | (04121101) | 633300.63 | 4176300.44 | 44.32677 | (05020806) |
| 629800.63 | 4176650.44 | 36.28622 | (04021520) | 630150.63 | 4176650.44 | 46.34945 | (04021521) |
| 630500.63 | 4176650.44 | 57.78554 | (04120903) | 630850.63 | 4176650.44 | 79.21770 | (08122718) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631200.63 | 4176650.44 | 97.38135 | (08011009) | 631550.63 | 4176650.44 | 102.93024 | (07121903) |
| 631900.63 | 4176650.44 | 139.01185 | (07091007) | 632250.63 | 4176650.44 | 102.00159 | (06120218) |
| 632600.63 | 4176650.44 | 84.95877 | (07022408) | 632950.63 | 4176650.44 | 64.97085 | (08021908) |
| 633300.63 | 4176650.44 | 51.13775 | (08021808) | 629800.63 | 4177000.44 | 31.29140 | (04021521) |
| 630150.63 | 4177000.44 | 38.87188 | (04120903) | 630500.63 | 4177000.44 | 49.91206 | (07122917) |
| 630850.63 | 4177000.44 | 61.22864 | (07012720) | 631200.63 | 4177000.44 | 76.23848 | (07021108) |
| 631550.63 | 4177000.44 | 73.65077 | (07121903) | 631900.63 | 4177000.44 | 77.48878 | (07091007) |
| 632250.63 | 4177000.44 | 70.64560 | (05022620) | 632600.63 | 4177000.44 | 57.63357 | (06121107) |
| 632950.63 | 4177000.44 | 47.44944 | (07022408) | 633300.63 | 4177000.44 | 43.78048 | (08021908) |
| 629800.63 | 4177350.44 | 28.07211 | (04120903) | 630150.63 | 4177350.44 | 31.76381 | (04120908) |
| 630500.63 | 4177350.44 | 40.70481 | (07021218) | 630850.63 | 4177350.44 | 45.47178 | (07012722) |
| 631200.63 | 4177350.44 | 53.10527 | (07021108) | 631550.63 | 4177350.44 | 52.71020 | (07121903) |
| 631900.63 | 4177350.44 | 54.08919 | (05122402) | 632250.63 | 4177350.44 | 50.70205 | (06012820) |
| 632600.63 | 4177350.44 | 43.63177 | (06120218) | 632950.63 | 4177350.44 | 37.13968 | (07121908) |
| 633300.63 | 4177350.44 | 31.06714 | (08122905) | 631670.70 | 4175493.59 | 1231.00298 | (08081806) |
| 631669.80 | 4175641.41 | 871.23731 | (04101605) | 631665.32 | 4175796.39 | 280.72237 | (06102817) |
| 631417.17 | 4175826.85 | 250.79673 | (05042719) | 631417.17 | 4175673.66 | 434.94428 | (08091907) |
| 631422.55 | 4175484.63 | 360.82340 | (04101820) | 631268.42 | 4175983.74 | 172.54227 | (08091907) |
| 631275.69 | 4175523.99 | 342.17461 | (06033021) | 631345.65 | 4175419.50 | 491.65559 | (05030320) |
| 631384.72 | 4175441.30 | 550.57760 | (06041503) | 631491.93 | 4175442.21 | 512.80655 | (06110119) |
| 631491.93 | 4175414.95 | 455.06723 | (05122618) | 631385.63 | 4175413.14 | 574.09248 | (05030320) |
| 631358.37 | 4175395.87 | 523.97608 | (04010517) | 631409.25 | 4175336.81 | 695.69304 | (04041822) |
| 631567.35 | 4175235.96 | 490.12077 | (04102617) | 631756.33 | 4175028.80 | 224.71035 | (08090903) |
| 631807.22 | 4175003.36 | 221.58939 | (08031018) | 631867.18 | 4174987.91 | 197.00414 | (08031018) |
| 631849.92 | 4175988.28 | 231.46028 | (06010520) | 631268.74 | 4175963.75 | 168.04755 | (08091907) |
| 631269.05 | 4175943.76 | 170.66761 | (06102618) | 631269.37 | 4175923.77 | 172.26976 | (05122507) |
| 631269.68 | 4175903.78 | 180.23681 | (05122507) | 631270.00 | 4175883.79 | 187.08322 | (05122507) |
| 631270.32 | 4175863.81 | 192.43554 | (05122507) | 631270.63 | 4175843.82 | 197.11701 | (07012721) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK24 ***

INCLUDING SOURCE(S): STCK24 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 200.28666 | (07012721) | 631271.26 | 4175803.84 | 211.03404 | (05081406) |
| 631271.58 | 4175783.85 | 225.78233 | (05081406) | 631271.90 | 4175763.86 | 219.99913 | (04083005) |
| 631272.21 | 4175743.87 | 235.78812 | (05081406) | 631272.53 | 4175723.88 | 253.74115 | (05122508) |
| 631272.85 | 4175703.89 | 270.78243 | (05122508) | 631273.16 | 4175683.90 | 244.82745 | (04022119) |
| 631273.48 | 4175663.91 | 261.79472 | (04022119) | 631273.79 | 4175643.92 | 284.14815 | (07010318) |
| 631274.11 | 4175623.94 | 295.90318 | (07080103) | 631274.43 | 4175603.95 | 308.70902 | (05081503) |
| 631274.74 | 4175583.96 | 305.70900 | (04082001) | 631275.06 | 4175563.97 | 311.34580 | (07102702) |
| 631275.37 | 4175543.98 | 329.09234 | (06033021) | 631285.68 | 4175509.06 | 355.21235 | (05072902) |
| 631295.68 | 4175494.14 | 368.10448 | (06011217) | 631305.67 | 4175479.21 | 395.51797 | (06011217) |
| 631315.67 | 4175464.28 | 420.90212 | (06121423) | 631325.66 | 4175449.35 | 445.39730 | (06041503) |
| 631335.66 | 4175434.43 | 470.28761 | (05071702) | 631358.67 | 4175426.77 | 516.13606 | (05071702) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631371.70 | 4175434.03 | 538.63689 | (06041503) | 631402.59 | 4175441.45 | 584.82023 | (06121423) |
| 631420.46 | 4175441.60 | 616.42620 | (06121423) | 631438.33 | 4175441.76 | 647.08857 | (06121423) |
| 631456.19 | 4175441.91 | 665.04983 | (06121423) | 631474.06 | 4175442.06 | 526.74495 | (05081406) |
| 631491.93 | 4175428.58 | 311.23796 | (04041817) | 631474.21 | 4175414.65 | 620.57466 | (05122618) |
| 631456.50 | 4175414.35 | 815.05328 | (05071702) | 631438.78 | 4175414.05 | 740.41855 | (05071702) |
| 631421.06 | 4175413.74 | 671.11329 | (05030320) | 631403.35 | 4175413.44 | 620.04216 | (05030320) |
| 631372.00 | 4175404.51 | 533.46766 | (05122618) | 631371.09 | 4175381.11 | 529.44700 | (06032819) |
| 631383.81 | 4175366.34 | 531.20137 | (04022207) | 631396.53 | 4175351.58 | 590.16561 | (07101502) |
| 631425.06 | 4175326.73 | 771.10995 | (05122619) | 631440.87 | 4175316.64 | 912.32087 | (05122619) |
| 631456.68 | 4175306.56 | 960.72498 | (06041020) | 631472.49 | 4175296.47 | 983.23530 | (08121017) |
| 631488.30 | 4175286.39 | 972.35790 | (06011109) | 631504.11 | 4175276.30 | 887.87901 | (06102817) |
| 631519.92 | 4175266.22 | 796.55856 | (06102817) | 631535.73 | 4175256.13 | 597.08883 | (06102817) |
| 631551.54 | 4175246.05 | 515.76725 | (07030618) | 631579.95 | 4175222.15 | 459.30924 | (04102617) |
| 631592.55 | 4175208.34 | 424.27741 | (04102617) | 631605.15 | 4175194.53 | 383.40084 | (04102617) |
| 631617.74 | 4175180.72 | 366.22118 | (08071406) | 631630.34 | 4175166.91 | 361.49308 | (08071406) |
| 631642.94 | 4175153.10 | 352.32917 | (08071406) | 631655.54 | 4175139.29 | 340.08048 | (08071406) |
| 631668.14 | 4175125.47 | 325.80843 | (08071406) | 631680.74 | 4175111.66 | 310.34906 | (08071406) |
| 631693.34 | 4175097.85 | 294.31078 | (08071406) | 631705.94 | 4175084.04 | 278.14510 | (08071406) |
| 631718.53 | 4175070.23 | 262.17871 | (08071406) | 631731.13 | 4175056.42 | 246.61234 | (08071406) |
| 631743.73 | 4175042.61 | 231.63265 | (08090903) | 631773.29 | 4175020.32 | 226.20770 | (08031018) |
| 631790.26 | 4175011.84 | 225.04995 | (08031018) | 631822.21 | 4174999.50 | 218.12341 | (08031018) |
| 631837.20 | 4174995.64 | 212.63668 | (08031018) | 631852.19 | 4174991.77 | 205.48023 | (08031018) |
| 631866.84 | 4175007.53 | 203.42009 | (05011317) | 631866.50 | 4175027.14 | 216.73116 | (05011317) |
| 631866.16 | 4175046.76 | 227.34895 | (05011317) | 631865.83 | 4175066.37 | 234.28578 | (05011317) |
| 631865.49 | 4175085.99 | 236.60999 | (05011317) | 631865.15 | 4175105.60 | 248.82845 | (05011417) |
| 631864.81 | 4175125.22 | 255.63553 | (05011417) | 631864.47 | 4175144.83 | 265.15255 | (05110817) |
| 631864.13 | 4175164.45 | 271.85047 | (05110817) | 631863.80 | 4175184.06 | 269.50308 | (07102905) |
| 631863.46 | 4175203.68 | 274.20696 | (08022004) | 631863.12 | 4175223.29 | 284.79949 | (08021718) |
| 631862.78 | 4175242.91 | 304.19032 | (06052002) | 631862.44 | 4175262.52 | 314.77922 | (08110218) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK24 ***

INCLUDING SOURCE(S): STCK24 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 321.23878 | (07080303) | 631861.77 | 4175301.75 | 341.79008 | (04110905) |
| 631861.43 | 4175321.37 | 367.82291 | (04101518) | 631861.09 | 4175340.98 | 377.98544 | (04030118) |
| 631860.75 | 4175360.60 | 432.13450 | (07102822) | 631860.41 | 4175380.21 | 477.26881 | (07102822) |
| 631860.07 | 4175399.83 | 559.27326 | (05020803) | 631859.73 | 4175419.44 | 608.19867 | (05012118) |
| 631859.40 | 4175439.06 | 616.72735 | (05012118) | 631859.06 | 4175458.67 | 621.53319 | (07102907) |
| 631858.72 | 4175478.29 | 608.94088 | (08010919) | 631858.38 | 4175497.90 | 575.41043 | (08010919) |
| 631858.04 | 4175517.52 | 499.14485 | (08010919) | 631857.70 | 4175537.13 | 380.09594 | (08010919) |
| 631857.37 | 4175556.75 | 263.38478 | (05072806) | 631857.03 | 4175576.36 | 272.39942 | (05072806) |
| 631856.69 | 4175595.98 | 288.34413 | (04121021) | 631856.35 | 4175615.59 | 323.81494 | (08081806) |
| 631856.01 | 4175635.21 | 371.89263 | (08081806) | 631855.67 | 4175654.82 | 328.64455 | (06052306) |

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|---|---|---|---|---|---|---|---|
| 631855.33 | 4175674.44 | 344.81227 | (08021908) | 631855.00 | 4175694.05 | 361.06941 | (05021219) |
| 631854.66 | 4175713.67 | 372.18299 | (05021219) | 631854.32 | 4175733.28 | 383.63160 | (08122905) |
| 631853.98 | 4175752.90 | 394.69677 | (07122918) | 631853.64 | 4175772.51 | 413.23314 | (07022408) |
| 631853.30 | 4175792.13 | 424.31065 | (06062806) | 631852.97 | 4175811.74 | 429.62888 | (06062806) |
| 631852.63 | 4175831.36 | 435.17788 | (08122823) | 631852.29 | 4175850.97 | 426.78219 | (04121820) |
| 631851.95 | 4175870.59 | 442.81051 | (06010521) | 631851.61 | 4175890.20 | 444.33760 | (06010521) |
| 631851.27 | 4175909.82 | 336.06984 | (06072006) | 631850.94 | 4175929.43 | 268.07160 | (06072006) |
| 631850.60 | 4175949.05 | 251.18224 | (06120218) | 631850.26 | 4175968.66 | 238.16414 | (06010520) |
| 631830.54 | 4175988.13 | 234.21909 | (06122319) | 631811.15 | 4175987.98 | 228.09368 | (05022620) |
| 631791.77 | 4175987.83 | 250.31167 | (07091007) | 631772.39 | 4175987.67 | 279.65048 | (07091007) |
| 631753.00 | 4175987.52 | 302.94698 | (07091007) | 631733.62 | 4175987.37 | 317.84083 | (07091007) |
| 631714.24 | 4175987.22 | 322.59794 | (07091007) | 631694.85 | 4175987.07 | 316.29713 | (07091007) |
| 631675.47 | 4175986.92 | 379.84405 | (07091007) | 631656.09 | 4175986.77 | 406.10047 | (07091007) |
| 631636.70 | 4175986.62 | 355.00854 | (07091007) | 631617.32 | 4175986.46 | 298.68482 | (05092002) |
| 631597.94 | 4175986.31 | 314.85338 | (05122220) | 631578.55 | 4175986.16 | 301.47430 | (05122220) |
| 631559.17 | 4175986.01 | 264.77466 | (04111519) | 631539.79 | 4175985.86 | 227.65408 | (04111519) |
| 631520.40 | 4175985.71 | 200.93279 | (06010519) | 631501.02 | 4175985.56 | 199.72453 | (06080606) |
| 631481.64 | 4175985.40 | 192.52076 | (06111524) | 631462.25 | 4175985.25 | 192.15906 | (08112519) |
| 631442.87 | 4175985.10 | 186.28639 | (08112519) | 631423.49 | 4175984.95 | 190.61785 | (07092303) |
| 631404.10 | 4175984.80 | 183.27096 | (08011009) | 631384.72 | 4175984.65 | 183.46297 | (08091907) |
| 631365.34 | 4175984.50 | 198.52925 | (08091907) | 631345.95 | 4175984.35 | 207.02064 | (08091907) |
| 631326.57 | 4175984.19 | 208.34950 | (08091907) | 631307.19 | 4175984.04 | 202.68520 | (08091907) |
| 631287.80 | 4175983.89 | 190.86935 | (08091907) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK25 ***

INCLUDING SOURCE(S): STCK25 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 121.04572 | (04022018) | 632304.44 | 4174354.52 | 58.61995 | (05020818) |
| 632192.15 | 4174956.32 | 123.62709 | (04022018) | 632420.62 | 4175510.15 | 109.82922 | (08011001) |
| 632418.97 | 4175552.92 | 109.18938 | (05122223) | 631187.00 | 4175727.00 | 789.21139 | (05083119) |
| 631166.00 | 4175729.00 | 713.40488 | (05083119) | 631121.00 | 4175719.00 | 604.41603 | (05122618) |
| 631035.00 | 4174830.00 | 144.09606 | (05012117) | 631106.00 | 4174825.00 | 129.39709 | (06011021) |
| 631937.00 | 4174528.00 | 85.81047 | (04022218) | 631322.00 | 4174522.00 | 95.71946 | (06121420) |
| 629800.63 | 4173850.44 | 23.80665 | (06011022) | 630150.63 | 4173850.44 | 37.36864 | (06011109) |
| 630500.63 | 4173850.44 | 46.88845 | (05012117) | 630850.63 | 4173850.44 | 40.96952 | (06121017) |
| 631200.63 | 4173850.44 | 47.60692 | (06121420) | 631550.63 | 4173850.44 | 45.69440 | (05021805) |
| 631900.63 | 4173850.44 | 44.44810 | (07020623) | 632250.63 | 4173850.44 | 40.30968 | (06020105) |
| 632600.63 | 4173850.44 | 36.26300 | (05020818) | 632950.63 | 4173850.44 | 32.17165 | (05011520) |
| 633300.63 | 4173850.44 | 28.43307 | (04022018) | 629800.63 | 4174200.44 | 32.42867 | (06121421) |
| 630150.63 | 4174200.44 | 32.28665 | (06011022) | 630500.63 | 4174200.44 | 57.14443 | (06011109) |
| 630850.63 | 4174200.44 | 55.79363 | (06011021) | 631200.63 | 4174200.44 | 64.32645 | (06121420) |
| 631550.63 | 4174200.44 | 64.31854 | (05021805) | 631900.63 | 4174200.44 | 65.00322 | (07011417) |
| 632250.63 | 4174200.44 | 50.95389 | (04122822) | 632600.63 | 4174200.44 | 44.52603 | (05011521) |

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|---|---|---|---|---|---|
| 632950.63 | 4174200.44 | 38.47273 (04022018) | 633300.63 | 4174200.44 | 31.01484 (06011617) |
| 629800.63 | 4174550.44 | 36.60923 (07020624) | 630150.63 | 4174550.44 | 46.03115 (06121421) |
| 630500.63 | 4174550.44 | 50.36787 (05122423) | 630850.63 | 4174550.44 | 97.32559 (05012117) |
| 631200.63 | 4174550.44 | 99.12796 (08022002) | 631550.63 | 4174550.44 | 97.95239 (04122823) |
| 631900.63 | 4174550.44 | 95.97290 (07011417) | 632250.63 | 4174550.44 | 68.21810 (05011521) |
| 632600.63 | 4174550.44 | 58.31291 (04022018) | 632950.63 | 4174550.44 | 48.92630 (06011617) |
| 633300.63 | 4174550.44 | 35.59789 (07012703) | 629800.63 | 4174900.44 | 40.36889 (06121217) |
| 630150.63 | 4174900.44 | 56.09880 (04011017) | 630500.63 | 4174900.44 | 75.09341 (06121421) |
| 630850.63 | 4174900.44 | 109.67295 (07121217) | 631200.63 | 4174900.44 | 159.45307 (06102817) |
| 631550.63 | 4174900.44 | 149.30813 (04122823) | 631900.63 | 4174900.44 | 138.40399 (04122822) |
| 632250.63 | 4174900.44 | 109.55128 (04022018) | 632600.63 | 4174900.44 | 84.02756 (06011617) |
| 632950.63 | 4174900.44 | 53.33712 (06120617) | 633300.63 | 4174900.44 | 40.91455 (08010918) |
| 629800.63 | 4175250.44 | 49.86042 (04022207) | 630150.63 | 4175250.44 | 58.36692 (04022208) |
| 630500.63 | 4175250.44 | 90.86364 (06121217) | 630850.63 | 4175250.44 | 169.24336 (07020624) |
| 631200.63 | 4175250.44 | 315.14957 (06011109) | 631550.63 | 4175250.44 | 287.96685 (04102617) |
| 631900.63 | 4175250.44 | 225.60637 (05011317) | 632250.63 | 4175250.44 | 142.07467 (05020802) |
| 632600.63 | 4175250.44 | 80.55869 (05021801) | 632950.63 | 4175250.44 | 62.05755 (07010217) |
| 633300.63 | 4175250.44 | 44.33435 (07020218) | 629800.63 | 4175600.44 | 52.00108 (04121304) |
| 630150.63 | 4175600.44 | 69.81048 (04121304) | 630500.63 | 4175600.44 | 106.82965 (04121224) |
| 630850.63 | 4175600.44 | 235.03974 (08012221) | 631200.63 | 4175600.44 | 625.94953 (06020109) |
| 631550.63 | 4175600.44 | 1015.54289 (07102905) | 631900.63 | 4175600.44 | 383.80850 (07020218) |
| 632250.63 | 4175600.44 | 157.43161 (05122223) | 632600.63 | 4175600.44 | 89.00645 (05121217) |
| 632950.63 | 4175600.44 | 60.71942 (08011019) | 633300.63 | 4175600.44 | 46.01602 (08011019) |
| 629800.63 | 4175950.44 | 45.43453 (06011024) | 630150.63 | 4175950.44 | 66.18809 (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK25 ***

INCLUDING SOURCE(S): STCK25 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 90.78590 (06011024) | 630850.63 | 4175950.44 | 225.88152 (07120622) |
| 631200.63 | 4175950.44 | 360.83102 (07111102) | 631550.63 | 4175950.44 | 490.85204 (07091007) |
| 631900.63 | 4175950.44 | 309.60884 (05011818) | 632250.63 | 4175950.44 | 163.43564 (05122401) |
| 632600.63 | 4175950.44 | 87.35028 (06012918) | 632950.63 | 4175950.44 | 61.77278 (06121320) |
| 633300.63 | 4175950.44 | 46.76033 (07012418) | 629800.63 | 4176300.44 | 40.15902 (07120622) |
| 630150.63 | 4176300.44 | 59.26948 (07120622) | 630500.63 | 4176300.44 | 94.01363 (06122121) |
| 630850.63 | 4176300.44 | 148.66225 (04021018) | 631200.63 | 4176300.44 | 201.88640 (08091907) |
| 631550.63 | 4176300.44 | 199.79985 (05072006) | 631900.63 | 4176300.44 | 213.44582 (06062806) |
| 632250.63 | 4176300.44 | 144.99965 (08021808) | 632600.63 | 4176300.44 | 78.86077 (08120618) |
| 632950.63 | 4176300.44 | 56.87206 (05020719) | 633300.63 | 4176300.44 | 44.58218 (05122401) |
| 629800.63 | 4176650.44 | 40.03366 (06122121) | 630150.63 | 4176650.44 | 52.74074 (04021520) |
| 630500.63 | 4176650.44 | 71.48390 (04010518) | 630850.63 | 4176650.44 | 105.89539 (07122917) |
| 631200.63 | 4176650.44 | 128.16813 (06013008) | 631550.63 | 4176650.44 | 129.40034 (08011006) |
| 631900.63 | 4176650.44 | 122.24507 (05022620) | 632250.63 | 4176650.44 | 107.75329 (07022408) |
| 632600.63 | 4176650.44 | 74.68785 (08021908) | 632950.63 | 4176650.44 | 54.79065 (08021808) |

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|---|---|---|---|---|---|---|---|
| 633300.63 | 4176650.44 | 39.88768 | (05020806) | 629800.63 | 4177000.44 | 33.29664 | (04021520) |
| 630150.63 | 4177000.44 | 43.05342 | (04010518) | 630500.63 | 4177000.44 | 56.80014 | (04120908) |
| 630850.63 | 4177000.44 | 73.96782 | (04022021) | 631200.63 | 4177000.44 | 93.14073 | (07021108) |
| 631550.63 | 4177000.44 | 85.78505 | (08122723) | 631900.63 | 4177000.44 | 82.00715 | (04020619) |
| 632250.63 | 4177000.44 | 68.79214 | (07010323) | 632600.63 | 4177000.44 | 60.92816 | (07022408) |
| 632950.63 | 4177000.44 | 52.84415 | (08021908) | 633300.63 | 4177000.44 | 44.80884 | (08021808) |
| 629800.63 | 4177350.44 | 30.79669 | (04010518) | 630150.63 | 4177350.44 | 35.99196 | (04120908) |
| 630500.63 | 4177350.44 | 44.87261 | (07122917) | 630850.63 | 4177350.44 | 50.56117 | (07012722) |
| 631200.63 | 4177350.44 | 59.31639 | (07021108) | 631550.63 | 4177350.44 | 59.86785 | (06013007) |
| 631900.63 | 4177350.44 | 57.09580 | (05021302) | 632250.63 | 4177350.44 | 51.17063 | (05121501) |
| 632600.63 | 4177350.44 | 44.20374 | (07121908) | 632950.63 | 4177350.44 | 39.53597 | (07022408) |
| 633300.63 | 4177350.44 | 39.90799 | (08021908) | 631670.70 | 4175493.59 | 480.56770 | (05011417) |
| 631669.80 | 4175641.41 | 773.75538 | (06111919) | 631665.32 | 4175796.39 | 748.31494 | (06111908) |
| 631417.17 | 4175826.85 | 472.27801 | (04101820) | 631417.17 | 4175673.66 | 1248.66013 | (08010919) |
| 631422.55 | 4175484.63 | 426.39209 | (06102817) | 631268.42 | 4175983.74 | 346.38271 | (04022205) |
| 631275.69 | 4175523.99 | 487.41120 | (05111717) | 631345.65 | 4175419.50 | 414.70685 | (06011109) |
| 631384.72 | 4175441.30 | 796.51081 | (06102817) | 631491.93 | 4175442.21 | 668.16627 | (04102617) |
| 631491.93 | 4175414.95 | 386.06871 | (04102617) | 631385.63 | 4175413.14 | 445.90478 | (06102817) |
| 631358.37 | 4175395.87 | 407.46545 | (06102817) | 631409.25 | 4175336.81 | 309.98753 | (08081805) |
| 631567.35 | 4175235.96 | 272.28876 | (04102617) | 631756.33 | 4175028.80 | 175.87525 | (05011817) |
| 631807.22 | 4175003.36 | 154.55829 | (06020105) | 631867.18 | 4174987.91 | 160.40034 | (04122822) |
| 631849.92 | 4175988.28 | 321.87175 | (06052306) | 631268.74 | 4175963.75 | 356.98696 | (05112504) |
| 631269.05 | 4175943.76 | 375.64922 | (04082205) | 631269.37 | 4175923.77 | 396.64106 | (05051803) |
| 631269.68 | 4175903.78 | 427.43013 | (04022119) | 631270.00 | 4175883.79 | 558.41372 | (04082205) |
| 631270.32 | 4175863.81 | 1018.84703 | (05081503) | 631270.63 | 4175843.82 | 868.77321 | (05081503) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK25 ***

INCLUDING SOURCE(S): STCK25 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 1429.18391 | (05061703) | 631271.26 | 4175803.84 | 1089.22406 | (06080604) |
| 631271.58 | 4175783.85 | 1014.23136 | (05061703) | 631271.90 | 4175763.86 | 1156.27706 | (08081602) |
| 631272.21 | 4175743.87 | 1329.86955 | (05111817) | 631272.53 | 4175723.88 | 1100.49054 | (06011217) |
| 631272.85 | 4175703.89 | 1010.15944 | (04101624) | 631273.16 | 4175683.90 | 1081.23775 | (06072904) |
| 631273.48 | 4175663.91 | 1023.73431 | (07110617) | 631273.79 | 4175643.92 | 908.70844 | (04041822) |
| 631274.11 | 4175623.94 | 1112.28968 | (04041822) | 631274.43 | 4175603.95 | 1160.77777 | (05030319) |
| 631274.74 | 4175583.96 | 833.80295 | (08081806) | 631275.06 | 4175563.97 | 770.21530 | (05111717) |
| 631275.37 | 4175543.98 | 608.27471 | (06041020) | 631285.68 | 4175509.06 | 529.79226 | (04012317) |
| 631295.68 | 4175494.14 | 537.16863 | (04012317) | 631305.67 | 4175479.21 | 505.39307 | (04012317) |
| 631315.67 | 4175464.28 | 503.28464 | (06011109) | 631325.66 | 4175449.35 | 500.78645 | (06011109) |
| 631335.66 | 4175434.43 | 469.07793 | (06011109) | 631358.67 | 4175426.77 | 433.64074 | (06102817) |
| 631371.70 | 4175434.03 | 472.67267 | (06102817) | 631402.59 | 4175441.45 | 841.08359 | (06102817) |
| 631420.46 | 4175441.60 | 760.74827 | (06102817) | 631438.33 | 4175441.76 | 637.54653 | (08081805) |
| 631456.19 | 4175441.91 | 569.81702 | (08081805) | 631474.06 | 4175442.06 | 607.56235 | (04102623) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631491.93 | 4175428.58 | 411.54362 | (04102617) | 631474.21 | 4175414.65 | 365.10283 | (05110722) |
| 631456.50 | 4175414.35 | 362.16957 | (06102817) | 631438.78 | 4175414.05 | 375.92340 | (08081805) |
| 631421.06 | 4175413.74 | 383.88135 | (06102817) | 631403.35 | 4175413.44 | 427.63635 | (06102817) |
| 631372.00 | 4175404.51 | 429.74449 | (06102817) | 631371.09 | 4175381.11 | 399.47956 | (06102817) |
| 631383.81 | 4175366.34 | 372.77331 | (06102817) | 631396.53 | 4175351.58 | 330.08565 | (06102817) |
| 631425.06 | 4175326.73 | 300.52156 | (08081805) | 631440.87 | 4175316.64 | 278.57019 | (08081805) |
| 631456.68 | 4175306.56 | 266.75824 | (07030618) | 631472.49 | 4175296.47 | 268.23040 | (05110722) |
| 631488.30 | 4175286.39 | 270.39494 | (05110722) | 631504.11 | 4175276.30 | 280.98169 | (04102617) |
| 631519.92 | 4175266.22 | 290.97997 | (04102617) | 631535.73 | 4175256.13 | 292.16086 | (04102617) |
| 631551.54 | 4175246.05 | 285.45155 | (04102617) | 631579.95 | 4175222.15 | 256.54513 | (04102617) |
| 631592.55 | 4175208.34 | 239.61518 | (04102617) | 631605.15 | 4175194.53 | 224.94442 | (05112422) |
| 631617.74 | 4175180.72 | 221.48759 | (05112422) | 631630.34 | 4175166.91 | 215.57153 | (08071405) |
| 631642.94 | 4175153.10 | 215.26033 | (05011817) | 631655.54 | 4175139.29 | 215.18610 | (05011817) |
| 631668.14 | 4175125.47 | 213.66690 | (05011817) | 631680.74 | 4175111.66 | 210.86632 | (05011817) |
| 631693.34 | 4175097.85 | 206.93616 | (05011817) | 631705.94 | 4175084.04 | 202.03743 | (05011817) |
| 631718.53 | 4175070.23 | 196.33081 | (05011817) | 631731.13 | 4175056.42 | 189.97133 | (05011817) |
| 631743.73 | 4175042.61 | 183.10668 | (05011817) | 631773.29 | 4175020.32 | 169.47950 | (06020105) |
| 631790.26 | 4175011.84 | 163.51739 | (06020105) | 631822.21 | 4174999.50 | 148.55533 | (04122822) |
| 631837.20 | 4174995.64 | 155.35424 | (04122822) | 631852.19 | 4174991.77 | 159.34890 | (04122822) |
| 631866.84 | 4175007.53 | 164.74846 | (04122822) | 631866.50 | 4175027.14 | 167.10010 | (04122822) |
| 631866.16 | 4175046.76 | 171.71424 | (05020818) | 631865.83 | 4175066.37 | 175.98175 | (05020818) |
| 631865.49 | 4175085.99 | 177.55270 | (05020818) | 631865.15 | 4175105.60 | 178.40002 | (08031018) |
| 631864.81 | 4175125.22 | 186.32386 | (08031018) | 631864.47 | 4175144.83 | 198.18619 | (05011521) |
| 631864.13 | 4175164.45 | 207.19206 | (05011521) | 631863.80 | 4175184.06 | 211.44801 | (05011521) |
| 631863.46 | 4175203.68 | 216.64452 | (05011520) | 631863.12 | 4175223.29 | 220.36653 | (05011520) |
| 631862.78 | 4175242.91 | 221.46776 | (05011317) | 631862.44 | 4175262.52 | 237.79795 | (05011317) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK25 ***

INCLUDING SOURCE(S): STCK25 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 250.54867 | (05011317) | 631861.77 | 4175301.75 | 260.16070 | (05112916) |
| 631861.43 | 4175321.37 | 280.50606 | (05112916) | 631861.09 | 4175340.98 | 294.12200 | (05112916) |
| 631860.75 | 4175360.60 | 299.03703 | (05112916) | 631860.41 | 4175380.21 | 296.68178 | (05011417) |
| 631860.07 | 4175399.83 | 298.35416 | (05110817) | 631859.73 | 4175419.44 | 305.08175 | (05110817) |
| 631859.40 | 4175439.06 | 310.17247 | (05102522) | 631859.06 | 4175458.67 | 320.50933 | (05112917) |
| 631858.72 | 4175478.29 | 328.47567 | (06121106) | 631858.38 | 4175497.90 | 334.12422 | (04022219) |
| 631858.04 | 4175517.52 | 370.25626 | (04022223) | 631857.70 | 4175537.13 | 379.22687 | (05021801) |
| 631857.37 | 4175556.75 | 367.96322 | (05021801) | 631857.03 | 4175576.36 | 386.30547 | (07010217) |
| 631856.69 | 4175595.98 | 418.91340 | (07020218) | 631856.35 | 4175615.59 | 428.77544 | (07020218) |
| 631856.01 | 4175635.21 | 435.64596 | (06011618) | 631855.67 | 4175654.82 | 449.82305 | (05122223) |
| 631855.33 | 4175674.44 | 428.85848 | (05121217) | 631855.00 | 4175694.05 | 359.56344 | (06012822) |
| 631854.66 | 4175713.67 | 403.06597 | (07012318) | 631854.32 | 4175733.28 | 455.37830 | (07012318) |
| 631853.98 | 4175752.90 | 454.00074 | (07012418) | 631853.64 | 4175772.51 | 450.55400 | (05012018) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631853.30 | 4175792.13 | 444.16053 | (07120624) | 631852.97 | 4175811.74 | 404.26238 | (07030419) |
| 631852.63 | 4175831.36 | 399.95319 | (05011322) | 631852.29 | 4175850.97 | 396.59979 | (05020719) |
| 631851.95 | 4175870.59 | 388.92517 | (05011418) | 631851.61 | 4175890.20 | 353.28040 | (04111606) |
| 631851.27 | 4175909.82 | 346.10595 | (04121022) | 631850.94 | 4175929.43 | 343.68287 | (06092519) |
| 631850.60 | 4175949.05 | 339.53876 | (07031619) | 631850.26 | 4175968.66 | 318.80299 | (07031619) |
| 631830.54 | 4175988.13 | 349.48361 | (06052306) | 631811.15 | 4175987.98 | 369.05231 | (06052306) |
| 631791.77 | 4175987.83 | 377.72789 | (06052306) | 631772.39 | 4175987.67 | 373.69455 | (06052306) |
| 631753.00 | 4175987.52 | 356.45444 | (06052306) | 631733.62 | 4175987.37 | 397.70784 | (06062806) |
| 631714.24 | 4175987.22 | 426.05303 | (06062806) | 631694.85 | 4175987.07 | 434.69245 | (06062806) |
| 631675.47 | 4175986.92 | 420.66339 | (06062806) | 631656.09 | 4175986.77 | 384.62563 | (06062806) |
| 631636.70 | 4175986.62 | 366.97063 | (08091905) | 631617.32 | 4175986.46 | 380.52153 | (06081406) |
| 631597.94 | 4175986.31 | 393.23546 | (07091007) | 631578.55 | 4175986.16 | 433.05222 | (07091007) |
| 631559.17 | 4175986.01 | 448.09228 | (07091007) | 631539.79 | 4175985.86 | 433.79699 | (07091007) |
| 631520.40 | 4175985.71 | 403.62272 | (05072006) | 631501.02 | 4175985.56 | 379.17577 | (04111519) |
| 631481.64 | 4175985.40 | 379.02090 | (06052305) | 631462.25 | 4175985.25 | 487.01638 | (05112506) |
| 631442.87 | 4175985.10 | 461.82231 | (05112506) | 631423.49 | 4175984.95 | 437.52734 | (07090905) |
| 631404.10 | 4175984.80 | 411.27509 | (08091907) | 631384.72 | 4175984.65 | 439.70835 | (08091907) |
| 631365.34 | 4175984.50 | 435.43208 | (08091907) | 631345.95 | 4175984.35 | 401.03757 | (08091907) |
| 631326.57 | 4175984.19 | 357.46709 | (07090905) | 631307.19 | 4175984.04 | 352.11501 | (04083005) |
| 631287.80 | 4175983.89 | 352.74504 | (04022205) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK26 ***

INCLUDING SOURCE(S): STCK26 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 141.01953 | (04022018) | 632304.44 | 4174354.52 | 58.60509 | (05020818) |
| 632192.15 | 4174956.32 | 122.17077 | (05112916) | 632420.62 | 4175510.15 | 114.23446 | (05121217) |
| 632418.97 | 4175552.92 | 110.14333 | (08011019) | 631187.00 | 4175727.00 | 547.12705 | (05081503) |
| 631166.00 | 4175729.00 | 489.78239 | (05030321) | 631121.00 | 4175719.00 | 450.12506 | (04041820) |
| 631035.00 | 4174830.00 | 155.97920 | (06011109) | 631106.00 | 4174825.00 | 139.42561 | (05012117) |
| 631937.00 | 4174528.00 | 96.59630 | (06020105) | 631322.00 | 4174522.00 | 104.10568 | (06121420) |
| 629800.63 | 4173850.44 | 23.40793 | (06011022) | 630150.63 | 4173850.44 | 34.83658 | (06011109) |
| 630500.63 | 4173850.44 | 48.36781 | (05012117) | 630850.63 | 4173850.44 | 42.29564 | (05010318) |
| 631200.63 | 4173850.44 | 51.03418 | (06121420) | 631550.63 | 4173850.44 | 49.22871 | (05021805) |
| 631900.63 | 4173850.44 | 47.63121 | (04122824) | 632250.63 | 4173850.44 | 42.79267 | (06020105) |
| 632600.63 | 4173850.44 | 37.03049 | (05020818) | 632950.63 | 4173850.44 | 31.90992 | (05011520) |
| 633300.63 | 4173850.44 | 28.22184 | (05021018) | 629800.63 | 4174200.44 | 33.39716 | (06121421) |
| 630150.63 | 4174200.44 | 32.80014 | (06011022) | 630500.63 | 4174200.44 | 55.86445 | (06011109) |
| 630850.63 | 4174200.44 | 62.89956 | (06011021) | 631200.63 | 4174200.44 | 68.32578 | (08022002) |
| 631550.63 | 4174200.44 | 69.66038 | (05021805) | 631900.63 | 4174200.44 | 75.75284 | (07011417) |
| 632250.63 | 4174200.44 | 57.55127 | (04122822) | 632600.63 | 4174200.44 | 47.30496 | (05011520) |
| 632950.63 | 4174200.44 | 38.02845 | (05021018) | 633300.63 | 4174200.44 | 37.31046 | (06011617) |
| 629800.63 | 4174550.44 | 40.13979 | (04011017) | 630150.63 | 4174550.44 | 44.47213 | (06121421) |
| 630500.63 | 4174550.44 | 52.10943 | (06011022) | 630850.63 | 4174550.44 | 99.27679 | (06011109) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631200.63 | 4174550.44 | 101.43558 | (08022002) | 631550.63 | 4174550.44 | 106.49674 | (04122823) |
| 631900.63 | 4174550.44 | 99.16198 | (06020105) | 632250.63 | 4174550.44 | 79.47801 | (05011521) |
| 632600.63 | 4174550.44 | 56.19826 | (05021018) | 632950.63 | 4174550.44 | 53.95403 | (06011617) |
| 633300.63 | 4174550.44 | 37.34750 | (06121106) | 629800.63 | 4174900.44 | 42.98843 | (06020109) |
| 630150.63 | 4174900.44 | 53.04056 | (05022818) | 630500.63 | 4174900.44 | 73.83813 | (07020624) |
| 630850.63 | 4174900.44 | 105.06428 | (04012317) | 631200.63 | 4174900.44 | 164.94540 | (06102817) |
| 631550.63 | 4174900.44 | 170.00857 | (07012317) | 631900.63 | 4174900.44 | 166.15949 | (05020818) |
| 632250.63 | 4174900.44 | 104.99449 | (05112916) | 632600.63 | 4174900.44 | 71.41925 | (07012703) |
| 632950.63 | 4174900.44 | 53.50342 | (04022223) | 633300.63 | 4174900.44 | 40.16547 | (07010217) |
| 629800.63 | 4175250.44 | 44.90788 | (04022207) | 630150.63 | 4175250.44 | 68.52941 | (04022207) |
| 630500.63 | 4175250.44 | 95.98885 | (04022208) | 630850.63 | 4175250.44 | 173.80681 | (06120217) |
| 631200.63 | 4175250.44 | 286.16471 | (04012317) | 631550.63 | 4175250.44 | 364.23752 | (04102617) |
| 631900.63 | 4175250.44 | 253.90895 | (05112916) | 632250.63 | 4175250.44 | 144.03022 | (08010918) |
| 632600.63 | 4175250.44 | 93.24969 | (07010217) | 632950.63 | 4175250.44 | 59.01111 | (07020218) |
| 633300.63 | 4175250.44 | 45.03507 | (08011001) | 629800.63 | 4175600.44 | 47.65303 | (05122618) |
| 630150.63 | 4175600.44 | 65.50850 | (05122618) | 630500.63 | 4175600.44 | 98.49811 | (04121304) |
| 630850.63 | 4175600.44 | 231.33376 | (04010517) | 631200.63 | 4175600.44 | 791.35506 | (04101624) |
| 631550.63 | 4175600.44 | 3524.82683 | (05020803) | 631900.63 | 4175600.44 | 320.20974 | (06011619) |
| 632250.63 | 4175600.44 | 144.84532 | (06011619) | 632600.63 | 4175600.44 | 89.28506 | (06011619) |
| 632950.63 | 4175600.44 | 62.36348 | (06011619) | 633300.63 | 4175600.44 | 46.78896 | (06011619) |
| 629800.63 | 4175950.44 | 47.85181 | (06011024) | 630150.63 | 4175950.44 | 56.39859 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK26 ***

INCLUDING SOURCE(S): STCK26 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 96.85557 | (07120621) | 630850.63 | 4175950.44 | 207.01160 | (06122121) |
| 631200.63 | 4175950.44 | 313.27316 | (07092301) | 631550.63 | 4175950.44 | 395.07045 | (07091007) |
| 631900.63 | 4175950.44 | 251.71863 | (06052306) | 632250.63 | 4175950.44 | 150.84987 | (04011021) |
| 632600.63 | 4175950.44 | 87.50761 | (05122401) | 632950.63 | 4175950.44 | 60.63740 | (06012918) |
| 633300.63 | 4175950.44 | 46.20485 | (05012018) | 629800.63 | 4176300.44 | 44.43273 | (07120622) |
| 630150.63 | 4176300.44 | 52.66688 | (06122121) | 630500.63 | 4176300.44 | 90.98963 | (04021520) |
| 630850.63 | 4176300.44 | 156.99194 | (04120903) | 631200.63 | 4176300.44 | 206.17609 | (08091907) |
| 631550.63 | 4176300.44 | 183.55760 | (08011006) | 631900.63 | 4176300.44 | 162.33981 | (07010323) |
| 632250.63 | 4176300.44 | 136.18372 | (08021908) | 632600.63 | 4176300.44 | 79.39230 | (04121101) |
| 632950.63 | 4176300.44 | 55.06621 | (04011021) | 633300.63 | 4176300.44 | 43.12274 | (06121503) |
| 629800.63 | 4176650.44 | 39.23283 | (06122121) | 630150.63 | 4176650.44 | 47.30387 | (04021521) |
| 630500.63 | 4176650.44 | 72.21932 | (04120903) | 630850.63 | 4176650.44 | 106.41879 | (07122917) |
| 631200.63 | 4176650.44 | 134.81331 | (08011009) | 631550.63 | 4176650.44 | 125.15088 | (08122723) |
| 631900.63 | 4176650.44 | 112.18197 | (05021722) | 632250.63 | 4176650.44 | 87.43905 | (07121908) |
| 632600.63 | 4176650.44 | 77.77397 | (08021908) | 632950.63 | 4176650.44 | 60.14608 | (08021808) |
| 633300.63 | 4176650.44 | 40.48240 | (05011818) | 629800.63 | 4177000.44 | 34.88270 | (04021521) |
| 630150.63 | 4177000.44 | 42.38848 | (04010518) | 630500.63 | 4177000.44 | 52.71766 | (07012719) |
| 630850.63 | 4177000.44 | 71.45610 | (07012720) | 631200.63 | 4177000.44 | 89.18214 | (07021108) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631550.63 | 4177000.44 | 81.21968 | (06013007) | 631900.63 | 4177000.44 | 75.58642 | (04021506) |
| 632250.63 | 4177000.44 | 63.88749 | (06120218) | 632600.63 | 4177000.44 | 59.92783 | (07022408) |
| 632950.63 | 4177000.44 | 51.96557 | (08021908) | 633300.63 | 4177000.44 | 41.70773 | (08021808) |
| 629800.63 | 4177350.44 | 30.51647 | (04010518) | 630150.63 | 4177350.44 | 35.87214 | (04120908) |
| 630500.63 | 4177350.44 | 43.71657 | (08122718) | 630850.63 | 4177350.44 | 49.84470 | (07012722) |
| 631200.63 | 4177350.44 | 53.92970 | (06021703) | 631550.63 | 4177350.44 | 56.29339 | (06013007) |
| 631900.63 | 4177350.44 | 52.63701 | (05021719) | 632250.63 | 4177350.44 | 48.34472 | (05022620) |
| 632600.63 | 4177350.44 | 41.90425 | (06010521) | 632950.63 | 4177350.44 | 41.77124 | (07022408) |
| 633300.63 | 4177350.44 | 38.36666 | (08021908) | 631670.70 | 4175493.59 | 664.34107 | (08021718) |
| 631669.80 | 4175641.41 | 800.19814 | (06121502) | 631665.32 | 4175796.39 | 716.29310 | (06062806) |
| 631417.17 | 4175826.85 | 316.26496 | (04083006) | 631417.17 | 4175673.66 | 845.49371 | (05051824) |
| 631422.55 | 4175484.63 | 287.99187 | (06011109) | 631268.42 | 4175983.74 | 300.03739 | (06102618) |
| 631275.69 | 4175523.99 | 749.93357 | (06020109) | 631345.65 | 4175419.50 | 484.18079 | (06011109) |
| 631384.72 | 4175441.30 | 747.09377 | (06011109) | 631491.93 | 4175442.21 | 1121.82206 | (04102617) |
| 631491.93 | 4175414.95 | 568.29090 | (04102617) | 631385.63 | 4175413.14 | 509.41221 | (06011109) |
| 631358.37 | 4175395.87 | 488.37577 | (06011109) | 631409.25 | 4175336.81 | 394.02133 | (06102817) |
| 631567.35 | 4175235.96 | 330.47046 | (04102617) | 631756.33 | 4175028.80 | 201.43384 | (06051924) |
| 631807.22 | 4175003.36 | 204.75434 | (04122822) | 631867.18 | 4174987.91 | 186.98205 | (05020818) |
| 631849.92 | 4175988.28 | 249.12846 | (06062806) | 631268.74 | 4175963.75 | 317.17827 | (06041021) |
| 631269.05 | 4175943.76 | 333.16436 | (07122917) | 631269.37 | 4175923.77 | 354.85739 | (06041021) |
| 631269.68 | 4175903.78 | 742.62362 | (07090906) | 631270.00 | 4175883.79 | 852.00339 | (05051802) |
| 631270.32 | 4175863.81 | 570.99254 | (07092301) | 631270.63 | 4175843.82 | 562.75129 | (06110118) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK26 ***

INCLUDING SOURCE(S): STCK26 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 596.22666 | (05051803) | 631271.26 | 4175803.84 | 617.27235 | (07082502) |
| 631271.58 | 4175783.85 | 663.29473 | (04082001) | 631271.90 | 4175763.86 | 728.34875 | (04082001) |
| 631272.21 | 4175743.87 | 722.03858 | (04082001) | 631272.53 | 4175723.88 | 838.75387 | (06033021) |
| 631272.85 | 4175703.89 | 917.29012 | (06033021) | 631273.16 | 4175683.90 | 947.37335 | (05072902) |
| 631273.48 | 4175663.91 | 947.37874 | (05111617) | 631273.79 | 4175643.92 | 880.14482 | (06011217) |
| 631274.11 | 4175623.94 | 1101.03677 | (05083119) | 631274.43 | 4175603.95 | 1214.81192 | (05071702) |
| 631274.74 | 4175583.96 | 1161.31726 | (05071702) | 631275.06 | 4175563.97 | 916.25112 | (05030320) |
| 631275.37 | 4175543.98 | 729.98723 | (06020109) | 631285.68 | 4175509.06 | 717.15569 | (06020109) |
| 631295.68 | 4175494.14 | 621.15629 | (06020109) | 631305.67 | 4175479.21 | 555.54449 | (05072102) |
| 631315.67 | 4175464.28 | 513.49461 | (04041824) | 631325.66 | 4175449.35 | 507.36380 | (05111717) |
| 631335.66 | 4175434.43 | 510.83533 | (04012317) | 631358.67 | 4175426.77 | 523.48498 | (06011109) |
| 631371.70 | 4175434.03 | 560.68491 | (06011109) | 631402.59 | 4175441.45 | 793.70911 | (06011109) |
| 631420.46 | 4175441.60 | 822.52830 | (06102817) | 631438.33 | 4175441.76 | 777.54698 | (06102817) |
| 631456.19 | 4175441.91 | 722.68496 | (08081805) | 631474.06 | 4175442.06 | 881.01160 | (08102618) |
| 631491.93 | 4175428.58 | 617.05266 | (04102617) | 631474.21 | 4175414.65 | 512.44035 | (07030618) |
| 631456.50 | 4175414.35 | 498.59715 | (06102817) | 631438.78 | 4175414.05 | 500.62188 | (06102817) |
| 631421.06 | 4175413.74 | 535.21070 | (06102817) | 631403.35 | 4175413.44 | 524.31698 | (06102817) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631372.00 | 4175404.51 | 502.40803 | (06011109) | 631371.09 | 4175381.11 | 444.54081 | (06011109) |
| 631383.81 | 4175366.34 | 439.49183 | (06102817) | 631396.53 | 4175351.58 | 431.23657 | (06102817) |
| 631425.06 | 4175326.73 | 376.56429 | (08081805) | 631440.87 | 4175316.64 | 362.34318 | (08081805) |
| 631456.68 | 4175306.56 | 340.08319 | (07030618) | 631472.49 | 4175296.47 | 341.91068 | (07030618) |
| 631488.30 | 4175286.39 | 346.54780 | (04102617) | 631504.11 | 4175276.30 | 374.34159 | (04102617) |
| 631519.92 | 4175266.22 | 385.45180 | (04102617) | 631535.73 | 4175256.13 | 380.02333 | (04102617) |
| 631551.54 | 4175246.05 | 360.42446 | (04102617) | 631579.95 | 4175222.15 | 315.98768 | (05011817) |
| 631592.55 | 4175208.34 | 322.05170 | (05011817) | 631605.15 | 4175194.53 | 324.30758 | (05011817) |
| 631617.74 | 4175180.72 | 323.00151 | (05011817) | 631630.34 | 4175166.91 | 318.49156 | (05011817) |
| 631642.94 | 4175153.10 | 311.16112 | (05011817) | 631655.54 | 4175139.29 | 301.45051 | (05011817) |
| 631668.14 | 4175125.47 | 289.82047 | (05011817) | 631680.74 | 4175111.66 | 276.75047 | (05011817) |
| 631693.34 | 4175097.85 | 262.68397 | (05011817) | 631705.94 | 4175084.04 | 248.03632 | (05011817) |
| 631718.53 | 4175070.23 | 233.18634 | (05011817) | 631731.13 | 4175056.42 | 218.42523 | (05011817) |
| 631743.73 | 4175042.61 | 210.21333 | (06051924) | 631773.29 | 4175020.32 | 200.71039 | (04122822) |
| 631790.26 | 4175011.84 | 205.30271 | (04122822) | 631822.21 | 4174999.50 | 200.73813 | (04122822) |
| 631837.20 | 4174995.64 | 197.26650 | (05020818) | 631852.19 | 4174991.77 | 194.18234 | (05020818) |
| 631866.84 | 4175007.53 | 184.46626 | (05020818) | 631866.50 | 4175027.14 | 193.41595 | (08031018) |
| 631866.16 | 4175046.76 | 205.20059 | (05011521) | 631865.83 | 4175066.37 | 214.40411 | (05011521) |
| 631865.49 | 4175085.99 | 218.03211 | (05011521) | 631865.15 | 4175105.60 | 225.40686 | (05011520) |
| 631864.81 | 4175125.22 | 228.22808 | (05011520) | 631864.47 | 4175144.83 | 224.65044 | (05011317) |
| 631864.13 | 4175164.45 | 243.32976 | (05011317) | 631863.80 | 4175184.06 | 257.43102 | (05011317) |
| 631863.46 | 4175203.68 | 265.06383 | (05011317) | 631863.12 | 4175223.29 | 275.14718 | (05112916) |
| 631862.78 | 4175242.91 | 288.65011 | (05112916) | 631862.44 | 4175262.52 | 291.41294 | (05112916) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK26 ***

INCLUDING SOURCE(S): STCK26 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 289.53853 | (05011417) | 631861.77 | 4175301.75 | 295.58215 | (05110817) |
| 631861.43 | 4175321.37 | 300.24838 | (05110817) | 631861.09 | 4175340.98 | 301.14953 | (05102522) |
| 631860.75 | 4175360.60 | 322.33608 | (05020802) | 631860.41 | 4175380.21 | 334.18929 | (06121106) |
| 631860.07 | 4175399.83 | 341.84180 | (06120617) | 631859.73 | 4175419.44 | 375.53536 | (04022223) |
| 631859.40 | 4175439.06 | 384.38067 | (05021801) | 631859.06 | 4175458.67 | 362.37685 | (05021801) |
| 631858.72 | 4175478.29 | 393.25410 | (07010217) | 631858.38 | 4175497.90 | 410.34995 | (07020218) |
| 631858.04 | 4175517.52 | 413.21999 | (06011618) | 631857.70 | 4175537.13 | 416.73699 | (06011618) |
| 631857.37 | 4175556.75 | 438.61102 | (05122223) | 631857.03 | 4175576.36 | 406.82156 | (05121217) |
| 631856.69 | 4175595.98 | 356.38753 | (06011619) | 631856.35 | 4175615.59 | 406.50196 | (07012318) |
| 631856.01 | 4175635.21 | 441.13346 | (07012318) | 631855.67 | 4175654.82 | 439.85319 | (07012418) |
| 631855.33 | 4175674.44 | 436.86741 | (05012018) | 631855.00 | 4175694.05 | 431.50954 | (07120624) |
| 631854.66 | 4175713.67 | 386.47263 | (07120624) | 631854.32 | 4175733.28 | 350.13833 | (06111908) |
| 631853.98 | 4175752.90 | 346.76049 | (05020719) | 631853.64 | 4175772.51 | 340.51961 | (05011418) |
| 631853.30 | 4175792.13 | 309.13158 | (06112102) | 631852.97 | 4175811.74 | 303.66755 | (07071002) |
| 631852.63 | 4175831.36 | 299.94470 | (06092519) | 631852.29 | 4175850.97 | 295.88030 | (07031619) |
| 631851.95 | 4175870.59 | 279.53274 | (07031619) | 631851.61 | 4175890.20 | 290.91482 | (06052306) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631851.27 | 4175909.82 | 293.09109 | (06052306) | 631850.94 | 4175929.43 | 285.87593 | (06052306) |
| 631850.60 | 4175949.05 | 270.74706 | (06052306) | 631850.26 | 4175968.66 | 249.74068 | (06052306) |
| 631830.54 | 4175988.13 | 276.44731 | (06062806) | 631811.15 | 4175987.98 | 298.64326 | (06062806) |
| 631791.77 | 4175987.83 | 313.25343 | (06062806) | 631772.39 | 4175987.67 | 318.24347 | (06062806) |
| 631753.00 | 4175987.52 | 312.31719 | (06062806) | 631733.62 | 4175987.37 | 295.28345 | (06062806) |
| 631714.24 | 4175987.22 | 268.18019 | (06062806) | 631694.85 | 4175987.07 | 269.61557 | (08091905) |
| 631675.47 | 4175986.92 | 276.98381 | (06081406) | 631656.09 | 4175986.77 | 285.58644 | (07091007) |
| 631636.70 | 4175986.62 | 330.42038 | (07091007) | 631617.32 | 4175986.46 | 365.67050 | (07091007) |
| 631597.94 | 4175986.31 | 386.18316 | (07091007) | 631578.55 | 4175986.16 | 388.20417 | (07091007) |
| 631559.17 | 4175986.01 | 370.44190 | (07091007) | 631539.79 | 4175985.86 | 334.62591 | (07091007) |
| 631520.40 | 4175985.71 | 312.76063 | (05072006) | 631501.02 | 4175985.56 | 302.28486 | (05020318) |
| 631481.64 | 4175985.40 | 300.36349 | (06052305) | 631462.25 | 4175985.25 | 308.94661 | (07110718) |
| 631442.87 | 4175985.10 | 322.21675 | (06110120) | 631423.49 | 4175984.95 | 320.02013 | (04111518) |
| 631404.10 | 4175984.80 | 309.72989 | (07042205) | 631384.72 | 4175984.65 | 323.76507 | (08091907) |
| 631365.34 | 4175984.50 | 359.97578 | (08091907) | 631345.95 | 4175984.35 | 376.81543 | (08091907) |
| 631326.57 | 4175984.19 | 372.34432 | (08091907) | 631307.19 | 4175984.04 | 348.15747 | (08091907) |
| 631287.80 | 4175983.89 | 315.12880 | (06102618) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK27 ***

INCLUDING SOURCE(S): STCK27 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 113.47134 | (05112916) | 632304.44 | 4174354.52 | 54.81321 | (05011521) |
| 632192.15 | 4174956.32 | 104.58545 | (05112916) | 632420.62 | 4175510.15 | 94.78336 | (08011001) |
| 632418.97 | 4175552.92 | 97.38607 | (05122223) | 631187.00 | 4175727.00 | 880.78432 | (06121424) |
| 631166.00 | 4175729.00 | 808.81756 | (06111024) | 631121.00 | 4175719.00 | 672.84085 | (04101604) |
| 631035.00 | 4174830.00 | 130.82521 | (06102817) | 631106.00 | 4174825.00 | 122.16455 | (06102817) |
| 631937.00 | 4174528.00 | 74.30907 | (04122822) | 631322.00 | 4174522.00 | 81.70999 | (05010417) |
| 629800.63 | 4173850.44 | 24.56305 | (05122423) | 630150.63 | 4173850.44 | 42.93230 | (06011109) |
| 630500.63 | 4173850.44 | 42.12264 | (05012117) | 630850.63 | 4173850.44 | 42.20893 | (08022002) |
| 631200.63 | 4173850.44 | 44.70313 | (05122422) | 631550.63 | 4173850.44 | 51.11904 | (07012317) |
| 631900.63 | 4173850.44 | 48.41299 | (07011417) | 632250.63 | 4173850.44 | 35.53165 | (06020105) |
| 632600.63 | 4173850.44 | 32.88250 | (05011521) | 632950.63 | 4173850.44 | 29.66224 | (04022018) |
| 633300.63 | 4173850.44 | 25.93702 | (05021018) | 629800.63 | 4174200.44 | 31.01217 | (06121421) |
| 630150.63 | 4174200.44 | 36.06721 | (07121217) | 630500.63 | 4174200.44 | 58.95289 | (05012117) |
| 630850.63 | 4174200.44 | 56.51400 | (06121017) | 631200.63 | 4174200.44 | 59.98481 | (06121420) |
| 631550.63 | 4174200.44 | 75.48767 | (07012317) | 631900.63 | 4174200.44 | 65.58777 | (07011417) |
| 632250.63 | 4174200.44 | 50.38516 | (05020818) | 632600.63 | 4174200.44 | 41.18434 | (05011520) |
| 632950.63 | 4174200.44 | 34.24525 | (05021018) | 633300.63 | 4174200.44 | 33.82107 | (06011617) |
| 629800.63 | 4174550.44 | 34.87950 | (07020624) | 630150.63 | 4174550.44 | 45.87958 | (06121421) |
| 630500.63 | 4174550.44 | 65.98609 | (06011109) | 630850.63 | 4174550.44 | 88.02620 | (06011021) |
| 631200.63 | 4174550.44 | 99.35322 | (06121420) | 631550.63 | 4174550.44 | 108.49845 | (07012317) |
| 631900.63 | 4174550.44 | 80.22721 | (06020105) | 632250.63 | 4174550.44 | 68.50406 | (05011520) |
| 632600.63 | 4174550.44 | 49.04262 | (05021018) | 632950.63 | 4174550.44 | 48.49484 | (06011617) |

| | | | | | |
|---|---|---|---|---|---|
| 633300.63 | 4174550.44 | 34.09347 (07012703) | 629800.63 | 4174900.44 | 42.79970 (05022818) |
| 630150.63 | 4174900.44 | 60.52766 (04011017) | 630500.63 | 4174900.44 | 81.73373 (06121421) |
| 630850.63 | 4174900.44 | 160.87463 (06011109) | 631200.63 | 4174900.44 | 148.58183 (08022002) |
| 631550.63 | 4174900.44 | 151.44839 (07020623) | 631900.63 | 4174900.44 | 127.40793 (05011521) |
| 632250.63 | 4174900.44 | 90.52398 (05112916) | 632600.63 | 4174900.44 | 66.07840 (06011617) |
| 632950.63 | 4174900.44 | 48.29580 (06120617) | 633300.63 | 4174900.44 | 37.83475 (05021801) |
| 629800.63 | 4175250.44 | 53.94596 (04022207) | 630150.63 | 4175250.44 | 66.78417 (04022208) |
| 630500.63 | 4175250.44 | 107.38392 (05022818) | 630850.63 | 4175250.44 | 207.61643 (06121421) |
| 631200.63 | 4175250.44 | 301.36590 (06102817) | 631550.63 | 4175250.44 | 274.86797 (08071406) |
| 631900.63 | 4175250.44 | 204.65355 (05112916) | 632250.63 | 4175250.44 | 131.93366 (06120617) |
| 632600.63 | 4175250.44 | 77.45212 (07010217) | 632950.63 | 4175250.44 | 53.77006 (07010217) |
| 633300.63 | 4175250.44 | 40.39833 (07020218) | 629800.63 | 4175600.44 | 57.23086 (04121304) |
| 630150.63 | 4175600.44 | 78.09951 (04121304) | 630500.63 | 4175600.44 | 118.51951 (04121224) |
| 630850.63 | 4175600.44 | 259.42426 (08012221) | 631200.63 | 4175600.44 | 769.11278 (04022118) |
| 631550.63 | 4175600.44 | 1342.63558 (06052002) | 631900.63 | 4175600.44 | 327.20017 (06011618) |
| 632250.63 | 4175600.44 | 136.92047 (05121217) | 632600.63 | 4175600.44 | 77.20783 (05121217) |
| 632950.63 | 4175600.44 | 54.94664 (08011019) | 633300.63 | 4175600.44 | 42.22552 (08011019) |
| 629800.63 | 4175950.44 | 51.79481 (06011024) | 630150.63 | 4175950.44 | 74.42121 (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK27 ***

INCLUDING SOURCE(S): STCK27 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 99.97023 (07120621) | 630850.63 | 4175950.44 | 235.07690 (07120622) |
| 631200.63 | 4175950.44 | 384.50657 (04022205) | 631550.63 | 4175950.44 | 501.84768 (06062806) |
| 631900.63 | 4175950.44 | 290.89315 (05011418) | 632250.63 | 4175950.44 | 139.27668 (08010924) |
| 632600.63 | 4175950.44 | 77.01550 (05012018) | 632950.63 | 4175950.44 | 55.31963 (07012418) |
| 633300.63 | 4175950.44 | 42.73713 (07012418) | 629800.63 | 4176300.44 | 47.83045 (07120622) |
| 630150.63 | 4176300.44 | 59.53293 (07120622) | 630500.63 | 4176300.44 | 106.66829 (04021520) |
| 630850.63 | 4176300.44 | 160.16491 (04120903) | 631200.63 | 4176300.44 | 191.02783 (06013008) |
| 631550.63 | 4176300.44 | 235.97959 (07091007) | 631900.63 | 4176300.44 | 185.00974 (06062806) |
| 632250.63 | 4176300.44 | 132.24665 (08021808) | 632600.63 | 4176300.44 | 71.81555 (08121018) |
| 632950.63 | 4176300.44 | 51.87274 (06121503) | 633300.63 | 4176300.44 | 40.89025 (05122401) |
| 629800.63 | 4176650.44 | 44.29152 (06122121) | 630150.63 | 4176650.44 | 53.30427 (04021521) |
| 630500.63 | 4176650.44 | 81.34688 (04120903) | 630850.63 | 4176650.44 | 114.40470 (07021218) |
| 631200.63 | 4176650.44 | 127.46035 (07021108) | 631550.63 | 4176650.44 | 131.93442 (05122402) |
| 631900.63 | 4176650.44 | 118.66970 (06010522) | 632250.63 | 4176650.44 | 87.84816 (05010604) |
| 632600.63 | 4176650.44 | 73.64760 (08021808) | 632950.63 | 4176650.44 | 48.81821 (05011818) |
| 633300.63 | 4176650.44 | 37.55872 (08121018) | 629800.63 | 4177000.44 | 38.61412 (04021521) |
| 630150.63 | 4177000.44 | 47.36969 (04120903) | 630500.63 | 4177000.44 | 61.45129 (07122917) |
| 630850.63 | 4177000.44 | 70.91918 (06021720) | 631200.63 | 4177000.44 | 83.77426 (06020124) |
| 631550.63 | 4177000.44 | 86.52516 (08021906) | 631900.63 | 4177000.44 | 79.09603 (06020201) |
| 632250.63 | 4177000.44 | 65.17132 (07121908) | 632600.63 | 4177000.44 | 52.64728 (08021908) |
| 632950.63 | 4177000.44 | 42.95923 (08021808) | 633300.63 | 4177000.44 | 39.27853 (08021808) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 629800.63 | 4177350.44 | 33.25445 | (04010518) | 630150.63 | 4177350.44 | 39.23792 | (04120908) |
| 630500.63 | 4177350.44 | 48.85847 | (07021218) | 630850.63 | 4177350.44 | 55.29965 | (08011009) |
| 631200.63 | 4177350.44 | 57.90070 | (07021219) | 631550.63 | 4177350.44 | 60.18595 | (05122220) |
| 631900.63 | 4177350.44 | 56.05313 | (04020619) | 632250.63 | 4177350.44 | 49.04728 | (06120218) |
| 632600.63 | 4177350.44 | 45.81303 | (07022408) | 632950.63 | 4177350.44 | 38.03722 | (08021908) |
| 633300.63 | 4177350.44 | 34.10358 | (08021908) | 631670.70 | 4175493.59 | 400.14558 | (05112917) |
| 631669.80 | 4175641.41 | 592.98428 | (07062003) | 631665.32 | 4175796.39 | 549.34231 | (06081403) |
| 631417.17 | 4175826.85 | 469.03359 | (06062806) | 631417.17 | 4175673.66 | 1320.75994 | (06121423) |
| 631422.55 | 4175484.63 | 275.40883 | (08071406) | 631268.42 | 4175983.74 | 408.71982 | (08091907) |
| 631275.69 | 4175523.99 | 749.39276 | (05091918) | 631345.65 | 4175419.50 | 345.81671 | (08081805) |
| 631384.72 | 4175441.30 | 566.66203 | (04102617) | 631491.93 | 4175442.21 | 737.57146 | (08090903) |
| 631491.93 | 4175414.95 | 388.88567 | (05011817) | 631385.63 | 4175413.14 | 405.88951 | (08102618) |
| 631358.37 | 4175395.87 | 334.01866 | (07030618) | 631409.25 | 4175336.81 | 338.76387 | (04102617) |
| 631567.35 | 4175235.96 | 261.46613 | (08071406) | 631756.33 | 4175028.80 | 168.26727 | (05020818) |
| 631807.22 | 4175003.36 | 152.61627 | (05020818) | 631867.18 | 4174987.91 | 153.62856 | (05011521) |
| 631849.92 | 4175988.28 | 289.99245 | (08021806) | 631268.74 | 4175963.75 | 440.70981 | (08091907) |
| 631269.05 | 4175943.76 | 475.02834 | (08091907) | 631269.37 | 4175923.77 | 740.04197 | (08091907) |
| 631269.68 | 4175903.78 | 917.03966 | (07090905) | 631270.00 | 4175883.79 | 964.09781 | (07090905) |
| 631270.32 | 4175863.81 | 675.84836 | (04101820) | 631270.63 | 4175843.82 | 722.05039 | (04101820) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK27 ***

INCLUDING SOURCE(S): STCK27 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 898.26303 | (07082502) | 631271.26 | 4175803.84 | 1218.59070 | (04082001) |
| 631271.58 | 4175783.85 | 1569.61199 | (04082001) | 631271.90 | 4175763.86 | 1700.87076 | (04082001) |
| 631272.21 | 4175743.87 | 2455.43582 | (08081602) | 631272.53 | 4175723.88 | 2495.51041 | (05111817) |
| 631272.85 | 4175703.89 | 1975.86020 | (05111817) | 631273.16 | 4175683.90 | 2630.38096 | (04041821) |
| 631273.48 | 4175663.91 | 2405.56210 | (07110617) | 631273.79 | 4175643.92 | 2069.63245 | (05072102) |
| 631274.11 | 4175623.94 | 1853.15463 | (05072102) | 631274.43 | 4175603.95 | 1441.28457 | (05111717) |
| 631274.74 | 4175583.96 | 1197.21714 | (05111717) | 631275.06 | 4175563.97 | 927.30793 | (08121017) |
| 631275.37 | 4175543.98 | 832.04284 | (08121017) | 631285.68 | 4175509.06 | 693.51787 | (05091918) |
| 631295.68 | 4175494.14 | 931.89825 | (06102817) | 631305.67 | 4175479.21 | 847.50342 | (06102817) |
| 631315.67 | 4175464.28 | 680.46148 | (07100818) | 631325.66 | 4175449.35 | 635.25099 | (07100818) |
| 631335.66 | 4175434.43 | 383.38897 | (08081805) | 631358.67 | 4175426.77 | 422.38457 | (04102623) |
| 631371.70 | 4175434.03 | 495.31778 | (04102623) | 631402.59 | 4175441.45 | 628.84084 | (04102617) |
| 631420.46 | 4175441.60 | 648.19559 | (04102617) | 631438.33 | 4175441.76 | 662.40779 | (05011817) |
| 631456.19 | 4175441.91 | 717.89517 | (08071406) | 631474.06 | 4175442.06 | 732.36190 | (08071406) |
| 631491.93 | 4175428.58 | 402.18970 | (05011817) | 631474.21 | 4175414.65 | 414.32365 | (05011817) |
| 631456.50 | 4175414.35 | 413.36543 | (05011817) | 631438.78 | 4175414.05 | 430.68509 | (08071406) |
| 631421.06 | 4175413.74 | 473.15907 | (05011817) | 631403.35 | 4175413.44 | 478.30724 | (08102618) |
| 631372.00 | 4175404.51 | 360.96850 | (05110722) | 631371.09 | 4175381.11 | 337.54884 | (05110722) |
| 631383.81 | 4175366.34 | 330.15094 | (04102617) | 631396.53 | 4175351.58 | 338.23706 | (04102617) |
| 631425.06 | 4175326.73 | 336.39582 | (04102617) | 631440.87 | 4175316.64 | 323.98618 | (04102617) |

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|---|---|---|---|---|---|---|---|
| 631456.68 | 4175306.56 | 303.61457 | (04102617) | 631472.49 | 4175296.47 | 277.54933 | (04102617) |
| 631488.30 | 4175286.39 | 285.91065 | (05011817) | 631504.11 | 4175276.30 | 290.37097 | (05011817) |
| 631519.92 | 4175266.22 | 289.17168 | (05011817) | 631535.73 | 4175256.13 | 282.98234 | (05011817) |
| 631551.54 | 4175246.05 | 272.68505 | (08071406) | 631579.95 | 4175222.15 | 249.49492 | (08071406) |
| 631592.55 | 4175208.34 | 237.20301 | (08071406) | 631605.15 | 4175194.53 | 224.78785 | (08071406) |
| 631617.74 | 4175180.72 | 212.42478 | (08071406) | 631630.34 | 4175166.91 | 201.11662 | (06051924) |
| 631642.94 | 4175153.10 | 200.09747 | (04122822) | 631655.54 | 4175139.29 | 198.74580 | (04122822) |
| 631668.14 | 4175125.47 | 196.49471 | (04122822) | 631680.74 | 4175111.66 | 193.45561 | (04122822) |
| 631693.34 | 4175097.85 | 189.72768 | (04122822) | 631705.94 | 4175084.04 | 185.41334 | (04122822) |
| 631718.53 | 4175070.23 | 180.61485 | (04122822) | 631731.13 | 4175056.42 | 175.42149 | (04122822) |
| 631743.73 | 4175042.61 | 171.38533 | (05020818) | 631773.29 | 4175020.32 | 165.26278 | (05020818) |
| 631790.26 | 4175011.84 | 159.89830 | (05020818) | 631822.21 | 4174999.50 | 146.39519 | (05011521) |
| 631837.20 | 4174995.64 | 150.94066 | (05011521) | 631852.19 | 4174991.77 | 153.35416 | (05011521) |
| 631866.84 | 4175007.53 | 157.96298 | (05011521) | 631866.50 | 4175027.14 | 159.57526 | (05011521) |
| 631866.16 | 4175046.76 | 165.03371 | (05011520) | 631865.83 | 4175066.37 | 168.11878 | (05011520) |
| 631865.49 | 4175085.99 | 167.60336 | (05011520) | 631865.15 | 4175105.60 | 163.27557 | (05011520) |
| 631864.81 | 4175125.22 | 174.16122 | (04022018) | 631864.47 | 4175144.83 | 183.96359 | (04022018) |
| 631864.13 | 4175164.45 | 188.96419 | (04022018) | 631863.80 | 4175184.06 | 202.21411 | (05112916) |
| 631863.46 | 4175203.68 | 214.39969 | (05112916) | 631863.12 | 4175223.29 | 223.27965 | (05112916) |
| 631862.78 | 4175242.91 | 228.05236 | (05112916) | 631862.44 | 4175262.52 | 228.12803 | (05112916) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK27 ***

INCLUDING SOURCE(S): STCK27 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 223.23245 | (05112916) | 631861.77 | 4175301.75 | 223.81734 | (07021118) |
| 631861.43 | 4175321.37 | 235.29411 | (06011617) | 631861.09 | 4175340.98 | 242.42584 | (06011617) |
| 631860.75 | 4175360.60 | 235.54591 | (06011617) | 631860.41 | 4175380.21 | 256.90331 | (05020802) |
| 631860.07 | 4175399.83 | 271.01341 | (05020802) | 631859.73 | 4175419.44 | 273.74616 | (06121106) |
| 631859.40 | 4175439.06 | 281.86408 | (06120617) | 631859.06 | 4175458.67 | 305.47043 | (04022223) |
| 631858.72 | 4175478.29 | 313.79517 | (08010918) | 631858.38 | 4175497.90 | 315.66244 | (05021801) |
| 631858.04 | 4175517.52 | 305.54429 | (07010217) | 631857.70 | 4175537.13 | 329.35984 | (07010217) |
| 631857.37 | 4175556.75 | 334.88141 | (07020218) | 631857.03 | 4175576.36 | 361.92363 | (07020218) |
| 631856.69 | 4175595.98 | 362.28945 | (06011618) | 631856.35 | 4175615.59 | 361.64776 | (06011618) |
| 631856.01 | 4175635.21 | 379.35450 | (05122223) | 631855.67 | 4175654.82 | 377.76489 | (05121217) |
| 631855.33 | 4175674.44 | 374.95568 | (05011522) | 631855.00 | 4175694.05 | 372.34426 | (06011619) |
| 631854.66 | 4175713.67 | 388.66650 | (06011619) | 631854.32 | 4175733.28 | 381.56348 | (07012318) |
| 631853.98 | 4175752.90 | 381.76309 | (07012318) | 631853.64 | 4175772.51 | 385.93733 | (07012418) |
| 631853.30 | 4175792.13 | 382.50312 | (05012018) | 631852.97 | 4175811.74 | 379.12785 | (06012918) |
| 631852.63 | 4175831.36 | 370.69809 | (07120624) | 631852.29 | 4175850.97 | 346.39457 | (05122401) |
| 631851.95 | 4175870.59 | 341.39871 | (05122401) | 631851.61 | 4175890.20 | 338.28571 | (06121503) |
| 631851.27 | 4175909.82 | 329.98444 | (05011418) | 631850.94 | 4175929.43 | 323.66541 | (05011418) |
| 631850.60 | 4175949.05 | 296.90272 | (04121024) | 631850.26 | 4175968.66 | 295.52097 | (04121022) |
| 631830.54 | 4175988.13 | 297.04660 | (06011623) | 631811.15 | 4175987.98 | 304.50742 | (08122903) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631791.77 | 4175987.83 | 315.45746 | (07031619) | 631772.39 | 4175987.67 | 323.02165 | (07031619) |
| 631753.00 | 4175987.52 | 319.17103 | (06092419) | 631733.62 | 4175987.37 | 323.75234 | (06052306) |
| 631714.24 | 4175987.22 | 349.45798 | (06052306) | 631694.85 | 4175987.07 | 368.31966 | (06052306) |
| 631675.47 | 4175986.92 | 378.01586 | (06052306) | 631656.09 | 4175986.77 | 376.71994 | (06052306) |
| 631636.70 | 4175986.62 | 363.42897 | (06052306) | 631617.32 | 4175986.46 | 387.15570 | (06062806) |
| 631597.94 | 4175986.31 | 420.55283 | (06062806) | 631578.55 | 4175986.16 | 438.05385 | (06062806) |
| 631559.17 | 4175986.01 | 435.75123 | (06062806) | 631539.79 | 4175985.86 | 412.33884 | (06062806) |
| 631520.40 | 4175985.71 | 369.61671 | (06062806) | 631501.02 | 4175985.56 | 376.21721 | (06081406) |
| 631481.64 | 4175985.40 | 393.62137 | (07091007) | 631462.25 | 4175985.25 | 440.24551 | (07091007) |
| 631442.87 | 4175985.10 | 461.53417 | (07091007) | 631423.49 | 4175984.95 | 451.50680 | (07091007) |
| 631404.10 | 4175984.80 | 534.95501 | (07091007) | 631384.72 | 4175984.65 | 520.11789 | (07091007) |
| 631365.34 | 4175984.50 | 394.53215 | (07091007) | 631345.95 | 4175984.35 | 389.48120 | (07030418) |
| 631326.57 | 4175984.19 | 389.83579 | (07030418) | 631307.19 | 4175984.04 | 377.01245 | (07080306) |
| 631287.80 | 4175983.89 | 377.18004 | (08091907) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK28 ***

INCLUDING SOURCE(S): STCK28 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 109.11914 | (05112916) | 632304.44 | 4174354.52 | 57.91982 | (05011520) |
| 632192.15 | 4174956.32 | 114.90001 | (06011617) | 632420.62 | 4175510.15 | 97.46870 | (05121217) |
| 632418.97 | 4175552.92 | 94.34202 | (08011019) | 631187.00 | 4175727.00 | 696.24176 | (05081503) |
| 631166.00 | 4175729.00 | 656.48302 | (05081503) | 631121.00 | 4175719.00 | 467.67522 | (06033021) |
| 631035.00 | 4174830.00 | 150.76037 | (06011021) | 631106.00 | 4174825.00 | 161.68641 | (06102817) |
| 631937.00 | 4174528.00 | 86.04663 | (04122822) | 631322.00 | 4174522.00 | 87.89181 | (05010417) |
| 629800.63 | 4173850.44 | 26.00131 | (06011022) | 630150.63 | 4173850.44 | 42.73224 | (06011109) |
| 630500.63 | 4173850.44 | 49.10110 | (05012117) | 630850.63 | 4173850.44 | 43.68282 | (07122217) |
| 631200.63 | 4173850.44 | 47.77452 | (05122422) | 631550.63 | 4173850.44 | 55.91871 | (07012317) |
| 631900.63 | 4173850.44 | 53.12104 | (07011417) | 632250.63 | 4173850.44 | 39.72769 | (04122822) |
| 632600.63 | 4173850.44 | 36.66908 | (05011521) | 632950.63 | 4173850.44 | 33.23585 | (04022018) |
| 633300.63 | 4173850.44 | 25.52550 | (05021018) | 629800.63 | 4174200.44 | 35.68149 | (06121421) |
| 630150.63 | 4174200.44 | 36.06878 | (05122423) | 630500.63 | 4174200.44 | 63.74740 | (06011109) |
| 630850.63 | 4174200.44 | 60.59952 | (05010318) | 631200.63 | 4174200.44 | 67.45102 | (06121420) |
| 631550.63 | 4174200.44 | 80.90066 | (07012317) | 631900.63 | 4174200.44 | 63.90120 | (07011417) |
| 632250.63 | 4174200.44 | 51.98201 | (05020818) | 632600.63 | 4174200.44 | 45.32451 | (04022018) |
| 632950.63 | 4174200.44 | 32.96203 | (05021018) | 633300.63 | 4174200.44 | 36.57948 | (06011617) |
| 629800.63 | 4174550.44 | 41.34725 | (07020624) | 630150.63 | 4174550.44 | 52.21089 | (06121421) |
| 630500.63 | 4174550.44 | 59.10374 | (07121217) | 630850.63 | 4174550.44 | 106.08203 | (05012117) |
| 631200.63 | 4174550.44 | 112.20515 | (06121420) | 631550.63 | 4174550.44 | 109.60912 | (07012317) |
| 631900.63 | 4174550.44 | 87.16377 | (04122822) | 632250.63 | 4174550.44 | 67.96559 | (04022018) |
| 632600.63 | 4174550.44 | 50.02888 | (06011617) | 632950.63 | 4174550.44 | 45.90054 | (06011617) |
| 633300.63 | 4174550.44 | 36.50269 | (06120617) | 629800.63 | 4174900.44 | 46.21678 | (06121217) |
| 630150.63 | 4174900.44 | 63.67313 | (06120217) | 630500.63 | 4174900.44 | 89.16615 | (06121421) |
| 630850.63 | 4174900.44 | 156.69761 | (06011109) | 631200.63 | 4174900.44 | 175.87984 | (08022002) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631550.63 | 4174900.44 | 158.76277 | (04122824) | 631900.63 | 4174900.44 | 133.10103 | (05011520) |
| 632250.63 | 4174900.44 | 101.85652 | (06011617) | 632600.63 | 4174900.44 | 66.30112 | (06120617) |
| 632950.63 | 4174900.44 | 49.12872 | (08010918) | 633300.63 | 4174900.44 | 40.14013 | (07010217) |
| 629800.63 | 4175250.44 | 52.44051 | (04022207) | 630150.63 | 4175250.44 | 76.06049 | (04022207) |
| 630500.63 | 4175250.44 | 113.40670 | (05122617) | 630850.63 | 4175250.44 | 233.36376 | (07020624) |
| 631200.63 | 4175250.44 | 369.72357 | (06102817) | 631550.63 | 4175250.44 | 269.57339 | (08071406) |
| 631900.63 | 4175250.44 | 192.41122 | (05020802) | 632250.63 | 4175250.44 | 117.06971 | (05021801) |
| 632600.63 | 4175250.44 | 77.49091 | (07010217) | 632950.63 | 4175250.44 | 52.43040 | (08011001) |
| 633300.63 | 4175250.44 | 41.11809 | (08011001) | 629800.63 | 4175600.44 | 52.74735 | (05122618) |
| 630150.63 | 4175600.44 | 74.38766 | (05122618) | 630500.63 | 4175600.44 | 116.72739 | (04121304) |
| 630850.63 | 4175600.44 | 242.94246 | (04010517) | 631200.63 | 4175600.44 | 836.25548 | (05030320) |
| 631550.63 | 4175600.44 | 1938.30672 | (05020803) | 631900.63 | 4175600.44 | 323.19368 | (06011619) |
| 632250.63 | 4175600.44 | 122.27101 | (06011619) | 632600.63 | 4175600.44 | 78.14849 | (06011619) |
| 632950.63 | 4175600.44 | 56.14406 | (06011619) | 633300.63 | 4175600.44 | 42.90194 | (06011619) |
| 629800.63 | 4175950.44 | 51.45391 | (06011024) | 630150.63 | 4175950.44 | 57.53665 | (07120621) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK28 ***

INCLUDING SOURCE(S): STCK28 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 116.68324 | (07120622) | 630850.63 | 4175950.44 | 206.29935 | (04021520) |
| 631200.63 | 4175950.44 | 317.76273 | (08091907) | 631550.63 | 4175950.44 | 361.72153 | (06072006) |
| 631900.63 | 4175950.44 | 279.42294 | (08122903) | 632250.63 | 4175950.44 | 136.55620 | (06121503) |
| 632600.63 | 4175950.44 | 77.11470 | (08010924) | 632950.63 | 4175950.44 | 54.76829 | (06012918) |
| 633300.63 | 4175950.44 | 42.48014 | (06121320) | 629800.63 | 4176300.44 | 47.68190 | (07120622) |
| 630150.63 | 4176300.44 | 64.11566 | (06122121) | 630500.63 | 4176300.44 | 95.30523 | (04021521) |
| 630850.63 | 4176300.44 | 141.26057 | (04120908) | 631200.63 | 4176300.44 | 178.80451 | (08011009) |
| 631550.63 | 4176300.44 | 230.77858 | (07091007) | 631900.63 | 4176300.44 | 207.16491 | (06062806) |
| 632250.63 | 4176300.44 | 128.43408 | (08021808) | 632600.63 | 4176300.44 | 71.50544 | (05011818) |
| 632950.63 | 4176300.44 | 50.42028 | (07122919) | 633300.63 | 4176300.44 | 39.36775 | (05011322) |
| 629800.63 | 4176650.44 | 42.73500 | (04021520) | 630150.63 | 4176650.44 | 55.31719 | (04021521) |
| 630500.63 | 4176650.44 | 70.30771 | (04120908) | 630850.63 | 4176650.44 | 100.32889 | (04022021) |
| 631200.63 | 4176650.44 | 118.77452 | (06021703) | 631550.63 | 4176650.44 | 129.46840 | (05122402) |
| 631900.63 | 4176650.44 | 119.16690 | (06013003) | 632250.63 | 4176650.44 | 96.22223 | (07022408) |
| 632600.63 | 4176650.44 | 65.63107 | (08021908) | 632950.63 | 4176650.44 | 51.16373 | (08021808) |
| 633300.63 | 4176650.44 | 36.33166 | (07022020) | 629800.63 | 4177000.44 | 37.25216 | (04021521) |
| 630150.63 | 4177000.44 | 44.46639 | (04120903) | 630500.63 | 4177000.44 | 58.78246 | (07122917) |
| 630850.63 | 4177000.44 | 69.86938 | (07012722) | 631200.63 | 4177000.44 | 76.74581 | (06020124) |
| 631550.63 | 4177000.44 | 84.01359 | (06020918) | 631900.63 | 4177000.44 | 75.73603 | (06020201) |
| 632250.63 | 4177000.44 | 62.74932 | (06010521) | 632600.63 | 4177000.44 | 51.78747 | (07022408) |
| 632950.63 | 4177000.44 | 47.39153 | (08021908) | 633300.63 | 4177000.44 | 41.04211 | (08021808) |
| 629800.63 | 4177350.44 | 32.26282 | (04120903) | 630150.63 | 4177350.44 | 36.66020 | (07012719) |
| 630500.63 | 4177350.44 | 44.47627 | (04022021) | 630850.63 | 4177350.44 | 56.11039 | (08011009) |
| 631200.63 | 4177350.44 | 54.21767 | (07021219) | 631550.63 | 4177350.44 | 57.11646 | (05122220) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631900.63 | 4177350.44 | 53.12732 | (04021506) | 632250.63 | 4177350.44 | 46.78521 | (06013003) |
| 632600.63 | 4177350.44 | 40.53966 | (07121908) | 632950.63 | 4177350.44 | 34.74150 | (08122905) |
| 633300.63 | 4177350.44 | 36.53517 | (08021908) | 631670.70 | 4175493.59 | 440.60459 | (06111919) |
| 631669.80 | 4175641.41 | 658.47040 | (05071803) | 631665.32 | 4175796.39 | 469.03866 | (06092519) |
| 631417.17 | 4175826.85 | 329.97390 | (04121819) | 631417.17 | 4175673.66 | 1280.24464 | (05111717) |
| 631422.55 | 4175484.63 | 224.48445 | (07030618) | 631268.42 | 4175983.74 | 292.66292 | (07020208) |
| 631275.69 | 4175523.99 | 1214.06190 | (06011109) | 631345.65 | 4175419.50 | 536.82239 | (08081805) |
| 631384.72 | 4175441.30 | 691.02458 | (04102617) | 631491.93 | 4175442.21 | 636.04980 | (05051824) |
| 631491.93 | 4175414.95 | 460.37613 | (08031018) | 631385.63 | 4175413.14 | 520.46672 | (04102617) |
| 631358.37 | 4175395.87 | 465.32363 | (07030618) | 631409.25 | 4175336.81 | 406.10816 | (04102617) |
| 631567.35 | 4175235.96 | 264.57306 | (08031018) | 631756.33 | 4175028.80 | 166.93495 | (05011521) |
| 631807.22 | 4175003.36 | 158.41114 | (05011521) | 631867.18 | 4174987.91 | 145.62433 | (05011520) |
| 631849.92 | 4175988.28 | 277.73894 | (08121517) | 631268.74 | 4175963.75 | 303.91948 | (07020208) |
| 631269.05 | 4175943.76 | 332.70268 | (08091907) | 631269.37 | 4175923.77 | 478.72571 | (08091907) |
| 631269.68 | 4175903.78 | 525.41389 | (08091907) | 631270.00 | 4175883.79 | 464.10522 | (07090905) |
| 631270.32 | 4175863.81 | 435.31953 | (05042719) | 631270.63 | 4175843.82 | 396.13215 | (05042719) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK28 ***

INCLUDING SOURCE(S): STCK28 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 476.28304 | (05112506) | 631271.26 | 4175803.84 | 479.23312 | (05112506) |
| 631271.58 | 4175783.85 | 505.12775 | (05022619) | 631271.90 | 4175763.86 | 545.42441 | (06011108) |
| 631272.21 | 4175743.87 | 653.14246 | (08091907) | 631272.53 | 4175723.88 | 651.87180 | (06110119) |
| 631272.85 | 4175703.89 | 593.57705 | (06110119) | 631273.16 | 4175683.90 | 468.73873 | (06033021) |
| 631273.48 | 4175663.91 | 648.04319 | (06033021) | 631273.79 | 4175643.92 | 1070.50302 | (06121423) |
| 631274.11 | 4175623.94 | 1819.12325 | (05071702) | 631274.43 | 4175603.95 | 2457.59634 | (05071702) |
| 631274.74 | 4175583.96 | 1905.21469 | (05030320) | 631275.06 | 4175563.97 | 1472.32522 | (07110617) |
| 631275.37 | 4175543.98 | 1652.45079 | (06041020) | 631285.68 | 4175509.06 | 1591.11724 | (06011109) |
| 631295.68 | 4175494.14 | 1530.48991 | (06102817) | 631305.67 | 4175479.21 | 1744.33642 | (06102817) |
| 631315.67 | 4175464.28 | 1398.55402 | (06102817) | 631325.66 | 4175449.35 | 1003.94400 | (07100818) |
| 631335.66 | 4175434.43 | 592.31658 | (08081805) | 631358.67 | 4175426.77 | 530.17142 | (07030618) |
| 631371.70 | 4175434.03 | 612.69834 | (04102617) | 631402.59 | 4175441.45 | 702.44325 | (04102617) |
| 631420.46 | 4175441.60 | 675.01313 | (05011817) | 631438.33 | 4175441.76 | 676.07706 | (08071406) |
| 631456.19 | 4175441.91 | 649.80527 | (08031018) | 631474.06 | 4175442.06 | 655.20772 | (08031018) |
| 631491.93 | 4175428.58 | 474.20009 | (08031018) | 631474.21 | 4175414.65 | 469.62815 | (08031018) |
| 631456.50 | 4175414.35 | 515.37891 | (06052001) | 631438.78 | 4175414.05 | 516.52813 | (08071406) |
| 631421.06 | 4175413.74 | 574.75800 | (08102618) | 631403.35 | 4175413.44 | 580.82226 | (08102618) |
| 631372.00 | 4175404.51 | 486.46655 | (07030618) | 631371.09 | 4175381.11 | 445.25894 | (07030618) |
| 631383.81 | 4175366.34 | 426.25647 | (04102617) | 631396.53 | 4175351.58 | 421.30493 | (04102617) |
| 631425.06 | 4175326.73 | 383.31568 | (04102617) | 631440.87 | 4175316.64 | 349.42726 | (04102617) |
| 631456.68 | 4175306.56 | 354.28553 | (05011817) | 631472.49 | 4175296.47 | 352.80675 | (08071406) |
| 631488.30 | 4175286.39 | 346.34043 | (08071406) | 631504.11 | 4175276.30 | 333.07262 | (08071406) |
| 631519.92 | 4175266.22 | 314.68628 | (08071406) | 631535.73 | 4175256.13 | 292.80607 | (08071406) |

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|---|---|---|---|---|---|---|---|
| 631551.54 | 4175246.05 | 268.85338 | (08071406) | 631579.95 | 4175222.15 | 258.11043 | (08031018) |
| 631592.55 | 4175208.34 | 251.33798 | (08031018) | 631605.15 | 4175194.53 | 244.34381 | (08031018) |
| 631617.74 | 4175180.72 | 237.19790 | (08031018) | 631630.34 | 4175166.91 | 229.96537 | (08031018) |
| 631642.94 | 4175153.10 | 222.69234 | (08031018) | 631655.54 | 4175139.29 | 215.41987 | (08031018) |
| 631668.14 | 4175125.47 | 208.17735 | (08031018) | 631680.74 | 4175111.66 | 201.00398 | (08031018) |
| 631693.34 | 4175097.85 | 193.91847 | (08031018) | 631705.94 | 4175084.04 | 186.94123 | (08031018) |
| 631718.53 | 4175070.23 | 180.09110 | (08031018) | 631731.13 | 4175056.42 | 173.37936 | (08031018) |
| 631743.73 | 4175042.61 | 169.82260 | (05011521) | 631773.29 | 4175020.32 | 165.84856 | (05011521) |
| 631790.26 | 4175011.84 | 162.91643 | (05011521) | 631822.21 | 4174999.50 | 156.67917 | (05011520) |
| 631837.20 | 4174995.64 | 154.52435 | (05011520) | 631852.19 | 4174991.77 | 150.75924 | (05011520) |
| 631866.84 | 4175007.53 | 144.41093 | (04022018) | 631866.50 | 4175027.14 | 153.55759 | (04022018) |
| 631866.16 | 4175046.76 | 160.07658 | (04022018) | 631865.83 | 4175066.37 | 165.52205 | (05112916) |
| 631865.49 | 4175085.99 | 176.14144 | (05112916) | 631865.15 | 4175105.60 | 184.98413 | (05112916) |
| 631864.81 | 4175125.22 | 191.45085 | (05112916) | 631864.47 | 4175144.83 | 194.98812 | (05112916) |
| 631864.13 | 4175164.45 | 195.17778 | (05112916) | 631863.80 | 4175184.06 | 191.77207 | (05112916) |
| 631863.46 | 4175203.68 | 186.74430 | (07021118) | 631863.12 | 4175223.29 | 194.71819 | (06011617) |
| 631862.78 | 4175242.91 | 198.29841 | (06011617) | 631862.44 | 4175262.52 | 194.04096 | (05020802) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK28 ***

INCLUDING SOURCE(S): STCK28 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 211.71261 | (05020802) | 631861.77 | 4175301.75 | 219.40950 | (05020802) |
| 631861.43 | 4175321.37 | 222.75001 | (06120617) | 631861.09 | 4175340.98 | 236.67032 | (04022223) |
| 631860.75 | 4175360.60 | 255.34687 | (04022223) | 631860.41 | 4175380.21 | 260.17267 | (08010918) |
| 631860.07 | 4175399.83 | 260.59287 | (05021801) | 631859.73 | 4175419.44 | 261.47695 | (07010217) |
| 631859.40 | 4175439.06 | 275.56630 | (07010217) | 631859.06 | 4175458.67 | 306.17740 | (07020218) |
| 631858.72 | 4175478.29 | 323.86665 | (07020218) | 631858.38 | 4175497.90 | 326.11819 | (06011618) |
| 631858.04 | 4175517.52 | 321.46761 | (06011618) | 631857.70 | 4175537.13 | 336.17081 | (05122223) |
| 631857.37 | 4175556.75 | 347.80610 | (05011522) | 631857.03 | 4175576.36 | 371.58190 | (05011522) |
| 631856.69 | 4175595.98 | 373.46959 | (06011619) | 631856.35 | 4175615.59 | 383.70181 | (06011619) |
| 631856.01 | 4175635.21 | 399.12775 | (07012318) | 631855.67 | 4175654.82 | 393.82495 | (07012318) |
| 631855.33 | 4175674.44 | 400.22081 | (07012418) | 631855.00 | 4175694.05 | 398.28686 | (05012018) |
| 631854.66 | 4175713.67 | 394.33780 | (06012918) | 631854.32 | 4175733.28 | 383.08654 | (07120624) |
| 631853.98 | 4175752.90 | 368.42916 | (05122401) | 631853.64 | 4175772.51 | 359.77433 | (05122401) |
| 631853.30 | 4175792.13 | 358.42699 | (06121503) | 631852.97 | 4175811.74 | 350.61827 | (05011418) |
| 631852.63 | 4175831.36 | 341.54885 | (05011418) | 631852.29 | 4175850.97 | 319.20530 | (04121024) |
| 631851.95 | 4175870.59 | 319.13808 | (04121022) | 631851.61 | 4175890.20 | 312.57522 | (08021806) |
| 631851.27 | 4175909.82 | 307.83087 | (07120406) | 631850.94 | 4175929.43 | 300.30220 | (08122903) |
| 631850.60 | 4175949.05 | 299.05684 | (08021808) | 631850.26 | 4175968.66 | 292.32410 | (08021808) |
| 631830.54 | 4175988.13 | 282.76645 | (07021220) | 631811.15 | 4175987.98 | 289.20886 | (06122320) |
| 631791.77 | 4175987.83 | 303.49842 | (08021908) | 631772.39 | 4175987.67 | 313.71236 | (08021908) |
| 631753.00 | 4175987.52 | 306.95110 | (08021908) | 631733.62 | 4175987.37 | 298.92449 | (08051502) |
| 631714.24 | 4175987.22 | 316.77863 | (06062806) | 631694.85 | 4175987.07 | 345.76133 | (06062806) |

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|---|---|---|---|---|---|---|---|
| 631675.47 | 4175986.92 | 365.63552 | (06062806) | 631656.09 | 4175986.77 | 373.81969 | (06062806) |
| 631636.70 | 4175986.62 | 368.65963 | (06062806) | 631617.32 | 4175986.46 | 350.89918 | (06062806) |
| 631597.94 | 4175986.31 | 322.73420 | (06062806) | 631578.55 | 4175986.16 | 326.85266 | (06072006) |
| 631559.17 | 4175986.01 | 318.54455 | (06121921) | 631539.79 | 4175985.86 | 321.81285 | (06122319) |
| 631520.40 | 4175985.71 | 333.52986 | (07091007) | 631501.02 | 4175985.56 | 373.09861 | (07091007) |
| 631481.64 | 4175985.40 | 397.33268 | (07091007) | 631462.25 | 4175985.25 | 401.82569 | (07091007) |
| 631442.87 | 4175985.10 | 384.83823 | (07091007) | 631423.49 | 4175984.95 | 348.10295 | (07091007) |
| 631404.10 | 4175984.80 | 367.92356 | (07091007) | 631384.72 | 4175984.65 | 367.96994 | (07091007) |
| 631365.34 | 4175984.50 | 298.33087 | (05122221) | 631345.95 | 4175984.35 | 302.45429 | (05122221) |
| 631326.57 | 4175984.19 | 307.20103 | (07030418) | 631307.19 | 4175984.04 | 303.46351 | (07080306) |
| 631287.80 | 4175983.89 | 296.85473 | (07080306) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK3 ***

INCLUDING SOURCE(S): STCK3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 123.98906 | (04122822) | 632304.44 | 4174354.52 | 71.38299 | (06020105) |
| 632192.15 | 4174956.32 | 132.10844 | (08031018) | 632420.62 | 4175510.15 | 189.74232 | (05122223) |
| 632418.97 | 4175552.92 | 183.75143 | (05121217) | 631187.00 | 4175727.00 | 230.61891 | (06011024) |
| 631166.00 | 4175729.00 | 223.35440 | (06011024) | 631121.00 | 4175719.00 | 207.02620 | (06011024) |
| 631035.00 | 4174830.00 | 96.19938 | (04012317) | 631106.00 | 4174825.00 | 104.33651 | (04012317) |
| 631937.00 | 4174528.00 | 89.50989 | (07012317) | 631322.00 | 4174522.00 | 84.61565 | (06102817) |
| 629800.63 | 4173850.44 | 28.92211 | (06121421) | 630150.63 | 4173850.44 | 28.53922 | (04012317) |
| 630500.63 | 4173850.44 | 36.97232 | (07121217) | 630850.63 | 4173850.44 | 51.83805 | (05012117) |
| 631200.63 | 4173850.44 | 45.20854 | (06121017) | 631550.63 | 4173850.44 | 51.99347 | (06121420) |
| 631900.63 | 4173850.44 | 49.54835 | (04122823) | 632250.63 | 4173850.44 | 49.95395 | (05021804) |
| 632600.63 | 4173850.44 | 42.94265 | (06020105) | 632950.63 | 4173850.44 | 38.23631 | (05011521) |
| 633300.63 | 4173850.44 | 35.17796 | (04022018) | 629800.63 | 4174200.44 | 30.01180 | (07020624) |
| 630150.63 | 4174200.44 | 38.06236 | (06121421) | 630500.63 | 4174200.44 | 39.63576 | (04012317) |
| 630850.63 | 4174200.44 | 59.21959 | (07011517) | 631200.63 | 4174200.44 | 59.81461 | (06011021) |
| 631550.63 | 4174200.44 | 69.61425 | (06121420) | 631900.63 | 4174200.44 | 63.64370 | (07012317) |
| 632250.63 | 4174200.44 | 69.78341 | (07011417) | 632600.63 | 4174200.44 | 57.90951 | (05020818) |
| 632950.63 | 4174200.44 | 47.60779 | (05011520) | 633300.63 | 4174200.44 | 38.99471 | (05021018) |
| 629800.63 | 4174550.44 | 31.96452 | (06120217) | 630150.63 | 4174550.44 | 43.93185 | (04011017) |
| 630500.63 | 4174550.44 | 53.71806 | (06121421) | 630850.63 | 4174550.44 | 65.28045 | (04012317) |
| 631200.63 | 4174550.44 | 87.68436 | (05012117) | 631550.63 | 4174550.44 | 89.78116 | (08022002) |
| 631900.63 | 4174550.44 | 89.36680 | (07012317) | 632250.63 | 4174550.44 | 82.90306 | (06020105) |
| 632600.63 | 4174550.44 | 76.21508 | (05011520) | 632950.63 | 4174550.44 | 55.52055 | (08030618) |
| 633300.63 | 4174550.44 | 53.11976 | (06011617) | 629800.63 | 4174900.44 | 34.17242 | (04022208) |
| 630150.63 | 4174900.44 | 45.16687 | (06121217) | 630500.63 | 4174900.44 | 62.79576 | (06120217) |
| 630850.63 | 4174900.44 | 80.86570 | (04101819) | 631200.63 | 4174900.44 | 118.77184 | (04012317) |
| 631550.63 | 4174900.44 | 148.39562 | (06102817) | 631900.63 | 4174900.44 | 139.17878 | (04102617) |
| 632250.63 | 4174900.44 | 119.46489 | (08031018) | 632600.63 | 4174900.44 | 92.72056 | (08030618) |
| 632950.63 | 4174900.44 | 73.14842 | (05020802) | 633300.63 | 4174900.44 | 53.17570 | (04022223) |

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|---|---|---|---|---|---|---|---|
| 629800.63 | 4175250.44 | 37.15084 | (08012221) | 630150.63 | 4175250.44 | 49.17611 | (04022207) |
| 630500.63 | 4175250.44 | 78.11242 | (04022207) | 630850.63 | 4175250.44 | 106.41754 | (04022208) |
| 631200.63 | 4175250.44 | 181.16848 | (06120217) | 631550.63 | 4175250.44 | 268.30156 | (06011109) |
| 631900.63 | 4175250.44 | 248.42718 | (05011817) | 632250.63 | 4175250.44 | 190.26255 | (05102522) |
| 632600.63 | 4175250.44 | 129.87449 | (05021801) | 632950.63 | 4175250.44 | 87.27097 | (07010217) |
| 633300.63 | 4175250.44 | 56.07089 | (07020218) | 629800.63 | 4175600.44 | 40.04563 | (05122618) |
| 630150.63 | 4175600.44 | 50.55636 | (05122618) | 630500.63 | 4175600.44 | 66.87395 | (05122618) |
| 630850.63 | 4175600.44 | 108.58997 | (04010517) | 631200.63 | 4175600.44 | 222.88509 | (05122618) |
| 631550.63 | 4175600.44 | 907.52552 | (06072903) | 631900.63 | 4175600.44 | 1480.29203 | (08112619) |
| 632250.63 | 4175600.44 | 188.50203 | (08041119) | 632600.63 | 4175600.44 | 108.34190 | (06011619) |
| 632950.63 | 4175600.44 | 76.95043 | (06011619) | 633300.63 | 4175600.44 | 58.51943 | (06011619) |
| 629800.63 | 4175950.44 | 40.57513 | (06011024) | 630150.63 | 4175950.44 | 50.82914 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK3 ***
INCLUDING SOURCE(S): STCK3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 61.88593 | (05040705) | 630850.63 | 4175950.44 | 111.73829 | (07120622) |
| 631200.63 | 4175950.44 | 176.57773 | (06122121) | 631550.63 | 4175950.44 | 431.92200 | (04101820) |
| 631900.63 | 4175950.44 | 230.11641 | (06012924) | 632250.63 | 4175950.44 | 185.23804 | (06092419) |
| 632600.63 | 4175950.44 | 127.49426 | (05011418) | 632950.63 | 4175950.44 | 81.95980 | (05122401) |
| 633300.63 | 4175950.44 | 57.83358 | (06012918) | 629800.63 | 4176300.44 | 33.11401 | (07120622) |
| 630150.63 | 4176300.44 | 48.99499 | (07120622) | 630500.63 | 4176300.44 | 63.12596 | (06122121) |
| 630850.63 | 4176300.44 | 92.59118 | (04021520) | 631200.63 | 4176300.44 | 111.00275 | (04121223) |
| 631550.63 | 4176300.44 | 143.33315 | (08091907) | 631900.63 | 4176300.44 | 140.59182 | (05072006) |
| 632250.63 | 4176300.44 | 125.17061 | (06062806) | 632600.63 | 4176300.44 | 101.88191 | (07021220) |
| 632950.63 | 4176300.44 | 77.21102 | (05011818) | 633300.63 | 4176300.44 | 55.20599 | (04011021) |
| 629800.63 | 4176650.44 | 31.73581 | (06122121) | 630150.63 | 4176650.44 | 42.30301 | (06122121) |
| 630500.63 | 4176650.44 | 56.70332 | (04021521) | 630850.63 | 4176650.44 | 73.66914 | (04120903) |
| 631200.63 | 4176650.44 | 85.94343 | (08122718) | 631550.63 | 4176650.44 | 93.55639 | (07021108) |
| 631900.63 | 4176650.44 | 92.29353 | (06020918) | 632250.63 | 4176650.44 | 86.99336 | (05022620) |
| 632600.63 | 4176650.44 | 78.71750 | (05021921) | 632950.63 | 4176650.44 | 69.86779 | (08021908) |
| 633300.63 | 4176650.44 | 56.53494 | (08021808) | 629800.63 | 4177000.44 | 33.21177 | (04021520) |
| 630150.63 | 4177000.44 | 39.92854 | (04021521) | 630500.63 | 4177000.44 | 48.31621 | (04120903) |
| 630850.63 | 4177000.44 | 57.04379 | (07122917) | 631200.63 | 4177000.44 | 63.94058 | (07012720) |
| 631550.63 | 4177000.44 | 69.36713 | (06021703) | 631900.63 | 4177000.44 | 70.53386 | (05122220) |
| 632250.63 | 4177000.44 | 67.72974 | (04020619) | 632600.63 | 4177000.44 | 61.46026 | (06010522) |
| 632950.63 | 4177000.44 | 55.90995 | (07022408) | 633300.63 | 4177000.44 | 51.19958 | (08021908) |
| 629800.63 | 4177350.44 | 30.01101 | (04021521) | 630150.63 | 4177350.44 | 34.15588 | (04120903) |
| 630500.63 | 4177350.44 | 39.87017 | (04120908) | 630850.63 | 4177350.44 | 48.14564 | (07021218) |
| 631200.63 | 4177350.44 | 51.70367 | (07012722) | 631550.63 | 4177350.44 | 54.25247 | (06020124) |
| 631900.63 | 4177350.44 | 52.46306 | (05122220) | 632250.63 | 4177350.44 | 53.27825 | (05021302) |
| 632600.63 | 4177350.44 | 48.71700 | (05121501) | 632950.63 | 4177350.44 | 42.84630 | (04121820) |
| 633300.63 | 4177350.44 | 39.88855 | (07022408) | 631670.70 | 4175493.59 | 336.49606 | (07092306) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631669.80 | 4175641.41 | 722.75015 | (06072803) | 631665.32 | 4175796.39 | 184.14501 | (04101820) |
| 631417.17 | 4175826.85 | 258.92315 | (04082206) | 631417.17 | 4175673.66 | 375.89384 | (06072906) |
| 631422.55 | 4175484.63 | 326.88488 | (07101502) | 631268.42 | 4175983.74 | 179.58428 | (04030101) |
| 631275.69 | 4175523.99 | 280.43944 | (06051906) | 631345.65 | 4175419.50 | 271.60827 | (06100918) |
| 631384.72 | 4175441.30 | 293.27874 | (06100918) | 631491.93 | 4175442.21 | 763.37777 | (07110617) |
| 631491.93 | 4175414.95 | 587.86122 | (07110617) | 631385.63 | 4175413.14 | 277.53397 | (06100918) |
| 631358.37 | 4175395.87 | 255.07245 | (06121217) | 631409.25 | 4175336.81 | 230.58122 | (07020624) |
| 631567.35 | 4175235.96 | 264.64483 | (06011109) | 631756.33 | 4175028.80 | 141.27481 | (05010417) |
| 631807.22 | 4175003.36 | 143.38509 | (04102617) | 631867.18 | 4174987.91 | 159.23212 | (04102617) |
| 631849.92 | 4175988.28 | 232.65197 | (05072006) | 631268.74 | 4175963.75 | 188.99996 | (04030101) |
| 631269.05 | 4175943.76 | 192.10640 | (05110324) | 631269.37 | 4175923.77 | 195.87760 | (04082206) |
| 631269.68 | 4175903.78 | 198.93997 | (06080704) | 631270.00 | 4175883.79 | 202.78160 | (08100321) |
| 631270.32 | 4175863.81 | 212.05627 | (05110619) | 631270.63 | 4175843.82 | 226.89798 | (05110619) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK3 ***

INCLUDING SOURCE(S): STCK3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 232.52010 | (07071004) | 631271.26 | 4175803.84 | 236.43378 | (05030321) |
| 631271.58 | 4175783.85 | 231.81020 | (04041820) | 631271.90 | 4175763.86 | 245.18816 | (05030324) |
| 631272.21 | 4175743.87 | 269.08831 | (05030324) | 631272.53 | 4175723.88 | 268.56214 | (05030324) |
| 631272.85 | 4175703.89 | 272.93407 | (06072906) | 631273.16 | 4175683.90 | 271.66128 | (07042002) |
| 631273.48 | 4175663.91 | 276.53454 | (07042002) | 631273.79 | 4175643.92 | 275.11955 | (04101604) |
| 631274.11 | 4175623.94 | 273.89493 | (05122618) | 631274.43 | 4175603.95 | 268.16469 | (05122618) |
| 631274.74 | 4175583.96 | 273.97588 | (04121304) | 631275.06 | 4175563.97 | 285.14038 | (06032819) |
| 631275.37 | 4175543.98 | 280.79294 | (06032819) | 631285.68 | 4175509.06 | 277.56665 | (04110818) |
| 631295.68 | 4175494.14 | 257.05614 | (04110818) | 631305.67 | 4175479.21 | 251.71671 | (04022207) |
| 631315.67 | 4175464.28 | 268.02929 | (06041224) | 631325.66 | 4175449.35 | 270.27828 | (07101502) |
| 631335.66 | 4175434.43 | 258.70222 | (05102719) | 631358.67 | 4175426.77 | 278.84502 | (06100918) |
| 631371.70 | 4175434.03 | 286.08286 | (06100918) | 631402.59 | 4175441.45 | 305.59798 | (06100918) |
| 631420.46 | 4175441.60 | 314.21444 | (06100918) | 631438.33 | 4175441.76 | 318.25529 | (06100918) |
| 631456.19 | 4175441.91 | 690.42940 | (04041822) | 631474.06 | 4175442.06 | 491.02331 | (04041821) |
| 631491.93 | 4175428.58 | 678.81477 | (07110617) | 631474.21 | 4175414.65 | 732.38217 | (06051905) |
| 631456.50 | 4175414.35 | 318.97678 | (07111023) | 631438.78 | 4175414.05 | 276.51830 | (06120217) |
| 631421.06 | 4175413.74 | 268.41720 | (07111023) | 631403.35 | 4175413.44 | 274.46287 | (06100918) |
| 631372.00 | 4175404.51 | 266.03295 | (06100918) | 631371.09 | 4175381.11 | 237.76171 | (07111023) |
| 631383.81 | 4175366.34 | 245.10216 | (08041719) | 631396.53 | 4175351.58 | 240.26380 | (07020624) |
| 631425.06 | 4175326.73 | 229.06104 | (04101819) | 631440.87 | 4175316.64 | 225.83027 | (04101819) |
| 631456.68 | 4175306.56 | 233.59443 | (08062901) | 631472.49 | 4175296.47 | 238.06674 | (04012317) |
| 631488.30 | 4175286.39 | 255.29004 | (04012317) | 631504.11 | 4175276.30 | 259.12751 | (04012317) |
| 631519.92 | 4175266.22 | 248.75078 | (04012317) | 631535.73 | 4175256.13 | 256.05271 | (06011109) |
| 631551.54 | 4175246.05 | 266.79303 | (06011109) | 631579.95 | 4175222.15 | 247.64570 | (06011109) |
| 631592.55 | 4175208.34 | 222.15181 | (06011109) | 631605.15 | 4175194.53 | 225.24697 | (06102817) |
| 631617.74 | 4175180.72 | 226.39441 | (06102817) | 631630.34 | 4175166.91 | 223.77582 | (06102817) |

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|---|---|---|---|---|---|---|---|
| 631642.94 | 4175153.10 | 213.98411 | (06102817) | 631655.54 | 4175139.29 | 198.43250 | (06102817) |
| 631668.14 | 4175125.47 | 178.83817 | (06102817) | 631680.74 | 4175111.66 | 175.37188 | (05021806) |
| 631693.34 | 4175097.85 | 172.79977 | (05021806) | 631705.94 | 4175084.04 | 167.02270 | (05021806) |
| 631718.53 | 4175070.23 | 158.66676 | (05021806) | 631731.13 | 4175056.42 | 153.18262 | (05122422) |
| 631743.73 | 4175042.61 | 148.50529 | (05122422) | 631773.29 | 4175020.32 | 133.32692 | (05010417) |
| 631790.26 | 4175011.84 | 133.55286 | (04102617) | 631822.21 | 4174999.50 | 150.83140 | (04102617) |
| 631837.20 | 4174995.64 | 156.01610 | (04102617) | 631852.19 | 4174991.77 | 158.81430 | (04102617) |
| 631866.84 | 4175007.53 | 163.91044 | (04102617) | 631866.50 | 4175027.14 | 168.73784 | (04102617) |
| 631866.16 | 4175046.76 | 173.72208 | (04102617) | 631865.83 | 4175066.37 | 178.85837 | (04102617) |
| 631865.49 | 4175085.99 | 184.15383 | (04102617) | 631865.15 | 4175105.60 | 189.59774 | (04102617) |
| 631864.81 | 4175125.22 | 195.18666 | (04102617) | 631864.47 | 4175144.83 | 200.89473 | (04102617) |
| 631864.13 | 4175164.45 | 206.72248 | (04102617) | 631863.80 | 4175184.06 | 212.63084 | (04102617) |
| 631863.46 | 4175203.68 | 218.59408 | (04102617) | 631863.12 | 4175223.29 | 224.54195 | (04102617) |
| 631862.78 | 4175242.91 | 232.75844 | (04102617) | 631862.44 | 4175262.52 | 241.90754 | (04102617) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK3 ***
INCLUDING SOURCE(S): STCK3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 298.56806 | (04102617) | 631861.77 | 4175301.75 | 389.24601 | (05011817) |
| 631861.43 | 4175321.37 | 418.44373 | (08102618) | 631861.09 | 4175340.98 | 268.83102 | (04102623) |
| 631860.75 | 4175360.60 | 321.89744 | (04102617) | 631860.41 | 4175380.21 | 325.03717 | (04102617) |
| 631860.07 | 4175399.83 | 326.02013 | (04102617) | 631859.73 | 4175419.44 | 323.58575 | (04102617) |
| 631859.40 | 4175439.06 | 350.61750 | (05051824) | 631859.06 | 4175458.67 | 428.03057 | (05051824) |
| 631858.72 | 4175478.29 | 537.74446 | (07102905) | 631858.38 | 4175497.90 | 704.13417 | (07102905) |
| 631858.04 | 4175517.52 | 854.45676 | (06052002) | 631857.70 | 4175537.13 | 1202.63313 | (06052002) |
| 631857.37 | 4175556.75 | 1393.04968 | (06052002) | 631857.03 | 4175576.36 | 1415.00702 | (05071701) |
| 631856.69 | 4175595.98 | 1741.02451 | (04030118) | 631856.35 | 4175615.59 | 1462.69328 | (08112619) |
| 631856.01 | 4175635.21 | 1559.08283 | (06111908) | 631855.67 | 4175654.82 | 1369.99994 | (06102818) |
| 631855.33 | 4175674.44 | 976.41729 | (06102818) | 631855.00 | 4175694.05 | 723.01236 | (07092306) |
| 631854.66 | 4175713.67 | 543.31750 | (07092306) | 631854.32 | 4175733.28 | 433.52840 | (06110304) |
| 631853.98 | 4175752.90 | 351.67948 | (06110304) | 631853.64 | 4175772.51 | 311.75409 | (08112318) |
| 631853.30 | 4175792.13 | 300.18210 | (04111519) | 631852.97 | 4175811.74 | 301.65646 | (04111519) |
| 631852.63 | 4175831.36 | 207.56493 | (06081406) | 631852.29 | 4175850.97 | 197.23528 | (06081406) |
| 631851.95 | 4175870.59 | 182.44656 | (06081406) | 631851.61 | 4175890.20 | 340.00456 | (06081406) |
| 631851.27 | 4175909.82 | 376.16283 | (06080603) | 631850.94 | 4175929.43 | 336.59433 | (05072006) |
| 631850.60 | 4175949.05 | 267.35226 | (05072006) | 631850.26 | 4175968.66 | 241.08648 | (05072006) |
| 631830.54 | 4175988.13 | 230.27695 | (05072006) | 631811.15 | 4175987.98 | 216.20549 | (05072006) |
| 631791.77 | 4175987.83 | 217.09644 | (07030418) | 631772.39 | 4175987.67 | 251.40632 | (07030418) |
| 631753.00 | 4175987.52 | 278.43815 | (07030418) | 631733.62 | 4175987.37 | 294.87157 | (07030418) |
| 631714.24 | 4175987.22 | 307.00223 | (05112506) | 631694.85 | 4175987.07 | 329.71063 | (05112506) |
| 631675.47 | 4175986.92 | 337.77917 | (05112506) | 631656.09 | 4175986.77 | 364.23153 | (08091907) |
| 631636.70 | 4175986.62 | 377.94757 | (08091907) | 631617.32 | 4175986.46 | 367.16680 | (07090905) |
| 631597.94 | 4175986.31 | 368.61206 | (07090905) | 631578.55 | 4175986.16 | 257.91276 | (05112504) |

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|---|---|---|---|---|---|---|---|
| 631559.17 | 4175986.01 | 196.98503 | (05122507) | 631539.79 | 4175985.86 | 193.84790 | (05122507) |
| 631520.40 | 4175985.71 | 198.91239 | (04081204) | 631501.02 | 4175985.56 | 195.66921 | (04081204) |
| 631481.64 | 4175985.40 | 193.53247 | (07092301) | 631462.25 | 4175985.25 | 186.59789 | (07092301) |
| 631442.87 | 4175985.10 | 185.56167 | (06110118) | 631423.49 | 4175984.95 | 184.59111 | (05051803) |
| 631404.10 | 4175984.80 | 192.03713 | (05051803) | 631384.72 | 4175984.65 | 192.36548 | (05051803) |
| 631365.34 | 4175984.50 | 187.47698 | (07111102) | 631345.95 | 4175984.35 | 186.35686 | (07080202) |
| 631326.57 | 4175984.19 | 181.84978 | (07080202) | 631307.19 | 4175984.04 | 179.16704 | (04081205) |
| 631287.80 | 4175983.89 | 175.27211 | (07102703) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK4 ***

INCLUDING SOURCE(S): STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 174.41836 | (08031018) | 632304.44 | 4174354.52 | 76.70044 | (06020105) |
| 632192.15 | 4174956.32 | 162.65171 | (05011520) | 632420.62 | 4175510.15 | 141.13153 | (07012318) |
| 632418.97 | 4175552.92 | 176.79800 | (07012318) | 631187.00 | 4175727.00 | 203.97104 | (05030321) |
| 631166.00 | 4175729.00 | 193.92517 | (05030321) | 631121.00 | 4175719.00 | 187.36802 | (04041820) |
| 631035.00 | 4174830.00 | 98.08573 | (06121421) | 631106.00 | 4174825.00 | 99.14341 | (04012317) |
| 631937.00 | 4174528.00 | 98.15548 | (04102617) | 631322.00 | 4174522.00 | 88.61990 | (06011021) |
| 629800.63 | 4173850.44 | 29.30347 | (06121421) | 630150.63 | 4173850.44 | 28.37267 | (04012317) |
| 630500.63 | 4173850.44 | 36.86636 | (07121217) | 630850.63 | 4173850.44 | 51.88507 | (05012117) |
| 631200.63 | 4173850.44 | 47.21300 | (06102817) | 631550.63 | 4173850.44 | 55.99593 | (06121420) |
| 631900.63 | 4173850.44 | 52.94827 | (04122823) | 632250.63 | 4173850.44 | 56.01102 | (07011417) |
| 632600.63 | 4173850.44 | 45.20459 | (04122822) | 632950.63 | 4173850.44 | 43.38584 | (05011521) |
| 633300.63 | 4173850.44 | 39.15733 | (04022018) | 629800.63 | 4174200.44 | 33.22007 | (07020624) |
| 630150.63 | 4174200.44 | 36.33004 | (06121421) | 630500.63 | 4174200.44 | 39.20372 | (04012317) |
| 630850.63 | 4174200.44 | 55.38080 | (07011517) | 631200.63 | 4174200.44 | 67.39887 | (06011021) |
| 631550.63 | 4174200.44 | 72.83215 | (06121420) | 631900.63 | 4174200.44 | 70.71250 | (07012317) |
| 632250.63 | 4174200.44 | 74.08256 | (04022218) | 632600.63 | 4174200.44 | 62.64241 | (05020818) |
| 632950.63 | 4174200.44 | 55.03398 | (04022018) | 633300.63 | 4174200.44 | 37.60994 | (08030618) |
| 629800.63 | 4174550.44 | 33.43553 | (06121217) | 630150.63 | 4174550.44 | 44.98813 | (06120217) |
| 630500.63 | 4174550.44 | 47.58345 | (07020624) | 630850.63 | 4174550.44 | 63.52561 | (04012317) |
| 631200.63 | 4174550.44 | 85.40332 | (06011109) | 631550.63 | 4174550.44 | 95.55282 | (08022002) |
| 631900.63 | 4174550.44 | 100.38698 | (04102617) | 632250.63 | 4174550.44 | 91.74583 | (04122822) |
| 632600.63 | 4174550.44 | 81.60467 | (04022018) | 632950.63 | 4174550.44 | 61.55284 | (07021118) |
| 633300.63 | 4174550.44 | 48.55619 | (05020802) | 629800.63 | 4174900.44 | 39.46632 | (04022207) |
| 630150.63 | 4174900.44 | 44.41982 | (04022208) | 630500.63 | 4174900.44 | 60.57408 | (06121217) |
| 630850.63 | 4174900.44 | 91.25749 | (07020624) | 631200.63 | 4174900.44 | 119.48099 | (04012317) |
| 631550.63 | 4174900.44 | 159.76287 | (06102817) | 631900.63 | 4174900.44 | 158.96113 | (04102617) |
| 632250.63 | 4174900.44 | 149.84017 | (05011520) | 632600.63 | 4174900.44 | 119.75511 | (06011617) |
| 632950.63 | 4174900.44 | 79.66798 | (06120617) | 633300.63 | 4174900.44 | 53.43381 | (05021801) |
| 629800.63 | 4175250.44 | 34.77266 | (06032819) | 630150.63 | 4175250.44 | 46.88759 | (08012221) |
| 630500.63 | 4175250.44 | 67.07697 | (08012221) | 630850.63 | 4175250.44 | 113.12663 | (04022207) |
| 631200.63 | 4175250.44 | 169.33767 | (06100918) | 631550.63 | 4175250.44 | 275.90478 | (04012317) |

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|---|---|---|---|---|---|---|---|
| 631900.63 | 4175250.44 | 319.86984 | (05011817) | 632250.63 | 4175250.44 | 222.40476 | (06120617) |
| 632600.63 | 4175250.44 | 149.88691 | (07010217) | 632950.63 | 4175250.44 | 76.53718 | (06011618) |
| 633300.63 | 4175250.44 | 55.75276 | (06011618) | 629800.63 | 4175600.44 | 41.67566 | (05122618) |
| 630150.63 | 4175600.44 | 51.45923 | (05122618) | 630500.63 | 4175600.44 | 65.17377 | (05122618) |
| 630850.63 | 4175600.44 | 107.92802 | (07020701) | 631200.63 | 4175600.44 | 235.87012 | (06011024) |
| 631550.63 | 4175600.44 | 441.66240 | (08110218) | 631900.63 | 4175600.44 | 639.53759 | (06102818) |
| 632250.63 | 4175600.44 | 238.97059 | (05012018) | 632600.63 | 4175600.44 | 126.97099 | (07012418) |
| 632950.63 | 4175600.44 | 80.73277 | (07012318) | 633300.63 | 4175600.44 | 58.33225 | (07012318) |
| 629800.63 | 4175950.44 | 38.91267 | (06011024) | 630150.63 | 4175950.44 | 42.46066 | (05030324) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK4 ***

INCLUDING SOURCE(S): STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 65.80430 | (07120621) | 630850.63 | 4175950.44 | 103.08720 | (07120622) |
| 631200.63 | 4175950.44 | 163.69260 | (07102703) | 631550.63 | 4175950.44 | 415.85550 | (06102618) |
| 631900.63 | 4175950.44 | 179.36531 | (06021018) | 632250.63 | 4175950.44 | 154.20829 | (06052306) |
| 632600.63 | 4175950.44 | 109.06676 | (04121022) | 632950.63 | 4175950.44 | 77.20583 | (06121503) |
| 633300.63 | 4175950.44 | 56.70452 | (05122401) | 629800.63 | 4176300.44 | 37.85651 | (07120622) |
| 630150.63 | 4176300.44 | 42.22497 | (07120404) | 630500.63 | 4176300.44 | 65.95934 | (06122121) |
| 630850.63 | 4176300.44 | 97.14571 | (04021521) | 631200.63 | 4176300.44 | 119.74640 | (04120908) |
| 631550.63 | 4176300.44 | 124.47625 | (06033022) | 631900.63 | 4176300.44 | 122.23001 | (05072006) |
| 632250.63 | 4176300.44 | 102.26081 | (06010522) | 632600.63 | 4176300.44 | 91.10000 | (08021908) |
| 632950.63 | 4176300.44 | 73.81269 | (08021808) | 633300.63 | 4176300.44 | 52.27865 | (05020806) |
| 629800.63 | 4176650.44 | 34.94723 | (06122121) | 630150.63 | 4176650.44 | 43.73933 | (04021520) |
| 630500.63 | 4176650.44 | 57.15413 | (04021521) | 630850.63 | 4176650.44 | 71.00912 | (04121223) |
| 631200.63 | 4176650.44 | 86.37197 | (07021218) | 631550.63 | 4176650.44 | 91.22464 | (07021108) |
| 631900.63 | 4176650.44 | 86.81717 | (05122220) | 632250.63 | 4176650.44 | 80.81106 | (05021722) |
| 632600.63 | 4176650.44 | 70.95021 | (04121820) | 632950.63 | 4176650.44 | 63.75451 | (08021908) |
| 633300.63 | 4176650.44 | 54.47795 | (08021808) | 629800.63 | 4177000.44 | 30.12851 | (04021520) |
| 630150.63 | 4177000.44 | 37.15970 | (04021521) | 630500.63 | 4177000.44 | 45.51966 | (04120903) |
| 630850.63 | 4177000.44 | 58.89941 | (07122917) | 631200.63 | 4177000.44 | 62.30868 | (08091907) |
| 631550.63 | 4177000.44 | 67.42696 | (06020124) | 631900.63 | 4177000.44 | 65.71287 | (05122220) |
| 632250.63 | 4177000.44 | 63.40645 | (04021506) | 632600.63 | 4177000.44 | 57.23096 | (06120218) |
| 632950.63 | 4177000.44 | 52.55698 | (07022408) | 633300.63 | 4177000.44 | 47.07127 | (08021908) |
| 629800.63 | 4177350.44 | 27.30301 | (04021521) | 630150.63 | 4177350.44 | 33.35261 | (04120903) |
| 630500.63 | 4177350.44 | 38.10988 | (07012719) | 630850.63 | 4177350.44 | 45.45420 | (07021218) |
| 631200.63 | 4177350.44 | 48.21661 | (07012722) | 631550.63 | 4177350.44 | 51.45205 | (06020124) |
| 631900.63 | 4177350.44 | 48.81862 | (05122220) | 632250.63 | 4177350.44 | 50.13901 | (05021302) |
| 632600.63 | 4177350.44 | 46.64353 | (05022620) | 632950.63 | 4177350.44 | 41.65270 | (06010521) |
| 633300.63 | 4177350.44 | 40.90214 | (07022408) | 631670.70 | 4175493.59 | 562.98477 | (05012118) |
| 631669.80 | 4175641.41 | 468.21551 | (05051824) | 631665.32 | 4175796.39 | 175.65254 | (07090905) |
| 631417.17 | 4175826.85 | 296.47105 | (04110906) | 631417.17 | 4175673.66 | 440.41743 | (05061703) |
| 631422.55 | 4175484.63 | 383.37704 | (04101624) | 631268.42 | 4175983.74 | 169.61314 | (05051803) |

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|---|---|---|---|---|---|---|---|
| 631275.69 | 4175523.99 | 266.30168 | (05122618) | 631345.65 | 4175419.50 | 283.49823 | (04110818) |
| 631384.72 | 4175441.30 | 316.61843 | (04110818) | 631491.93 | 4175442.21 | 596.83775 | (04041821) |
| 631491.93 | 4175414.95 | 609.59535 | (04041821) | 631385.63 | 4175413.14 | 286.32740 | (04110818) |
| 631358.37 | 4175395.87 | 249.60952 | (06121422) | 631409.25 | 4175336.81 | 253.61065 | (06100918) |
| 631567.35 | 4175235.96 | 268.73963 | (04012317) | 631756.33 | 4175028.80 | 162.03623 | (05010417) |
| 631807.22 | 4175003.36 | 175.96409 | (04102617) | 631867.18 | 4174987.91 | 188.73017 | (04102617) |
| 631849.92 | 4175988.28 | 187.26600 | (05072006) | 631268.74 | 4175963.75 | 173.65511 | (07111102) |
| 631269.05 | 4175943.76 | 178.42582 | (04021521) | 631269.37 | 4175923.77 | 179.72475 | (04081205) |
| 631269.68 | 4175903.78 | 183.52181 | (07102703) | 631270.00 | 4175883.79 | 190.17084 | (04021520) |
| 631270.32 | 4175863.81 | 201.33388 | (04021520) | 631270.63 | 4175843.82 | 202.28244 | (04021520) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK4 ***

INCLUDING SOURCE(S): STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 206.76177 | (04082206) | 631271.26 | 4175803.84 | 209.43482 | (07070904) |
| 631271.58 | 4175783.85 | 214.68357 | (08100321) | 631271.90 | 4175763.86 | 214.15486 | (05110619) |
| 631272.21 | 4175743.87 | 230.38103 | (05110619) | 631272.53 | 4175723.88 | 236.26084 | (07071004) |
| 631272.85 | 4175703.89 | 239.55243 | (05030321) | 631273.16 | 4175683.90 | 233.83117 | (04041820) |
| 631273.48 | 4175663.91 | 245.31567 | (04041820) | 631273.79 | 4175643.92 | 267.83462 | (05030324) |
| 631274.11 | 4175623.94 | 267.80690 | (05030324) | 631274.43 | 4175603.95 | 272.70812 | (06072906) |
| 631274.74 | 4175583.96 | 270.32999 | (07042002) | 631275.06 | 4175563.97 | 275.64945 | (07042002) |
| 631275.37 | 4175543.98 | 275.03470 | (04101604) | 631285.68 | 4175509.06 | 270.76197 | (05122618) |
| 631295.68 | 4175494.14 | 267.47910 | (04101624) | 631305.67 | 4175479.21 | 285.63695 | (04121304) |
| 631315.67 | 4175464.28 | 287.56955 | (06072904) | 631325.66 | 4175449.35 | 280.27523 | (06072904) |
| 631335.66 | 4175434.43 | 284.07799 | (06051906) | 631358.67 | 4175426.77 | 296.35774 | (04110818) |
| 631371.70 | 4175434.03 | 307.55652 | (04110818) | 631402.59 | 4175441.45 | 329.70070 | (04110818) |
| 631420.46 | 4175441.60 | 342.53527 | (04110818) | 631438.33 | 4175441.76 | 354.94345 | (04110818) |
| 631456.19 | 4175441.91 | 370.83392 | (05030320) | 631474.06 | 4175442.06 | 377.47505 | (04110818) |
| 631491.93 | 4175428.58 | 614.41745 | (04041821) | 631474.21 | 4175414.65 | 350.94908 | (04041822) |
| 631456.50 | 4175414.35 | 319.52853 | (06121422) | 631438.78 | 4175414.05 | 309.49090 | (06121422) |
| 631421.06 | 4175413.74 | 298.87721 | (06121422) | 631403.35 | 4175413.44 | 289.96187 | (04110818) |
| 631372.00 | 4175404.51 | 263.61168 | (04110818) | 631371.09 | 4175381.11 | 242.33250 | (07101502) |
| 631383.81 | 4175366.34 | 250.27720 | (07101502) | 631396.53 | 4175351.58 | 253.26332 | (07110617) |
| 631425.06 | 4175326.73 | 244.41134 | (06100918) | 631440.87 | 4175316.64 | 255.81526 | (04022118) |
| 631456.68 | 4175306.56 | 258.00754 | (04022118) | 631472.49 | 4175296.47 | 249.95055 | (05072102) |
| 631488.30 | 4175286.39 | 247.68989 | (05122619) | 631504.11 | 4175276.30 | 252.79589 | (05122619) |
| 631519.92 | 4175266.22 | 257.00844 | (06120517) | 631535.73 | 4175256.13 | 263.97877 | (04012317) |
| 631551.54 | 4175246.05 | 273.99595 | (04012317) | 631579.95 | 4175222.15 | 263.31652 | (06011109) |
| 631592.55 | 4175208.34 | 271.25751 | (06011109) | 631605.15 | 4175194.53 | 264.73360 | (06011109) |
| 631617.74 | 4175180.72 | 245.36208 | (06011109) | 631630.34 | 4175166.91 | 236.68096 | (06102817) |
| 631642.94 | 4175153.10 | 243.47128 | (06102817) | 631655.54 | 4175139.29 | 240.31134 | (06102817) |
| 631668.14 | 4175125.47 | 228.39880 | (06102817) | 631680.74 | 4175111.66 | 209.73101 | (06102817) |
| 631693.34 | 4175097.85 | 202.16299 | (05021806) | 631705.94 | 4175084.04 | 199.91545 | (05021806) |

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|---|---|---|---|---|---|---|---|
| 631718.53 | 4175070.23 | 193.10181 | (05021806) | 631731.13 | 4175056.42 | 182.68679 | (05021806) |
| 631743.73 | 4175042.61 | 170.73939 | (05122422) | 631773.29 | 4175020.32 | 154.02625 | (05010417) |
| 631790.26 | 4175011.84 | 163.79890 | (04102617) | 631822.21 | 4174999.50 | 184.62496 | (04102617) |
| 631837.20 | 4174995.64 | 189.69874 | (04102617) | 631852.19 | 4174991.77 | 191.02996 | (04102617) |
| 631866.84 | 4175007.53 | 194.47443 | (04102617) | 631866.50 | 4175027.14 | 200.34236 | (04102617) |
| 631866.16 | 4175046.76 | 206.33513 | (04102617) | 631865.83 | 4175066.37 | 212.42689 | (04102617) |
| 631865.49 | 4175085.99 | 218.60750 | (04102617) | 631865.15 | 4175105.60 | 224.82854 | (04102617) |
| 631864.81 | 4175125.22 | 231.04133 | (04102617) | 631864.47 | 4175144.83 | 237.15105 | (04102617) |
| 631864.13 | 4175164.45 | 248.52858 | (05011817) | 631863.80 | 4175184.06 | 268.51902 | (05011817) |
| 631863.46 | 4175203.68 | 289.56257 | (05011817) | 631863.12 | 4175223.29 | 311.43828 | (05011817) |
| 631862.78 | 4175242.91 | 333.83242 | (05011817) | 631862.44 | 4175262.52 | 356.21026 | (05011817) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK4 ***

INCLUDING SOURCE(S): STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 386.91296 | (05011817) | 631861.77 | 4175301.75 | 697.10249 | (08071406) |
| 631861.43 | 4175321.37 | 713.59816 | (08071406) | 631861.09 | 4175340.98 | 774.75826 | (06052001) |
| 631860.75 | 4175360.60 | 986.64198 | (05051824) | 631860.41 | 4175380.21 | 916.97485 | (05051824) |
| 631860.07 | 4175399.83 | 1230.95171 | (07102905) | 631859.73 | 4175419.44 | 1191.00417 | (07102905) |
| 631859.40 | 4175439.06 | 1344.92570 | (07102905) | 631859.06 | 4175458.67 | 2237.09373 | (06052002) |
| 631858.72 | 4175478.29 | 1787.01845 | (05071701) | 631858.38 | 4175497.90 | 1766.15753 | (05012118) |
| 631858.04 | 4175517.52 | 1945.81181 | (07102907) | 631857.70 | 4175537.13 | 1556.97867 | (08010919) |
| 631857.37 | 4175556.75 | 833.06945 | (08010919) | 631857.03 | 4175576.36 | 333.48261 | (06102818) |
| 631856.69 | 4175595.98 | 287.70148 | (06021018) | 631856.35 | 4175615.59 | 349.94282 | (06021018) |
| 631856.01 | 4175635.21 | 403.13498 | (06021018) | 631855.67 | 4175654.82 | 421.36316 | (06021018) |
| 631855.33 | 4175674.44 | 411.31733 | (08112520) | 631855.00 | 4175694.05 | 382.66475 | (05072006) |
| 631854.66 | 4175713.67 | 380.64809 | (05072006) | 631854.32 | 4175733.28 | 374.51744 | (05072006) |
| 631853.98 | 4175752.90 | 337.24467 | (07080305) | 631853.64 | 4175772.51 | 307.62577 | (06013006) |
| 631853.30 | 4175792.13 | 289.64079 | (08112318) | 631852.97 | 4175811.74 | 282.28165 | (08112318) |
| 631852.63 | 4175831.36 | 265.65429 | (04111519) | 631852.29 | 4175850.97 | 258.97608 | (04111519) |
| 631851.95 | 4175870.59 | 252.42514 | (04111519) | 631851.61 | 4175890.20 | 262.60005 | (04020106) |
| 631851.27 | 4175909.82 | 247.04364 | (04020106) | 631850.94 | 4175929.43 | 264.58853 | (05072006) |
| 631850.60 | 4175949.05 | 213.27974 | (05072006) | 631850.26 | 4175968.66 | 193.85780 | (05072006) |
| 631830.54 | 4175988.13 | 179.65940 | (05072006) | 631811.15 | 4175987.98 | 166.26792 | (04111519) |
| 631791.77 | 4175987.83 | 194.60397 | (07030418) | 631772.39 | 4175987.67 | 224.68808 | (07030418) |
| 631753.00 | 4175987.52 | 250.55383 | (07030418) | 631733.62 | 4175987.37 | 268.50166 | (07030418) |
| 631714.24 | 4175987.22 | 279.18394 | (05112506) | 631694.85 | 4175987.07 | 306.52711 | (05112506) |
| 631675.47 | 4175986.92 | 324.12967 | (05112506) | 631656.09 | 4175986.77 | 333.26368 | (05112506) |
| 631636.70 | 4175986.62 | 357.75097 | (08091907) | 631617.32 | 4175986.46 | 320.50082 | (08091907) |
| 631597.94 | 4175986.31 | 269.65601 | (07090905) | 631578.55 | 4175986.16 | 222.81003 | (08091907) |
| 631559.17 | 4175986.01 | 208.16018 | (08091907) | 631539.79 | 4175985.86 | 191.55915 | (04022021) |
| 631520.40 | 4175985.71 | 189.56607 | (07021218) | 631501.02 | 4175985.56 | 180.06730 | (08122718) |
| 631481.64 | 4175985.40 | 182.92734 | (07090906) | 631462.25 | 4175985.25 | 187.64662 | (04081204) |

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|---|---|---|---|---|---|---|---|
| 631442.87 | 4175985.10 | 190.27743 | (04081204) | 631423.49 | 4175984.95 | 186.48365 | (05051802) |
| 631404.10 | 4175984.80 | 184.25963 | (07092301) | 631384.72 | 4175984.65 | 178.23432 | (07092301) |
| 631365.34 | 4175984.50 | 176.33403 | (06110118) | 631345.95 | 4175984.35 | 173.20034 | (04120903) |
| 631326.57 | 4175984.19 | 170.47604 | (04041920) | 631307.19 | 4175984.04 | 171.89620 | (05051803) |
| 631287.80 | 4175983.89 | 173.38253 | (05051803) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK5 ***

INCLUDING SOURCE(S): STCK5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 237.81168 | (08031018) | 632304.44 | 4174354.52 | 93.49177 | (04122822) |
| 632192.15 | 4174956.32 | 224.81382 | (04022018) | 632420.62 | 4175510.15 | 148.65195 | (06121320) |
| 632418.97 | 4175552.92 | 146.14465 | (06012918) | 631187.00 | 4175727.00 | 170.05581 | (05030120) |
| 631166.00 | 4175729.00 | 165.60144 | (05030322) | 631121.00 | 4175719.00 | 153.38355 | (05110619) |
| 631035.00 | 4174830.00 | 94.04359 | (04101819) | 631106.00 | 4174825.00 | 105.97849 | (06121421) |
| 631937.00 | 4174528.00 | 117.11643 | (04102617) | 631322.00 | 4174522.00 | 94.87426 | (05012117) |
| 629800.63 | 4173850.44 | 27.17881 | (06121421) | 630150.63 | 4173850.44 | 32.47815 | (06121421) |
| 630500.63 | 4173850.44 | 34.30318 | (07121217) | 630850.63 | 4173850.44 | 49.29313 | (05012117) |
| 631200.63 | 4173850.44 | 49.83800 | (06040920) | 631550.63 | 4173850.44 | 60.63246 | (06121420) |
| 631900.63 | 4173850.44 | 57.22600 | (07012317) | 632250.63 | 4173850.44 | 68.30142 | (07011417) |
| 632600.63 | 4173850.44 | 54.57816 | (04122822) | 632950.63 | 4173850.44 | 45.92070 | (05011520) |
| 633300.63 | 4173850.44 | 39.78905 | (04022018) | 629800.63 | 4174200.44 | 34.83013 | (06120217) |
| 630150.63 | 4174200.44 | 34.93260 | (07020624) | 630500.63 | 4174200.44 | 46.23626 | (06121421) |
| 630850.63 | 4174200.44 | 55.82820 | (07121217) | 631200.63 | 4174200.44 | 72.10934 | (06011021) |
| 631550.63 | 4174200.44 | 76.71307 | (06121420) | 631900.63 | 4174200.44 | 85.31951 | (07012317) |
| 632250.63 | 4174200.44 | 83.51211 | (06020105) | 632600.63 | 4174200.44 | 69.85825 | (05011521) |
| 632950.63 | 4174200.44 | 59.20839 | (04022018) | 633300.63 | 4174200.44 | 47.18680 | (06011617) |
| 629800.63 | 4174550.44 | 35.06873 | (06121217) | 630150.63 | 4174550.44 | 40.30647 | (05022818) |
| 630500.63 | 4174550.44 | 57.36105 | (07020624) | 630850.63 | 4174550.44 | 72.63797 | (06121421) |
| 631200.63 | 4174550.44 | 90.39082 | (07011517) | 631550.63 | 4174550.44 | 101.47958 | (07111022) |
| 631900.63 | 4174550.44 | 126.63146 | (07012317) | 632250.63 | 4174550.44 | 137.94903 | (04122822) |
| 632600.63 | 4174550.44 | 103.39045 | (04022018) | 632950.63 | 4174550.44 | 77.65409 | (06011617) |
| 633300.63 | 4174550.44 | 51.66758 | (06120617) | 629800.63 | 4174900.44 | 41.58818 | (04022207) |
| 630150.63 | 4174900.44 | 49.56266 | (04022207) | 630500.63 | 4174900.44 | 60.28647 | (05122617) |
| 630850.63 | 4174900.44 | 84.95629 | (06120217) | 631200.63 | 4174900.44 | 119.78121 | (06121421) |
| 631550.63 | 4174900.44 | 164.39966 | (06102817) | 631900.63 | 4174900.44 | 238.62986 | (05112422) |
| 632250.63 | 4174900.44 | 200.82375 | (04022018) | 632600.63 | 4174900.44 | 108.88337 | (05020802) |
| 632950.63 | 4174900.44 | 73.73546 | (05021801) | 633300.63 | 4174900.44 | 59.61832 | (07010217) |
| 629800.63 | 4175250.44 | 42.39580 | (04121304) | 630150.63 | 4175250.44 | 51.04444 | (04121304) |
| 630500.63 | 4175250.44 | 64.07452 | (04121224) | 630850.63 | 4175250.44 | 99.72733 | (08012221) |
| 631200.63 | 4175250.44 | 157.44381 | (04022207) | 631550.63 | 4175250.44 | 302.87982 | (05072102) |
| 631900.63 | 4175250.44 | 638.30706 | (08031018) | 632250.63 | 4175250.44 | 203.52569 | (07010217) |
| 632600.63 | 4175250.44 | 111.19889 | (06011618) | 632950.63 | 4175250.44 | 78.64769 | (05122223) |
| 633300.63 | 4175250.44 | 58.85385 | (05121217) | 629800.63 | 4175600.44 | 34.86618 | (05122618) |

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|---|---|---|---|---|---|
| 630150.63 | 4175600.44 | 43.76913 (07020701) | 630500.63 | 4175600.44 | 68.28070 (06011024) |
| 630850.63 | 4175600.44 | 111.49519 (06011024) | 631200.63 | 4175600.44 | 187.75092 (04041820) |
| 631550.63 | 4175600.44 | 389.75617 (07082501) | 631900.63 | 4175600.44 | 368.19456 (05082502) |
| 632250.63 | 4175600.44 | 183.39089 (06111908) | 632600.63 | 4175600.44 | 113.50124 (08010924) |
| 632950.63 | 4175600.44 | 78.58087 (06121320) | 633300.63 | 4175600.44 | 58.82533 (07012418) |
| 629800.63 | 4175950.44 | 33.24367 (05030324) | 630150.63 | 4175950.44 | 43.28230 (07120621) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK5 ***

INCLUDING SOURCE(S): STCK5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC (YYMMDDHH) |
|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 70.03481 (07120622) | 630850.63 | 4175950.44 | 105.59684 (06122121) |
| 631200.63 | 4175950.44 | 142.88022 (05051803) | 631550.63 | 4175950.44 | 360.81239 (07012720) |
| 631900.63 | 4175950.44 | 268.51530 (07091007) | 632250.63 | 4175950.44 | 151.56755 (06062806) |
| 632600.63 | 4175950.44 | 99.21444 (08122903) | 632950.63 | 4175950.44 | 74.85672 (04011021) |
| 633300.63 | 4175950.44 | 55.20246 (06121503) | 629800.63 | 4176300.44 | 36.43063 (07120622) |
| 630150.63 | 4176300.44 | 44.53828 (06122121) | 630500.63 | 4176300.44 | 63.57442 (04021520) |
| 630850.63 | 4176300.44 | 84.18734 (04010518) | 631200.63 | 4176300.44 | 114.81025 (07122917) |
| 631550.63 | 4176300.44 | 125.33888 (06013008) | 631900.63 | 4176300.44 | 130.91055 (07091007) |
| 632250.63 | 4176300.44 | 96.53605 (06010520) | 632600.63 | 4176300.44 | 81.96965 (08122905) |
| 632950.63 | 4176300.44 | 70.77218 (08021808) | 633300.63 | 4176300.44 | 53.20539 (05011818) |
| 629800.63 | 4176650.44 | 33.50758 (06122121) | 630150.63 | 4176650.44 | 38.30686 (04021520) |
| 630500.63 | 4176650.44 | 53.15353 (04010518) | 630850.63 | 4176650.44 | 71.36776 (04120908) |
| 631200.63 | 4176650.44 | 86.80377 (04022021) | 631550.63 | 4176650.44 | 87.85580 (07021108) |
| 631900.63 | 4176650.44 | 83.33571 (05122220) | 632250.63 | 4176650.44 | 81.85208 (07091007) |
| 632600.63 | 4176650.44 | 66.67716 (05121423) | 632950.63 | 4176650.44 | 55.82689 (05010604) |
| 633300.63 | 4176650.44 | 46.41501 (07021220) | 629800.63 | 4177000.44 | 29.78133 (04021521) |
| 630150.63 | 4177000.44 | 36.15802 (04010518) | 630500.63 | 4177000.44 | 43.70957 (04120908) |
| 630850.63 | 4177000.44 | 55.10364 (08122718) | 631200.63 | 4177000.44 | 62.73180 (07012722) |
| 631550.63 | 4177000.44 | 66.01621 (06020124) | 631900.63 | 4177000.44 | 61.78354 (05122220) |
| 632250.63 | 4177000.44 | 60.49385 (04121819) | 632600.63 | 4177000.44 | 54.51063 (06010520) |
| 632950.63 | 4177000.44 | 46.96603 (04121820) | 633300.63 | 4177000.44 | 40.07652 (05010604) |
| 629800.63 | 4177350.44 | 27.25150 (04010518) | 630150.63 | 4177350.44 | 30.05594 (04120903) |
| 630500.63 | 4177350.44 | 38.23682 (07122917) | 630850.63 | 4177350.44 | 44.48806 (04022021) |
| 631200.63 | 4177350.44 | 48.06836 (06013008) | 631550.63 | 4177350.44 | 48.83620 (06020124) |
| 631900.63 | 4177350.44 | 45.88051 (08122723) | 632250.63 | 4177350.44 | 47.44418 (05021719) |
| 632600.63 | 4177350.44 | 44.47628 (06013004) | 632950.63 | 4177350.44 | 39.90826 (07010323) |
| 633300.63 | 4177350.44 | 38.79386 (07022408) | 631670.70 | 4175493.59 | 822.44051 (05011317) |
| 631669.80 | 4175641.41 | 533.37002 (08071406) | 631665.32 | 4175796.39 | 280.23426 (08102618) |
| 631417.17 | 4175826.85 | 406.52337 (04041819) | 631417.17 | 4175673.66 | 225.35842 (05110620) |
| 631422.55 | 4175484.63 | 302.88463 (06072906) | 631268.42 | 4175983.74 | 152.77316 (04120903) |
| 631275.69 | 4175523.99 | 224.00774 (05030324) | 631345.65 | 4175419.50 | 250.08209 (05122618) |
| 631384.72 | 4175441.30 | 296.31967 (04101604) | 631491.93 | 4175442.21 | 340.69984 (05083119) |
| 631491.93 | 4175414.95 | 354.22976 (05083119) | 631385.63 | 4175413.14 | 270.39111 (05122618) |

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|---|---|---|---|---|---|---|---|
| 631358.37 | 4175395.87 | 256.66587 | (04101624) | 631409.25 | 4175336.81 | 266.29370 | (04110818) |
| 631567.35 | 4175235.96 | 302.68210 | (05072102) | 631756.33 | 4175028.80 | 198.98922 | (08081805) |
| 631807.22 | 4175003.36 | 242.25488 | (04102617) | 631867.18 | 4174987.91 | 264.89101 | (05112422) |
| 631849.92 | 4175988.28 | 202.48238 | (07091007) | 631268.74 | 4175963.75 | 156.30896 | (04120903) |
| 631269.05 | 4175943.76 | 156.99521 | (04010518) | 631269.37 | 4175923.77 | 160.51634 | (04010518) |
| 631269.68 | 4175903.78 | 158.86213 | (04010518) | 631270.00 | 4175883.79 | 161.74349 | (05051803) |
| 631270.32 | 4175863.81 | 166.76043 | (04021521) | 631270.63 | 4175843.82 | 173.00935 | (04021521) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK5 ***

INCLUDING SOURCE(S): STCK5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 172.02625 | (04021521) | 631271.26 | 4175803.84 | 174.77602 | (04081205) |
| 631271.58 | 4175783.85 | 177.24556 | (05110620) | 631271.90 | 4175763.86 | 183.54402 | (04021520) |
| 631272.21 | 4175743.87 | 185.11488 | (05110324) | 631272.53 | 4175723.88 | 188.75441 | (04082102) |
| 631272.85 | 4175703.89 | 191.90032 | (06080704) | 631273.16 | 4175683.90 | 195.04172 | (08100321) |
| 631273.48 | 4175663.91 | 196.82273 | (05030322) | 631273.79 | 4175643.92 | 204.87123 | (05110619) |
| 631274.11 | 4175623.94 | 210.51967 | (07071004) | 631274.43 | 4175603.95 | 211.91408 | (05030321) |
| 631274.74 | 4175583.96 | 206.05655 | (04041820) | 631275.06 | 4175563.97 | 216.96093 | (04041820) |
| 631275.37 | 4175543.98 | 223.53251 | (05030324) | 631285.68 | 4175509.06 | 232.36891 | (06072906) |
| 631295.68 | 4175494.14 | 242.99282 | (06072906) | 631305.67 | 4175479.21 | 243.36346 | (06072906) |
| 631315.67 | 4175464.28 | 253.92716 | (06111024) | 631325.66 | 4175449.35 | 261.24978 | (04101604) |
| 631335.66 | 4175434.43 | 261.11495 | (04101604) | 631358.67 | 4175426.77 | 266.70459 | (04101604) |
| 631371.70 | 4175434.03 | 284.38820 | (04101604) | 631402.59 | 4175441.45 | 307.79700 | (04101604) |
| 631420.46 | 4175441.60 | 319.24239 | (04101604) | 631438.33 | 4175441.76 | 407.95071 | (05071702) |
| 631456.19 | 4175441.91 | 437.99329 | (05071702) | 631474.06 | 4175442.06 | 331.84249 | (05083119) |
| 631491.93 | 4175428.58 | 361.59608 | (05083119) | 631474.21 | 4175414.65 | 337.76909 | (05083119) |
| 631456.50 | 4175414.35 | 418.08025 | (05030320) | 631438.78 | 4175414.05 | 404.60176 | (05030320) |
| 631421.06 | 4175413.74 | 291.07932 | (05083119) | 631403.35 | 4175413.44 | 279.48941 | (05122618) |
| 631372.00 | 4175404.51 | 259.62163 | (05122618) | 631371.09 | 4175381.11 | 267.20249 | (04101624) |
| 631383.81 | 4175366.34 | 275.37606 | (06072904) | 631396.53 | 4175351.58 | 264.25470 | (06072904) |
| 631425.06 | 4175326.73 | 274.34914 | (06121422) | 631440.87 | 4175316.64 | 277.92073 | (06121422) |
| 631456.68 | 4175306.56 | 272.99562 | (06121422) | 631472.49 | 4175296.47 | 279.95365 | (07110617) |
| 631488.30 | 4175286.39 | 292.59885 | (07110617) | 631504.11 | 4175276.30 | 293.88050 | (07110617) |
| 631519.92 | 4175266.22 | 289.03269 | (04022118) | 631535.73 | 4175256.13 | 296.16121 | (04022118) |
| 631551.54 | 4175246.05 | 300.81470 | (05072102) | 631579.95 | 4175222.15 | 297.53814 | (06120517) |
| 631592.55 | 4175208.34 | 295.64291 | (04012317) | 631605.15 | 4175194.53 | 296.17507 | (04012317) |
| 631617.74 | 4175180.72 | 289.59716 | (06011109) | 631630.34 | 4175166.91 | 299.92736 | (06011109) |
| 631642.94 | 4175153.10 | 290.40003 | (06011109) | 631655.54 | 4175139.29 | 269.35733 | (05030118) |
| 631668.14 | 4175125.47 | 277.78651 | (06102817) | 631680.74 | 4175111.66 | 275.01789 | (06102817) |
| 631693.34 | 4175097.85 | 260.00026 | (06102817) | 631705.94 | 4175084.04 | 240.22207 | (07100818) |
| 631718.53 | 4175070.23 | 237.59453 | (08081805) | 631731.13 | 4175056.42 | 229.61571 | (08081805) |
| 631743.73 | 4175042.61 | 216.42918 | (08081805) | 631773.29 | 4175020.32 | 198.30482 | (04102623) |
| 631790.26 | 4175011.84 | 223.46135 | (06040124) | 631822.21 | 4174999.50 | 254.80342 | (04102617) |

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|---|---|---|---|---|---|---|---|
| 631837.20 | 4174995.64 | 259.72431 | (04102617) | 631852.19 | 4174991.77 | 256.59583 | (04102617) |
| 631866.84 | 4175007.53 | 283.20032 | (05112422) | 631866.50 | 4175027.14 | 301.40536 | (05112422) |
| 631866.16 | 4175046.76 | 319.06534 | (05112422) | 631865.83 | 4175066.37 | 335.61226 | (05112422) |
| 631865.49 | 4175085.99 | 351.90352 | (08071405) | 631865.15 | 4175105.60 | 384.58117 | (05011817) |
| 631864.81 | 4175125.22 | 423.20670 | (05011817) | 631864.47 | 4175144.83 | 461.96742 | (05011817) |
| 631864.13 | 4175164.45 | 499.14515 | (05011817) | 631863.80 | 4175184.06 | 533.47643 | (08071406) |
| 631863.46 | 4175203.68 | 569.91283 | (08071406) | 631863.12 | 4175223.29 | 597.21311 | (08071406) |
| 631862.78 | 4175242.91 | 644.22055 | (08031018) | 631862.44 | 4175262.52 | 747.39079 | (08031018) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK5 ***

INCLUDING SOURCE(S): STCK5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 821.22858 | (08031018) | 631861.77 | 4175301.75 | 980.92073 | (08071406) |
| 631861.43 | 4175321.37 | 1354.89068 | (08031018) | 631861.09 | 4175340.98 | 1233.52386 | (05011317) |
| 631860.75 | 4175360.60 | 1486.33672 | (04042519) | 631860.41 | 4175380.21 | 576.76998 | (08012218) |
| 631860.07 | 4175399.83 | 665.25701 | (05012118) | 631859.73 | 4175419.44 | 688.53708 | (07102907) |
| 631859.40 | 4175439.06 | 576.45103 | (08010919) | 631859.06 | 4175458.67 | 383.09368 | (08010919) |
| 631858.72 | 4175478.29 | 423.89297 | (06112624) | 631858.38 | 4175497.90 | 487.14116 | (05082502) |
| 631858.04 | 4175517.52 | 482.64998 | (07102901) | 631857.70 | 4175537.13 | 476.55892 | (07091007) |
| 631857.37 | 4175556.75 | 427.41096 | (06021018) | 631857.03 | 4175576.36 | 436.01723 | (06021018) |
| 631856.69 | 4175595.98 | 444.13281 | (06021018) | 631856.35 | 4175615.59 | 434.06669 | (06021018) |
| 631856.01 | 4175635.21 | 419.18190 | (06021018) | 631855.67 | 4175654.82 | 394.98684 | (04081203) |
| 631855.33 | 4175674.44 | 377.69092 | (05072006) | 631855.00 | 4175694.05 | 365.23155 | (05072006) |
| 631854.66 | 4175713.67 | 351.97653 | (05072006) | 631854.32 | 4175733.28 | 338.48550 | (05072006) |
| 631853.98 | 4175752.90 | 297.64602 | (07080305) | 631853.64 | 4175772.51 | 276.03773 | (06013006) |
| 631853.30 | 4175792.13 | 266.41136 | (06013006) | 631852.97 | 4175811.74 | 257.13603 | (06013006) |
| 631852.63 | 4175831.36 | 241.19821 | (08112318) | 631852.29 | 4175850.97 | 233.75938 | (08112318) |
| 631851.95 | 4175870.59 | 222.07022 | (04111519) | 631851.61 | 4175890.20 | 295.97043 | (07091007) |
| 631851.27 | 4175909.82 | 278.79562 | (07091007) | 631850.94 | 4175929.43 | 233.44949 | (07091007) |
| 631850.60 | 4175949.05 | 222.59849 | (07091007) | 631850.26 | 4175968.66 | 212.28629 | (07091007) |
| 631830.54 | 4175988.13 | 178.46838 | (07091007) | 631811.15 | 4175987.98 | 153.07839 | (07091007) |
| 631791.77 | 4175987.83 | 176.13347 | (07030418) | 631772.39 | 4175987.67 | 216.88261 | (06110120) |
| 631753.00 | 4175987.52 | 251.40893 | (06110120) | 631733.62 | 4175987.37 | 257.47033 | (06110120) |
| 631714.24 | 4175987.22 | 240.84134 | (06111524) | 631694.85 | 4175987.07 | 243.18765 | (05112506) |
| 631675.47 | 4175986.92 | 276.54699 | (06013008) | 631656.09 | 4175986.77 | 329.56257 | (06013008) |
| 631636.70 | 4175986.62 | 344.90804 | (06013008) | 631617.32 | 4175986.46 | 274.06404 | (08091907) |
| 631597.94 | 4175986.31 | 199.38223 | (04083006) | 631578.55 | 4175986.16 | 199.69736 | (08091907) |
| 631559.17 | 4175986.01 | 199.30786 | (08091907) | 631539.79 | 4175985.86 | 193.57504 | (08091907) |
| 631520.40 | 4175985.71 | 187.96709 | (04022021) | 631501.02 | 4175985.56 | 185.60380 | (04022021) |
| 631481.64 | 4175985.40 | 180.12436 | (07021218) | 631462.25 | 4175985.25 | 177.58896 | (07021218) |
| 631442.87 | 4175985.10 | 170.88933 | (08122718) | 631423.49 | 4175984.95 | 172.89913 | (07122917) |
| 631404.10 | 4175984.80 | 167.10031 | (07122917) | 631384.72 | 4175984.65 | 162.74832 | (07012719) |
| 631365.34 | 4175984.50 | 160.42280 | (06041524) | 631345.95 | 4175984.35 | 162.92387 | (04120908) |

631326.57 4175984.19 159.35843 (04120908) 631307.19 4175984.04 152.79527 (04121223)
631287.80 4175983.89 148.78293 (04120903)



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK6 ***
INCLUDING SOURCE(S): STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 111.36792 | (05011521) | 632304.44 | 4174354.52 | 63.88813 | (04122822) |
| 632192.15 | 4174956.32 | 114.52414 | (05011520) | 632420.62 | 4175510.15 | 136.58602 | (07010217) |
| 632418.97 | 4175552.92 | 131.09812 | (04022224) | 631187.00 | 4175727.00 | 235.82982 | (04110818) |
| 631166.00 | 4175729.00 | 229.43071 | (04110818) | 631121.00 | 4175719.00 | 205.72945 | (04110818) |
| 631035.00 | 4174830.00 | 91.65948 | (05012117) | 631106.00 | 4174825.00 | 92.30187 | (06011021) |
| 631937.00 | 4174528.00 | 88.95106 | (07011417) | 631322.00 | 4174522.00 | 77.32368 | (06121420) |
| 629800.63 | 4173850.44 | 25.63227 | (04012317) | 630150.63 | 4173850.44 | 32.68983 | (07011517) |
| 630500.63 | 4173850.44 | 44.85075 | (05012117) | 630850.63 | 4173850.44 | 38.51861 | (06102817) |
| 631200.63 | 4173850.44 | 46.41472 | (06121420) | 631550.63 | 4173850.44 | 40.65271 | (05021805) |
| 631900.63 | 4173850.44 | 49.14840 | (07012317) | 632250.63 | 4173850.44 | 47.94972 | (07011417) |
| 632600.63 | 4173850.44 | 40.46787 | (04122822) | 632950.63 | 4173850.44 | 35.44087 | (05011521) |
| 633300.63 | 4173850.44 | 31.80922 | (04022018) | 629800.63 | 4174200.44 | 32.33015 | (06121421) |
| 630150.63 | 4174200.44 | 33.20060 | (04012317) | 630500.63 | 4174200.44 | 49.62001 | (07011517) |
| 630850.63 | 4174200.44 | 54.09094 | (06011021) | 631200.63 | 4174200.44 | 60.62279 | (08022002) |
| 631550.63 | 4174200.44 | 53.05973 | (05021805) | 631900.63 | 4174200.44 | 62.36848 | (07020623) |
| 632250.63 | 4174200.44 | 57.88369 | (06020105) | 632600.63 | 4174200.44 | 46.51726 | (05020818) |
| 632950.63 | 4174200.44 | 42.13655 | (04022018) | 633300.63 | 4174200.44 | 32.64801 | (05021018) |
| 629800.63 | 4174550.44 | 34.39944 | (07020624) | 630150.63 | 4174550.44 | 44.83947 | (06121421) |
| 630500.63 | 4174550.44 | 47.95982 | (04012317) | 630850.63 | 4174550.44 | 71.39773 | (05012117) |
| 631200.63 | 4174550.44 | 70.65150 | (07111022) | 631550.63 | 4174550.44 | 70.76941 | (05021805) |
| 631900.63 | 4174550.44 | 88.15677 | (05021804) | 632250.63 | 4174550.44 | 80.27272 | (04122822) |
| 632600.63 | 4174550.44 | 60.80436 | (05011520) | 632950.63 | 4174550.44 | 45.70150 | (08030618) |
| 633300.63 | 4174550.44 | 46.63868 | (06011617) | 629800.63 | 4174900.44 | 36.92311 | (05022818) |
| 630150.63 | 4174900.44 | 52.37888 | (04011017) | 630500.63 | 4174900.44 | 67.48342 | (06121421) |
| 630850.63 | 4174900.44 | 80.24492 | (07121217) | 631200.63 | 4174900.44 | 110.91874 | (06102817) |
| 631550.63 | 4174900.44 | 96.85488 | (05021805) | 631900.63 | 4174900.44 | 114.72958 | (07110824) |
| 632250.63 | 4174900.44 | 106.93585 | (05011520) | 632600.63 | 4174900.44 | 74.51713 | (08030618) |
| 632950.63 | 4174900.44 | 55.75153 | (06011617) | 633300.63 | 4174900.44 | 46.52077 | (06120617) |
| 629800.63 | 4175250.44 | 44.17322 | (04022207) | 630150.63 | 4175250.44 | 52.85951 | (05122617) |
| 630500.63 | 4175250.44 | 71.50489 | (06120217) | 630850.63 | 4175250.44 | 103.96919 | (04101819) |
| 631200.63 | 4175250.44 | 172.57172 | (06011109) | 631550.63 | 4175250.44 | 216.48382 | (06040124) |
| 631900.63 | 4175250.44 | 171.25933 | (06072804) | 632250.63 | 4175250.44 | 134.97266 | (07021118) |
| 632600.63 | 4175250.44 | 100.84575 | (06120617) | 632950.63 | 4175250.44 | 62.47895 | (05021801) |
| 633300.63 | 4175250.44 | 52.23216 | (07010217) | 629800.63 | 4175600.44 | 42.83112 | (04121304) |
| 630150.63 | 4175600.44 | 54.51688 | (08012221) | 630500.63 | 4175600.44 | 80.24042 | (08012221) |
| 630850.63 | 4175600.44 | 130.70399 | (04022207) | 631200.63 | 4175600.44 | 228.53322 | (04022118) |
| 631550.63 | 4175600.44 | 553.40640 | (07030618) | 631900.63 | 4175600.44 | 445.48912 | (06052002) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 632250.63 | 4175600.44 | 165.37693 | (04022224) | 632600.63 | 4175600.44 | 99.38304 | (06011618) |
| 632950.63 | 4175600.44 | 65.78862 | (05122223) | 633300.63 | 4175600.44 | 50.27522 | (05121217) |
| 629800.63 | 4175950.44 | 43.88875 | (05122618) | 630150.63 | 4175950.44 | 52.05215 | (05122618) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK6 ***

INCLUDING SOURCE(S): STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 79.08407 | (06011024) | 630850.63 | 4175950.44 | 128.48606 | (06011024) |
| 631200.63 | 4175950.44 | 258.86523 | (07071004) | 631550.63 | 4175950.44 | 783.38616 | (07030418) |
| 631900.63 | 4175950.44 | 260.23486 | (06111908) | 632250.63 | 4175950.44 | 149.46390 | (06012918) |
| 632600.63 | 4175950.44 | 94.52372 | (07012418) | 632950.63 | 4175950.44 | 64.74408 | (07012318) |
| 633300.63 | 4175950.44 | 50.53566 | (07012318) | 629800.63 | 4176300.44 | 38.39813 | (05030324) |
| 630150.63 | 4176300.44 | 52.34750 | (07120622) | 630500.63 | 4176300.44 | 76.29470 | (07120404) |
| 630850.63 | 4176300.44 | 135.18927 | (04021520) | 631200.63 | 4176300.44 | 219.94129 | (04081204) |
| 631550.63 | 4176300.44 | 181.11068 | (07030418) | 631900.63 | 4176300.44 | 166.02043 | (06062806) |
| 632250.63 | 4176300.44 | 112.28703 | (08021808) | 632600.63 | 4176300.44 | 84.50349 | (04121024) |
| 632950.63 | 4176300.44 | 61.54956 | (05011322) | 633300.63 | 4176300.44 | 48.13637 | (08010924) |
| 629800.63 | 4176650.44 | 38.41120 | (07120622) | 630150.63 | 4176650.44 | 53.94190 | (06122121) |
| 630500.63 | 4176650.44 | 73.02365 | (04021521) | 630850.63 | 4176650.44 | 104.90976 | (04121223) |
| 631200.63 | 4176650.44 | 142.20181 | (08091907) | 631550.63 | 4176650.44 | 109.28841 | (05122505) |
| 631900.63 | 4176650.44 | 100.87817 | (05021722) | 632250.63 | 4176650.44 | 88.27055 | (07120405) |
| 632600.63 | 4176650.44 | 72.58295 | (08121517) | 632950.63 | 4176650.44 | 58.51220 | (05011818) |
| 633300.63 | 4176650.44 | 45.31530 | (04121024) | 629800.63 | 4177000.44 | 38.99860 | (04021520) |
| 630150.63 | 4177000.44 | 48.57603 | (04021521) | 630500.63 | 4177000.44 | 62.57420 | (04120903) |
| 630850.63 | 4177000.44 | 80.78269 | (08122718) | 631200.63 | 4177000.44 | 94.49886 | (06013008) |
| 631550.63 | 4177000.44 | 81.43682 | (07121903) | 631900.63 | 4177000.44 | 78.49804 | (04121819) |
| 632250.63 | 4177000.44 | 70.74090 | (06010522) | 632600.63 | 4177000.44 | 60.15143 | (07122918) |
| 632950.63 | 4177000.44 | 52.84538 | (08021908) | 633300.63 | 4177000.44 | 47.03779 | (08021808) |
| 629800.63 | 4177350.44 | 34.98995 | (04021521) | 630150.63 | 4177350.44 | 41.53738 | (04120903) |
| 630500.63 | 4177350.44 | 49.53336 | (07012719) | 630850.63 | 4177350.44 | 61.00094 | (04022021) |
| 631200.63 | 4177350.44 | 68.75587 | (07021108) | 631550.63 | 4177350.44 | 62.31322 | (07121903) |
| 631900.63 | 4177350.44 | 60.79120 | (07021206) | 632250.63 | 4177350.44 | 56.52781 | (05022620) |
| 632600.63 | 4177350.44 | 49.70644 | (04121820) | 632950.63 | 4177350.44 | 43.22005 | (08122905) |
| 633300.63 | 4177350.44 | 42.64839 | (08021908) | 631670.70 | 4175493.59 | 380.16793 | (07090905) |
| 631669.80 | 4175641.41 | 786.79956 | (04101820) | 631665.32 | 4175796.39 | 166.61741 | (04083003) |
| 631417.17 | 4175826.85 | 456.96266 | (06011024) | 631417.17 | 4175673.66 | 216.02440 | (05030118) |
| 631422.55 | 4175484.63 | 234.78984 | (07100818) | 631268.42 | 4175983.74 | 339.55420 | (05051801) |
| 631275.69 | 4175523.99 | 267.59399 | (04012317) | 631345.65 | 4175419.50 | 270.77326 | (06011109) |
| 631384.72 | 4175441.30 | 169.22407 | (05050802) | 631491.93 | 4175442.21 | 191.76943 | (05122422) |
| 631491.93 | 4175414.95 | 183.41891 | (05122422) | 631385.63 | 4175413.14 | 179.03568 | (05091918) |
| 631358.37 | 4175395.87 | 240.79463 | (06011109) | 631409.25 | 4175336.81 | 248.84671 | (06102817) |
| 631567.35 | 4175235.96 | 245.97744 | (06040124) | 631756.33 | 4175028.80 | 139.05313 | (05021804) |
| 631807.22 | 4175003.36 | 138.63878 | (07011417) | 631867.18 | 4174987.91 | 127.36790 | (07110824) |

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|---|---|---|---|---|---|---|---|
| 631849.92 | 4175988.28 | 249.12674 | (05072806) | 631268.74 | 4175963.75 | 346.89428 | (05071703) |
| 631269.05 | 4175943.76 | 342.79092 | (06111517) | 631269.37 | 4175923.77 | 309.53317 | (06111517) |
| 631269.68 | 4175903.78 | 298.49185 | (05030321) | 631270.00 | 4175883.79 | 313.45099 | (05050805) |
| 631270.32 | 4175863.81 | 283.63400 | (05050805) | 631270.63 | 4175843.82 | 264.45915 | (06011024) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK6 ***

INCLUDING SOURCE(S): STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 242.59040 | (05030402) | 631271.26 | 4175803.84 | 278.26397 | (05030402) |
| 631271.58 | 4175783.85 | 300.66899 | (04101719) | 631271.90 | 4175763.86 | 299.25268 | (04110818) |
| 631272.21 | 4175743.87 | 295.74416 | (06121422) | 631272.53 | 4175723.88 | 297.53826 | (04041821) |
| 631272.85 | 4175703.89 | 296.90409 | (07110617) | 631273.16 | 4175683.90 | 291.26274 | (07110617) |
| 631273.48 | 4175663.91 | 277.05535 | (04022118) | 631273.79 | 4175643.92 | 276.26143 | (04022118) |
| 631274.11 | 4175623.94 | 271.12257 | (05122619) | 631274.43 | 4175603.95 | 267.53670 | (05122619) |
| 631274.74 | 4175583.96 | 246.50507 | (05122619) | 631275.06 | 4175563.97 | 238.48179 | (06120517) |
| 631275.37 | 4175543.98 | 261.95566 | (04012317) | 631285.68 | 4175509.06 | 274.27160 | (04012317) |
| 631295.68 | 4175494.14 | 255.95210 | (04012317) | 631305.67 | 4175479.21 | 224.64877 | (04012317) |
| 631315.67 | 4175464.28 | 197.59687 | (04012317) | 631325.66 | 4175449.35 | 204.93269 | (05030118) |
| 631335.66 | 4175434.43 | 282.26592 | (06011109) | 631358.67 | 4175426.77 | 226.10960 | (06102817) |
| 631371.70 | 4175434.03 | 250.87641 | (06102817) | 631402.59 | 4175441.45 | 193.24620 | (07100818) |
| 631420.46 | 4175441.60 | 226.51353 | (07100818) | 631438.33 | 4175441.76 | 276.79349 | (07100818) |
| 631456.19 | 4175441.91 | 265.60640 | (08081805) | 631474.06 | 4175442.06 | 230.08896 | (05050803) |
| 631491.93 | 4175428.58 | 187.74536 | (05122422) | 631474.21 | 4175414.65 | 222.92842 | (05050803) |
| 631456.50 | 4175414.35 | 256.75936 | (08081805) | 631438.78 | 4175414.05 | 217.80917 | (08022002) |
| 631421.06 | 4175413.74 | 243.64671 | (07100818) | 631403.35 | 4175413.44 | 195.08422 | (07100818) |
| 631372.00 | 4175404.51 | 234.21597 | (06011109) | 631371.09 | 4175381.11 | 195.95114 | (06011109) |
| 631383.81 | 4175366.34 | 258.75524 | (06102817) | 631396.53 | 4175351.58 | 253.94079 | (06102817) |
| 631425.06 | 4175326.73 | 238.24211 | (06102817) | 631440.87 | 4175316.64 | 216.92061 | (07100818) |
| 631456.68 | 4175306.56 | 207.00997 | (07100818) | 631472.49 | 4175296.47 | 203.08653 | (05021806) |
| 631488.30 | 4175286.39 | 203.61749 | (05021806) | 631504.11 | 4175276.30 | 176.90560 | (07100818) |
| 631519.92 | 4175266.22 | 154.16328 | (05050803) | 631535.73 | 4175256.13 | 179.88186 | (06040124) |
| 631551.54 | 4175246.05 | 216.91279 | (06040124) | 631579.95 | 4175222.15 | 172.51632 | (06040124) |
| 631592.55 | 4175208.34 | 164.27276 | (06040124) | 631605.15 | 4175194.53 | 162.59634 | (06040124) |
| 631617.74 | 4175180.72 | 157.14313 | (06040124) | 631630.34 | 4175166.91 | 157.68121 | (07112117) |
| 631642.94 | 4175153.10 | 155.79644 | (07112117) | 631655.54 | 4175139.29 | 152.56542 | (04102617) |
| 631668.14 | 4175125.47 | 149.70735 | (04102617) | 631680.74 | 4175111.66 | 147.09037 | (07101005) |
| 631693.34 | 4175097.85 | 144.06262 | (07101005) | 631705.94 | 4175084.04 | 141.34648 | (07020623) |
| 631718.53 | 4175070.23 | 139.99983 | (07020623) | 631731.13 | 4175056.42 | 140.69178 | (05112422) |
| 631743.73 | 4175042.61 | 140.39803 | (05112422) | 631773.29 | 4175020.32 | 139.53549 | (05021804) |
| 631790.26 | 4175011.84 | 137.88197 | (07011417) | 631822.21 | 4174999.50 | 137.08465 | (04022218) |
| 631837.20 | 4174995.64 | 135.34786 | (04022218) | 631852.19 | 4174991.77 | 130.60484 | (04022218) |
| 631866.84 | 4175007.53 | 129.47150 | (06020105) | 631866.50 | 4175027.14 | 133.84578 | (06020105) |
| 631866.16 | 4175046.76 | 137.44715 | (06020105) | 631865.83 | 4175066.37 | 140.11619 | (06020105) |

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|---|---|---|---|---|---|---|---|
| 631865.49 | 4175085.99 | 144.14267 | (06051924) | 631865.15 | 4175105.60 | 149.31068 | (06051924) |
| 631864.81 | 4175125.22 | 153.34759 | (06051924) | 631864.47 | 4175144.83 | 156.01580 | (06051924) |
| 631864.13 | 4175164.45 | 157.10263 | (06051924) | 631863.80 | 4175184.06 | 157.40659 | (04122822) |
| 631863.46 | 4175203.68 | 166.03613 | (04122822) | 631863.12 | 4175223.29 | 172.69755 | (04122822) |
| 631862.78 | 4175242.91 | 184.52193 | (04122822) | 631862.44 | 4175262.52 | 190.77445 | (05020818) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK6 ***

INCLUDING SOURCE(S): STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 203.33552 | (05020818) | 631861.77 | 4175301.75 | 237.59934 | (06072804) |
| 631861.43 | 4175321.37 | 297.61197 | (06072804) | 631861.09 | 4175340.98 | 297.09030 | (07111021) |
| 631860.75 | 4175360.60 | 307.90394 | (06112217) | 631860.41 | 4175380.21 | 303.93327 | (06112217) |
| 631860.07 | 4175399.83 | 292.77835 | (08081622) | 631859.73 | 4175419.44 | 288.17983 | (08081804) |
| 631859.40 | 4175439.06 | 280.19227 | (08090902) | 631859.06 | 4175458.67 | 273.32730 | (07062005) |
| 631858.72 | 4175478.29 | 263.65404 | (08090906) | 631858.38 | 4175497.90 | 259.62393 | (08090906) |
| 631858.04 | 4175517.52 | 252.29552 | (08030618) | 631857.70 | 4175537.13 | 256.29978 | (05110817) |
| 631857.37 | 4175556.75 | 255.32677 | (05110817) | 631857.03 | 4175576.36 | 280.00277 | (05081503) |
| 631856.69 | 4175595.98 | 274.62609 | (05081503) | 631856.35 | 4175615.59 | 229.57275 | (06052002) |
| 631856.01 | 4175635.21 | 269.14169 | (04110905) | 631855.67 | 4175654.82 | 347.51923 | (04110905) |
| 631855.33 | 4175674.44 | 423.50842 | (04110905) | 631855.00 | 4175694.05 | 497.88853 | (04101518) |
| 631854.66 | 4175713.67 | 561.28509 | (04101518) | 631854.32 | 4175733.28 | 592.07759 | (04101518) |
| 631853.98 | 4175752.90 | 324.47426 | (07102822) | 631853.64 | 4175772.51 | 373.97683 | (07102822) |
| 631853.30 | 4175792.13 | 377.91894 | (06111521) | 631852.97 | 4175811.74 | 374.75374 | (08112505) |
| 631852.63 | 4175831.36 | 369.87739 | (04081303) | 631852.29 | 4175850.97 | 323.40205 | (06121502) |
| 631851.95 | 4175870.59 | 318.44699 | (06121502) | 631851.61 | 4175890.20 | 308.58919 | (08010919) |
| 631851.27 | 4175909.82 | 302.55929 | (06111908) | 631850.94 | 4175929.43 | 294.40052 | (06111908) |
| 631850.60 | 4175949.05 | 270.36692 | (06111908) | 631850.26 | 4175968.66 | 261.50564 | (05072806) |
| 631830.54 | 4175988.13 | 256.61573 | (07112517) | 631811.15 | 4175987.98 | 265.10427 | (07092306) |
| 631791.77 | 4175987.83 | 277.48323 | (06052306) | 631772.39 | 4175987.67 | 293.78859 | (06052306) |
| 631753.00 | 4175987.52 | 304.36725 | (06052306) | 631733.62 | 4175987.37 | 318.20640 | (06052306) |
| 631714.24 | 4175987.22 | 346.21685 | (06062806) | 631694.85 | 4175987.07 | 365.74704 | (06062806) |
| 631675.47 | 4175986.92 | 366.90878 | (06062806) | 631656.09 | 4175986.77 | 356.99122 | (08091905) |
| 631636.70 | 4175986.62 | 362.43887 | (05082502) | 631617.32 | 4175986.46 | 375.89261 | (07102901) |
| 631597.94 | 4175986.31 | 387.05310 | (05072006) | 631578.55 | 4175986.16 | 393.79677 | (05072006) |
| 631559.17 | 4175986.01 | 423.90782 | (07030418) | 631539.79 | 4175985.86 | 485.12697 | (07030418) |
| 631520.40 | 4175985.71 | 502.19918 | (05112506) | 631501.02 | 4175985.56 | 558.30727 | (08091907) |
| 631481.64 | 4175985.40 | 593.58428 | (08091907) | 631462.25 | 4175985.25 | 545.50263 | (07090905) |
| 631442.87 | 4175985.10 | 541.81913 | (05122507) | 631423.49 | 4175984.95 | 507.42977 | (07012721) |
| 631404.10 | 4175984.80 | 474.17954 | (07092301) | 631384.72 | 4175984.65 | 472.27399 | (05122508) |
| 631365.34 | 4175984.50 | 445.46077 | (05122508) | 631345.95 | 4175984.35 | 423.05571 | (07080202) |
| 631326.57 | 4175984.19 | 409.92192 | (04081205) | 631307.19 | 4175984.04 | 392.26964 | (05110620) |
| 631287.80 | 4175983.89 | 374.24172 | (05051801) | | | | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK7 ***

INCLUDING SOURCE(S): STCK7 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 124.31097 | (05011520) | 632304.44 | 4174354.52 | 68.27135 | (04122822) |
| 632192.15 | 4174956.32 | 112.66304 | (08090902) | 632420.62 | 4175510.15 | 139.62808 | (06011618) |
| 632418.97 | 4175552.92 | 141.95151 | (06011618) | 631187.00 | 4175727.00 | 314.04551 | (04101604) |
| 631166.00 | 4175729.00 | 296.05893 | (04101604) | 631121.00 | 4175719.00 | 232.68627 | (04101604) |
| 631035.00 | 4174830.00 | 105.12782 | (06011109) | 631106.00 | 4174825.00 | 97.66132 | (05012117) |
| 631937.00 | 4174528.00 | 90.67477 | (07011417) | 631322.00 | 4174522.00 | 78.75240 | (08022002) |
| 629800.63 | 4173850.44 | 26.14619 | (04012317) | 630150.63 | 4173850.44 | 32.91775 | (07121217) |
| 630500.63 | 4173850.44 | 45.11250 | (05012117) | 630850.63 | 4173850.44 | 40.54869 | (05010318) |
| 631200.63 | 4173850.44 | 47.68870 | (06121420) | 631550.63 | 4173850.44 | 43.15925 | (05021805) |
| 631900.63 | 4173850.44 | 48.95242 | (07012317) | 632250.63 | 4173850.44 | 47.07040 | (04022218) |
| 632600.63 | 4173850.44 | 42.13697 | (04122822) | 632950.63 | 4173850.44 | 36.49545 | (05011520) |
| 633300.63 | 4173850.44 | 33.49270 | (04022018) | 629800.63 | 4174200.44 | 34.42354 | (06121421) |
| 630150.63 | 4174200.44 | 34.48379 | (04012317) | 630500.63 | 4174200.44 | 49.10936 | (07011517) |
| 630850.63 | 4174200.44 | 58.54699 | (06011021) | 631200.63 | 4174200.44 | 63.88921 | (08022002) |
| 631550.63 | 4174200.44 | 56.38919 | (05021805) | 631900.63 | 4174200.44 | 64.86202 | (07020623) |
| 632250.63 | 4174200.44 | 55.75057 | (06020105) | 632600.63 | 4174200.44 | 52.46853 | (05011521) |
| 632950.63 | 4174200.44 | 46.45155 | (04022018) | 633300.63 | 4174200.44 | 31.59586 | (08030618) |
| 629800.63 | 4174550.44 | 38.72707 | (07020624) | 630150.63 | 4174550.44 | 45.74632 | (06121421) |
| 630500.63 | 4174550.44 | 51.96935 | (04012317) | 630850.63 | 4174550.44 | 71.73011 | (07011517) |
| 631200.63 | 4174550.44 | 81.30083 | (06102817) | 631550.63 | 4174550.44 | 74.99785 | (05021805) |
| 631900.63 | 4174550.44 | 91.21156 | (07011417) | 632250.63 | 4174550.44 | 80.85947 | (05020818) |
| 632600.63 | 4174550.44 | 70.29152 | (04022018) | 632950.63 | 4174550.44 | 48.41560 | (07021118) |
| 633300.63 | 4174550.44 | 42.38409 | (06011617) | 629800.63 | 4174900.44 | 40.41963 | (06121217) |
| 630150.63 | 4174900.44 | 54.26514 | (06120217) | 630500.63 | 4174900.44 | 60.98238 | (06121421) |
| 630850.63 | 4174900.44 | 91.77104 | (04012317) | 631200.63 | 4174900.44 | 115.05717 | (06102817) |
| 631550.63 | 4174900.44 | 102.29789 | (05021805) | 631900.63 | 4174900.44 | 121.00725 | (06051924) |
| 632250.63 | 4174900.44 | 106.13138 | (04022018) | 632600.63 | 4174900.44 | 91.34318 | (06011617) |
| 632950.63 | 4174900.44 | 61.10223 | (06120617) | 633300.63 | 4174900.44 | 45.21165 | (04022223) |
| 629800.63 | 4175250.44 | 48.36615 | (04022207) | 630150.63 | 4175250.44 | 56.83228 | (04022207) |
| 630500.63 | 4175250.44 | 79.75882 | (06121217) | 630850.63 | 4175250.44 | 123.89628 | (07020624) |
| 631200.63 | 4175250.44 | 171.22630 | (04012317) | 631550.63 | 4175250.44 | 218.98157 | (04102623) |
| 631900.63 | 4175250.44 | 188.41475 | (08081804) | 632250.63 | 4175250.44 | 147.37908 | (05020802) |
| 632600.63 | 4175250.44 | 103.38194 | (05021801) | 632950.63 | 4175250.44 | 75.12221 | (07010217) |
| 633300.63 | 4175250.44 | 47.97981 | (07020218) | 629800.63 | 4175600.44 | 50.11314 | (04121304) |
| 630150.63 | 4175600.44 | 63.31303 | (04121304) | 630500.63 | 4175600.44 | 87.60793 | (04121224) |
| 630850.63 | 4175600.44 | 140.12326 | (06051906) | 631200.63 | 4175600.44 | 278.66029 | (04041821) |
| 631550.63 | 4175600.44 | 791.24764 | (07030618) | 631900.63 | 4175600.44 | 582.07096 | (05071701) |
| 632250.63 | 4175600.44 | 197.49706 | (05122223) | 632600.63 | 4175600.44 | 110.60691 | (05121217) |
| 632950.63 | 4175600.44 | 65.51387 | (05121217) | 633300.63 | 4175600.44 | 49.58506 | (05011522) |
| 629800.63 | 4175950.44 | 43.29494 | (06011024) | 630150.63 | 4175950.44 | 61.04998 | (06011024) |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK7 ***

INCLUDING SOURCE(S): STCK7 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 81.11391 | (06011024) | 630850.63 | 4175950.44 | 150.14359 | (04041820) |
| 631200.63 | 4175950.44 | 269.95090 | (05122621) | 631550.63 | 4175950.44 | 448.53311 | (07030418) |
| 631900.63 | 4175950.44 | 226.54628 | (04011018) | 632250.63 | 4175950.44 | 154.90682 | (05011322) |
| 632600.63 | 4175950.44 | 99.57704 | (06012918) | 632950.63 | 4175950.44 | 66.15458 | (06121320) |
| 633300.63 | 4175950.44 | 50.32201 | (07012418) | 629800.63 | 4176300.44 | 37.98313 | (07120621) |
| 630150.63 | 4176300.44 | 58.58998 | (07120622) | 630500.63 | 4176300.44 | 83.15164 | (06122121) |
| 630850.63 | 4176300.44 | 126.88736 | (04021521) | 631200.63 | 4176300.44 | 147.99368 | (06041021) |
| 631550.63 | 4176300.44 | 148.39230 | (05122221) | 631900.63 | 4176300.44 | 133.00790 | (08021819) |
| 632250.63 | 4176300.44 | 110.43189 | (06122320) | 632600.63 | 4176300.44 | 87.01233 | (05011818) |
| 632950.63 | 4176300.44 | 61.54846 | (05011418) | 633300.63 | 4176300.44 | 48.11200 | (05122401) |
| 629800.63 | 4176650.44 | 38.45172 | (06122121) | 630150.63 | 4176650.44 | 52.61254 | (04021520) |
| 630500.63 | 4176650.44 | 70.55132 | (04021521) | 630850.63 | 4176650.44 | 93.31269 | (04120908) |
| 631200.63 | 4176650.44 | 108.19424 | (08091907) | 631550.63 | 4176650.44 | 97.91167 | (05122505) |
| 631900.63 | 4176650.44 | 94.42291 | (06012820) | 632250.63 | 4176650.44 | 86.06245 | (06062806) |
| 632600.63 | 4176650.44 | 77.58118 | (08021908) | 632950.63 | 4176650.44 | 61.02242 | (08021808) |
| 633300.63 | 4176650.44 | 44.12998 | (04121022) | 629800.63 | 4177000.44 | 36.56312 | (04021520) |
| 630150.63 | 4177000.44 | 43.90287 | (04021521) | 630500.63 | 4177000.44 | 54.59460 | (04121223) |
| 630850.63 | 4177000.44 | 70.99537 | (07021218) | 631200.63 | 4177000.44 | 77.43873 | (06013008) |
| 631550.63 | 4177000.44 | 74.91798 | (07121903) | 631900.63 | 4177000.44 | 73.39968 | (05021302) |
| 632250.63 | 4177000.44 | 67.13800 | (06120218) | 632600.63 | 4177000.44 | 61.82450 | (07022408) |
| 632950.63 | 4177000.44 | 56.21608 | (08021908) | 633300.63 | 4177000.44 | 47.38476 | (08021808) |
| 629800.63 | 4177350.44 | 31.29300 | (04021521) | 630150.63 | 4177350.44 | 37.71012 | (04120903) |
| 630500.63 | 4177350.44 | 47.70852 | (07122917) | 630850.63 | 4177350.44 | 52.79239 | (07012720) |
| 631200.63 | 4177350.44 | 61.89354 | (07021108) | 631550.63 | 4177350.44 | 58.13089 | (07121903) |
| 631900.63 | 4177350.44 | 57.52027 | (05122402) | 632250.63 | 4177350.44 | 53.68048 | (06013004) |
| 632600.63 | 4177350.44 | 47.98147 | (06010521) | 632950.63 | 4177350.44 | 44.91292 | (07022408) |
| 633300.63 | 4177350.44 | 42.85001 | (08021908) | 631670.70 | 4175493.59 | 255.64533 | (04101820) |
| 631669.80 | 4175641.41 | 898.70025 | (08081602) | 631665.32 | 4175796.39 | 255.10218 | (06102818) |
| 631417.17 | 4175826.85 | 796.46145 | (04110906) | 631417.17 | 4175673.66 | 1159.34416 | (04041821) |
| 631422.55 | 4175484.63 | 182.26583 | (07100818) | 631268.42 | 4175983.74 | 270.93093 | (05051803) |
| 631275.69 | 4175523.99 | 286.62688 | (04022118) | 631345.65 | 4175419.50 | 372.08612 | (06011109) |
| 631384.72 | 4175441.30 | 384.76136 | (08121017) | 631491.93 | 4175442.21 | 211.02768 | (07030618) |
| 631491.93 | 4175414.95 | 201.26245 | (07030618) | 631385.63 | 4175413.14 | 224.18798 | (04012317) |
| 631358.37 | 4175395.87 | 384.88478 | (06011109) | 631409.25 | 4175336.81 | 340.52014 | (06102817) |
| 631567.35 | 4175235.96 | 232.18876 | (04102617) | 631756.33 | 4175028.80 | 142.51677 | (08071405) |
| 631807.22 | 4175003.36 | 144.31664 | (05011817) | 631867.18 | 4174987.91 | 136.47844 | (06051924) |
| 631849.92 | 4175988.28 | 241.00665 | (06052306) | 631268.74 | 4175963.75 | 285.07928 | (04022119) |
| 631269.05 | 4175943.76 | 296.75863 | (07010318) | 631269.37 | 4175923.77 | 307.77456 | (05122621) |
| 631269.68 | 4175903.78 | 332.28350 | (05122621) | 631270.00 | 4175883.79 | 339.71068 | (07120623) |

631270.32 4175863.81 348.98903 (04022924) 631270.63 4175843.82 397.52501 (05110619)



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK7 ***
INCLUDING SOURCE(S): STCK7 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 429.77344 | (07071004) | 631271.26 | 4175803.84 | 412.38645 | (06011217) |
| 631271.58 | 4175783.85 | 465.10896 | (06011217) | 631271.90 | 4175763.86 | 450.14958 | (06011217) |
| 631272.21 | 4175743.87 | 404.33270 | (06111024) | 631272.53 | 4175723.88 | 415.23559 | (04101604) |
| 631272.85 | 4175703.89 | 346.94511 | (05030402) | 631273.16 | 4175683.90 | 416.06452 | (04101719) |
| 631273.48 | 4175663.91 | 417.54495 | (04110818) | 631273.79 | 4175643.92 | 402.64137 | (04110818) |
| 631274.11 | 4175623.94 | 362.20663 | (06121422) | 631274.43 | 4175603.95 | 361.97561 | (07110617) |
| 631274.74 | 4175583.96 | 353.81222 | (07110617) | 631275.06 | 4175563.97 | 321.86716 | (07110617) |
| 631275.37 | 4175543.98 | 304.43026 | (04022118) | 631285.68 | 4175509.06 | 279.72523 | (05072102) |
| 631295.68 | 4175494.14 | 274.99099 | (04012317) | 631305.67 | 4175479.21 | 273.78218 | (06120517) |
| 631315.67 | 4175464.28 | 286.62430 | (04012317) | 631325.66 | 4175449.35 | 288.98344 | (04012317) |
| 631335.66 | 4175434.43 | 342.32752 | (06011109) | 631358.67 | 4175426.77 | 390.40453 | (06011109) |
| 631371.70 | 4175434.03 | 359.08406 | (04012317) | 631402.59 | 4175441.45 | 363.34476 | (08121017) |
| 631420.46 | 4175441.60 | 199.59863 | (07100818) | 631438.33 | 4175441.76 | 283.53356 | (07100818) |
| 631456.19 | 4175441.91 | 279.78890 | (08081805) | 631474.06 | 4175442.06 | 212.19554 | (05050803) |
| 631491.93 | 4175428.58 | 206.20044 | (07030618) | 631474.21 | 4175414.65 | 212.72248 | (05050803) |
| 631456.50 | 4175414.35 | 279.29598 | (08081805) | 631438.78 | 4175414.05 | 287.99074 | (07100818) |
| 631421.06 | 4175413.74 | 264.89357 | (08121017) | 631403.35 | 4175413.44 | 305.79525 | (08121017) |
| 631372.00 | 4175404.51 | 392.38961 | (06011109) | 631371.09 | 4175381.11 | 314.08246 | (06011109) |
| 631383.81 | 4175366.34 | 316.56741 | (05030118) | 631396.53 | 4175351.58 | 324.85628 | (06102817) |
| 631425.06 | 4175326.73 | 344.17003 | (06102817) | 631440.87 | 4175316.64 | 312.87097 | (06102817) |
| 631456.68 | 4175306.56 | 262.89678 | (07100818) | 631472.49 | 4175296.47 | 266.33896 | (07100818) |
| 631488.30 | 4175286.39 | 263.39575 | (08081805) | 631504.11 | 4175276.30 | 228.83509 | (07100818) |
| 631519.92 | 4175266.22 | 174.81127 | (05050803) | 631535.73 | 4175256.13 | 196.80023 | (04102623) |
| 631551.54 | 4175246.05 | 214.43822 | (04102623) | 631579.95 | 4175222.15 | 203.83332 | (08102618) |
| 631592.55 | 4175208.34 | 217.19055 | (08102618) | 631605.15 | 4175194.53 | 182.06055 | (04102617) |
| 631617.74 | 4175180.72 | 182.28544 | (04102617) | 631630.34 | 4175166.91 | 180.70450 | (04102617) |
| 631642.94 | 4175153.10 | 177.47113 | (04102617) | 631655.54 | 4175139.29 | 172.84518 | (04102617) |
| 631668.14 | 4175125.47 | 167.07962 | (04102617) | 631680.74 | 4175111.66 | 160.41920 | (04102617) |
| 631693.34 | 4175097.85 | 155.00646 | (05112422) | 631705.94 | 4175084.04 | 154.89410 | (05112422) |
| 631718.53 | 4175070.23 | 152.84118 | (05112422) | 631731.13 | 4175056.42 | 149.88784 | (08071405) |
| 631743.73 | 4175042.61 | 146.85911 | (08071405) | 631773.29 | 4175020.32 | 143.65961 | (05011817) |
| 631790.26 | 4175011.84 | 144.80583 | (05011817) | 631822.21 | 4174999.50 | 143.19414 | (05011817) |
| 631837.20 | 4174995.64 | 140.70580 | (05011817) | 631852.19 | 4174991.77 | 138.00179 | (08071406) |
| 631866.84 | 4175007.53 | 140.87755 | (06051924) | 631866.50 | 4175027.14 | 144.26184 | (06051924) |
| 631866.16 | 4175046.76 | 146.44638 | (06051924) | 631865.83 | 4175066.37 | 147.24851 | (06051924) |
| 631865.49 | 4175085.99 | 146.52123 | (06051924) | 631865.15 | 4175105.60 | 151.87476 | (04122822) |
| 631864.81 | 4175125.22 | 156.80522 | (04122822) | 631864.47 | 4175144.83 | 161.22875 | (06041222) |
| 631864.13 | 4175164.45 | 164.99889 | (06041222) | 631863.80 | 4175184.06 | 170.87169 | (05061704) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 631863.46 | 4175203.68 | 175.67191 | (05061704) | 631863.12 | 4175223.29 | 180.15718 | (08031018) |
| 631862.78 | 4175242.91 | 190.33442 | (06112217) | 631862.44 | 4175262.52 | 199.44268 | (06112217) |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK7 ***

INCLUDING SOURCE(S): STCK7 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 207.44855 | (05011521) | 631861.77 | 4175301.75 | 220.08205 | (05011520) |
| 631861.43 | 4175321.37 | 354.91854 | (05011317) | 631861.09 | 4175340.98 | 335.94505 | (04081924) |
| 631860.75 | 4175360.60 | 485.11347 | (06051904) | 631860.41 | 4175380.21 | 407.20088 | (08090906) |
| 631860.07 | 4175399.83 | 466.64742 | (07102905) | 631859.73 | 4175419.44 | 408.79406 | (08090519) |
| 631859.40 | 4175439.06 | 427.85899 | (07102905) | 631859.06 | 4175458.67 | 453.95534 | (07102905) |
| 631858.72 | 4175478.29 | 458.99517 | (05102522) | 631858.38 | 4175497.90 | 450.24054 | (05112917) |
| 631858.04 | 4175517.52 | 516.11825 | (06052002) | 631857.70 | 4175537.13 | 558.70703 | (06052002) |
| 631857.37 | 4175556.75 | 564.53253 | (06052002) | 631857.03 | 4175576.36 | 548.51004 | (07080303) |
| 631856.69 | 4175595.98 | 768.74736 | (06111919) | 631856.35 | 4175615.59 | 730.30725 | (06111919) |
| 631856.01 | 4175635.21 | 740.51308 | (04101518) | 631855.67 | 4175654.82 | 752.25007 | (04030118) |
| 631855.33 | 4175674.44 | 765.04132 | (04030118) | 631855.00 | 4175694.05 | 712.78613 | (04030118) |
| 631854.66 | 4175713.67 | 614.75539 | (06100506) | 631854.32 | 4175733.28 | 675.19024 | (04030118) |
| 631853.98 | 4175752.90 | 484.72124 | (04030118) | 631853.64 | 4175772.51 | 406.54626 | (05080806) |
| 631853.30 | 4175792.13 | 454.85127 | (07121418) | 631852.97 | 4175811.74 | 366.99430 | (05072806) |
| 631852.63 | 4175831.36 | 335.96216 | (06111908) | 631852.29 | 4175850.97 | 305.97544 | (06111908) |
| 631851.95 | 4175870.59 | 284.95235 | (05072806) | 631851.61 | 4175890.20 | 270.96351 | (04011018) |
| 631851.27 | 4175909.82 | 262.35805 | (04011018) | 631850.94 | 4175929.43 | 255.07974 | (06052306) |
| 631850.60 | 4175949.05 | 258.78255 | (06052306) | 631850.26 | 4175968.66 | 253.60875 | (06052306) |
| 631830.54 | 4175988.13 | 235.61842 | (06052306) | 631811.15 | 4175987.98 | 250.69882 | (06062806) |
| 631791.77 | 4175987.83 | 270.41869 | (06062806) | 631772.39 | 4175987.67 | 282.57089 | (06062806) |
| 631753.00 | 4175987.52 | 285.23449 | (06062806) | 631733.62 | 4175987.37 | 277.56497 | (06062806) |
| 631714.24 | 4175987.22 | 363.84905 | (06062806) | 631694.85 | 4175987.07 | 368.99134 | (06081406) |
| 631675.47 | 4175986.92 | 368.91401 | (06081406) | 631656.09 | 4175986.77 | 355.81135 | (07102901) |
| 631636.70 | 4175986.62 | 353.67182 | (06080603) | 631617.32 | 4175986.46 | 337.28325 | (06080603) |
| 631597.94 | 4175986.31 | 347.42404 | (05072006) | 631578.55 | 4175986.16 | 333.54789 | (04111519) |
| 631559.17 | 4175986.01 | 308.56937 | (04111519) | 631539.79 | 4175985.86 | 284.65923 | (07030418) |
| 631520.40 | 4175985.71 | 291.52481 | (07030418) | 631501.02 | 4175985.56 | 283.48379 | (07080306) |
| 631481.64 | 4175985.40 | 283.51030 | (05112506) | 631462.25 | 4175985.25 | 306.43836 | (08091907) |
| 631442.87 | 4175985.10 | 311.95015 | (08091907) | 631423.49 | 4175984.95 | 299.23998 | (08091907) |
| 631404.10 | 4175984.80 | 283.80453 | (07090905) | 631384.72 | 4175984.65 | 283.98096 | (05122507) |
| 631365.34 | 4175984.50 | 289.57092 | (04022205) | 631345.95 | 4175984.35 | 289.11553 | (04022205) |
| 631326.57 | 4175984.19 | 277.02361 | (04022205) | 631307.19 | 4175984.04 | 272.95386 | (05122508) |
| 631287.80 | 4175983.89 | 270.18399 | (05122508) | | | | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK8 ***

INCLUDING SOURCE(S): STCK8 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 123.96880 | (05011317) | 632304.44 | 4174354.52 | 68.22283 | (05020818) |
| 632192.15 | 4174956.32 | 118.62501 | (06040119) | 632420.62 | 4175510.15 | 148.12129 | (05121217) |
| 632418.97 | 4175552.92 | 130.64040 | (05121217) | 631187.00 | 4175727.00 | 322.98756 | (06011217) |
| 631166.00 | 4175729.00 | 311.07453 | (06011217) | 631121.00 | 4175719.00 | 288.30348 | (06011217) |
| 631035.00 | 4174830.00 | 119.08691 | (06011109) | 631106.00 | 4174825.00 | 124.02478 | (06011109) |
| 631937.00 | 4174528.00 | 88.09479 | (04022218) | 631322.00 | 4174522.00 | 87.60716 | (08022002) |
| 629800.63 | 4173850.44 | 25.83254 | (04012317) | 630150.63 | 4173850.44 | 31.83127 | (07121217) |
| 630500.63 | 4173850.44 | 42.94143 | (05012117) | 630850.63 | 4173850.44 | 42.57703 | (06011021) |
| 631200.63 | 4173850.44 | 50.80142 | (08022002) | 631550.63 | 4173850.44 | 46.03018 | (05021805) |
| 631900.63 | 4173850.44 | 49.67177 | (07020623) | 632250.63 | 4173850.44 | 46.89102 | (06020105) |
| 632600.63 | 4173850.44 | 43.36057 | (05020818) | 632950.63 | 4173850.44 | 37.99134 | (05011520) |
| 633300.63 | 4173850.44 | 32.51225 | (06122122) | 629800.63 | 4174200.44 | 33.12986 | (06121421) |
| 630150.63 | 4174200.44 | 34.29964 | (04012317) | 630500.63 | 4174200.44 | 48.90432 | (07121217) |
| 630850.63 | 4174200.44 | 65.66905 | (05012117) | 631200.63 | 4174200.44 | 66.91546 | (08022002) |
| 631550.63 | 4174200.44 | 60.41308 | (05021805) | 631900.63 | 4174200.44 | 67.29034 | (04122824) |
| 632250.63 | 4174200.44 | 57.36556 | (04122822) | 632600.63 | 4174200.44 | 53.94281 | (05011521) |
| 632950.63 | 4174200.44 | 44.51902 | (06122122) | 633300.63 | 4174200.44 | 38.21831 | (06011617) |
| 629800.63 | 4174550.44 | 40.82788 | (06120217) | 630150.63 | 4174550.44 | 40.42959 | (07020624) |
| 630500.63 | 4174550.44 | 52.89227 | (04012317) | 630850.63 | 4174550.44 | 81.86771 | (07011517) |
| 631200.63 | 4174550.44 | 93.58740 | (06102817) | 631550.63 | 4174550.44 | 80.60455 | (05021805) |
| 631900.63 | 4174550.44 | 92.26361 | (07011417) | 632250.63 | 4174550.44 | 76.86526 | (05011521) |
| 632600.63 | 4174550.44 | 66.67848 | (06122122) | 632950.63 | 4174550.44 | 59.77388 | (06011617) |
| 633300.63 | 4174550.44 | 42.13807 | (05020802) | 629800.63 | 4174900.44 | 39.59325 | (05122617) |
| 630150.63 | 4174900.44 | 51.36024 | (05022818) | 630500.63 | 4174900.44 | 77.86594 | (07020624) |
| 630850.63 | 4174900.44 | 100.41622 | (04012317) | 631200.63 | 4174900.44 | 124.62866 | (06011109) |
| 631550.63 | 4174900.44 | 114.52180 | (05110722) | 631900.63 | 4174900.44 | 120.74752 | (06051924) |
| 632250.63 | 4174900.44 | 109.01902 | (05021018) | 632600.63 | 4174900.44 | 83.13603 | (06011617) |
| 632950.63 | 4174900.44 | 63.09601 | (06120617) | 633300.63 | 4174900.44 | 45.56244 | (05021801) |
| 629800.63 | 4175250.44 | 41.83517 | (08012221) | 630150.63 | 4175250.44 | 63.78725 | (04022207) |
| 630500.63 | 4175250.44 | 79.98755 | (06041224) | 630850.63 | 4175250.44 | 139.29162 | (07111023) |
| 631200.63 | 4175250.44 | 225.23962 | (04012317) | 631550.63 | 4175250.44 | 245.71679 | (04102623) |
| 631900.63 | 4175250.44 | 215.41827 | (05112916) | 632250.63 | 4175250.44 | 158.39101 | (04022223) |
| 632600.63 | 4175250.44 | 112.71786 | (07010217) | 632950.63 | 4175250.44 | 64.29446 | (07020218) |
| 633300.63 | 4175250.44 | 48.74447 | (06011618) | 629800.63 | 4175600.44 | 46.48843 | (05122618) |
| 630150.63 | 4175600.44 | 60.13584 | (05122618) | 630500.63 | 4175600.44 | 81.67702 | (05122618) |
| 630850.63 | 4175600.44 | 125.49193 | (04010517) | 631200.63 | 4175600.44 | 269.59644 | (04101719) |
| 631550.63 | 4175600.44 | 0.00000 | (00000000) | 631900.63 | 4175600.44 | 416.10591 | (07102804) |
| 632250.63 | 4175600.44 | 182.57733 | (06011619) | 632600.63 | 4175600.44 | 93.00712 | (06011619) |
| 632950.63 | 4175600.44 | 64.26995 | (06011619) | 633300.63 | 4175600.44 | 49.99156 | (06011619) |
| 629800.63 | 4175950.44 | 47.22882 | (06011024) | 630150.63 | 4175950.44 | 54.72458 | (06011024) |

*** AERMOD - VERSION 19191 *** *** C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C *** 06/06/22

*** AERMET - VERSION 18081 *** *** *** 12:14:02

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK8 ***

INCLUDING SOURCE(S): STCK8 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 79.90263 | (04041820) | 630850.63 | 4175950.44 | 136.03395 | (05030322) |
| 631200.63 | 4175950.44 | 198.89682 | (05051803) | 631550.63 | 4175950.44 | 320.40116 | (07030418) |
| 631900.63 | 4175950.44 | 222.18905 | (06052306) | 632250.63 | 4175950.44 | 159.99814 | (04121024) |
| 632600.63 | 4175950.44 | 107.92377 | (05122401) | 632950.63 | 4175950.44 | 68.14683 | (08010924) |
| 633300.63 | 4175950.44 | 49.77040 | (05012018) | 629800.63 | 4176300.44 | 43.73879 | (07120622) |
| 630150.63 | 4176300.44 | 49.30584 | (04120824) | 630500.63 | 4176300.44 | 78.96555 | (04021520) |
| 630850.63 | 4176300.44 | 101.76282 | (04010518) | 631200.63 | 4176300.44 | 121.21059 | (06102618) |
| 631550.63 | 4176300.44 | 128.55487 | (05122221) | 631900.63 | 4176300.44 | 126.53409 | (06010520) |
| 632250.63 | 4176300.44 | 117.34869 | (08021908) | 632600.63 | 4176300.44 | 90.48879 | (08122903) |
| 632950.63 | 4176300.44 | 63.66008 | (04121024) | 633300.63 | 4176300.44 | 47.11701 | (05020719) |
| 629800.63 | 4176650.44 | 40.54783 | (06122121) | 630150.63 | 4176650.44 | 48.35895 | (04021520) |
| 630500.63 | 4176650.44 | 64.30682 | (04010518) | 630850.63 | 4176650.44 | 78.38194 | (07012719) |
| 631200.63 | 4176650.44 | 91.64805 | (08091907) | 631550.63 | 4176650.44 | 90.79845 | (05122505) |
| 631900.63 | 4176650.44 | 92.30508 | (04020619) | 632250.63 | 4176650.44 | 83.24389 | (05121423) |
| 632600.63 | 4176650.44 | 74.55808 | (08021908) | 632950.63 | 4176650.44 | 63.88798 | (08021808) |
| 633300.63 | 4176650.44 | 45.31148 | (05011818) | 629800.63 | 4177000.44 | 34.34810 | (04021521) |
| 630150.63 | 4177000.44 | 43.33560 | (04010518) | 630500.63 | 4177000.44 | 53.33610 | (04120908) |
| 630850.63 | 4177000.44 | 61.93460 | (07021218) | 631200.63 | 4177000.44 | 72.26671 | (08011009) |
| 631550.63 | 4177000.44 | 70.22643 | (07121903) | 631900.63 | 4177000.44 | 69.36680 | (05021719) |
| 632250.63 | 4177000.44 | 66.28693 | (06010520) | 632600.63 | 4177000.44 | 57.81365 | (06120518) |
| 632950.63 | 4177000.44 | 51.40237 | (08021908) | 633300.63 | 4177000.44 | 41.22937 | (08021808) |
| 629800.63 | 4177350.44 | 32.01887 | (04010518) | 630150.63 | 4177350.44 | 36.36260 | (04120908) |
| 630500.63 | 4177350.44 | 44.08335 | (07122917) | 630850.63 | 4177350.44 | 46.52470 | (07012720) |
| 631200.63 | 4177350.44 | 57.77244 | (07021108) | 631550.63 | 4177350.44 | 54.76761 | (07121903) |
| 631900.63 | 4177350.44 | 55.35120 | (05122402) | 632250.63 | 4177350.44 | 51.67331 | (05021722) |
| 632600.63 | 4177350.44 | 46.54335 | (07010323) | 632950.63 | 4177350.44 | 44.87402 | (07022408) |
| 633300.63 | 4177350.44 | 38.81203 | (08021908) | 631670.70 | 4175493.59 | 303.25584 | (08110218) |
| 631669.80 | 4175641.41 | 721.13101 | (07110617) | 631665.32 | 4175796.39 | 256.80710 | (06062806) |
| 631417.17 | 4175826.85 | 428.97283 | (04081204) | 631417.17 | 4175673.66 | 819.08288 | (07102702) |
| 631422.55 | 4175484.63 | 849.19178 | (06051905) | 631268.42 | 4175983.74 | 198.67151 | (04022205) |
| 631275.69 | 4175523.99 | 403.35712 | (04041821) | 631345.65 | 4175419.50 | 363.96231 | (06120517) |
| 631384.72 | 4175441.30 | 807.15284 | (04012317) | 631491.93 | 4175442.21 | 319.78932 | (08121017) |
| 631491.93 | 4175414.95 | 259.23054 | (08121017) | 631385.63 | 4175413.14 | 466.11378 | (04012317) |
| 631358.37 | 4175395.87 | 417.14507 | (06011109) | 631409.25 | 4175336.81 | 449.33091 | (05030118) |
| 631567.35 | 4175235.96 | 266.19543 | (04102617) | 631756.33 | 4175028.80 | 167.14941 | (05011817) |
| 631807.22 | 4175003.36 | 157.87007 | (08071406) | 631867.18 | 4174987.91 | 131.50359 | (08071406) |
| 631849.92 | 4175988.28 | 251.56117 | (06062806) | 631268.74 | 4175963.75 | 202.57673 | (04022205) |
| 631269.05 | 4175943.76 | 205.21591 | (05122508) | 631269.37 | 4175923.77 | 218.14637 | (05122508) |
| 631269.68 | 4175903.78 | 227.55523 | (05122508) | 631270.00 | 4175883.79 | 238.40936 | (04022119) |
| 631270.32 | 4175863.81 | 253.02883 | (04022119) | 631270.63 | 4175843.82 | 262.77770 | (07010318) |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK8 ***

INCLUDING SOURCE(S): STCK8 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 284.32770 | (05122621) | 631271.26 | 4175803.84 | 304.46811 | (05122621) |
| 631271.58 | 4175783.85 | 311.85916 | (05122621) | 631271.90 | 4175763.86 | 319.34973 | (04022924) |
| 631272.21 | 4175743.87 | 349.70187 | (05110619) | 631272.53 | 4175723.88 | 374.02371 | (07071004) |
| 631272.85 | 4175703.89 | 406.73021 | (06011217) | 631273.16 | 4175683.90 | 443.65243 | (06011217) |
| 631273.48 | 4175663.91 | 437.49352 | (06011217) | 631273.79 | 4175643.92 | 443.73065 | (06111024) |
| 631274.11 | 4175623.94 | 448.52117 | (04101604) | 631274.43 | 4175603.95 | 368.34156 | (04101604) |
| 631274.74 | 4175583.96 | 425.32969 | (04101719) | 631275.06 | 4175563.97 | 423.23214 | (04110818) |
| 631275.37 | 4175543.98 | 402.93086 | (04110818) | 631285.68 | 4175509.06 | 444.88622 | (07110617) |
| 631295.68 | 4175494.14 | 453.08503 | (07110617) | 631305.67 | 4175479.21 | 420.61423 | (07110617) |
| 631315.67 | 4175464.28 | 412.96464 | (04022118) | 631325.66 | 4175449.35 | 390.04874 | (05072102) |
| 631335.66 | 4175434.43 | 369.29236 | (05072102) | 631358.67 | 4175426.77 | 379.50917 | (06120517) |
| 631371.70 | 4175434.03 | 693.86041 | (04012317) | 631402.59 | 4175441.45 | 748.72691 | (08121017) |
| 631420.46 | 4175441.60 | 669.09285 | (05111717) | 631438.33 | 4175441.76 | 580.62923 | (05111717) |
| 631456.19 | 4175441.91 | 478.88679 | (05111717) | 631474.06 | 4175442.06 | 381.85982 | (08121017) |
| 631491.93 | 4175428.58 | 290.59699 | (08121017) | 631474.21 | 4175414.65 | 328.36251 | (08121017) |
| 631456.50 | 4175414.35 | 394.47283 | (08121017) | 631438.78 | 4175414.05 | 448.27859 | (08121017) |
| 631421.06 | 4175413.74 | 549.77818 | (07121217) | 631403.35 | 4175413.44 | 802.81837 | (04012317) |
| 631372.00 | 4175404.51 | 489.78677 | (06011109) | 631371.09 | 4175381.11 | 366.73456 | (06011109) |
| 631383.81 | 4175366.34 | 358.47979 | (05030118) | 631396.53 | 4175351.58 | 415.24264 | (05030118) |
| 631425.06 | 4175326.73 | 466.77920 | (06102817) | 631440.87 | 4175316.64 | 456.48412 | (06102817) |
| 631456.68 | 4175306.56 | 375.77683 | (06102817) | 631472.49 | 4175296.47 | 350.47579 | (07100818) |
| 631488.30 | 4175286.39 | 353.80722 | (07100818) | 631504.11 | 4175276.30 | 295.12416 | (07100818) |
| 631519.92 | 4175266.22 | 233.65309 | (05021806) | 631535.73 | 4175256.13 | 222.03863 | (04102623) |
| 631551.54 | 4175246.05 | 243.53098 | (04102623) | 631579.95 | 4175222.15 | 239.47945 | (08102618) |
| 631592.55 | 4175208.34 | 254.48906 | (08102618) | 631605.15 | 4175194.53 | 221.25751 | (04102617) |
| 631617.74 | 4175180.72 | 217.03115 | (04102617) | 631630.34 | 4175166.91 | 210.73666 | (04102617) |
| 631642.94 | 4175153.10 | 202.55432 | (04102617) | 631655.54 | 4175139.29 | 192.98451 | (04102617) |
| 631668.14 | 4175125.47 | 182.46056 | (04102617) | 631680.74 | 4175111.66 | 171.35411 | (04102617) |
| 631693.34 | 4175097.85 | 171.80160 | (05011817) | 631705.94 | 4175084.04 | 172.76000 | (05011817) |
| 631718.53 | 4175070.23 | 172.64456 | (05011817) | 631731.13 | 4175056.42 | 171.58912 | (05011817) |
| 631743.73 | 4175042.61 | 169.71852 | (05011817) | 631773.29 | 4175020.32 | 165.04933 | (05011817) |
| 631790.26 | 4175011.84 | 162.14948 | (08071406) | 631822.21 | 4174999.50 | 153.08789 | (08071406) |
| 631837.20 | 4174995.64 | 146.91859 | (08071406) | 631852.19 | 4174991.77 | 139.63203 | (08071406) |
| 631866.84 | 4175007.53 | 134.54159 | (04122822) | 631866.50 | 4175027.14 | 139.15882 | (06041222) |
| 631866.16 | 4175046.76 | 147.39982 | (08031018) | 631865.83 | 4175066.37 | 155.56938 | (08031018) |
| 631865.49 | 4175085.99 | 163.19492 | (08031018) | 631865.15 | 4175105.60 | 170.02095 | (08031018) |
| 631864.81 | 4175125.22 | 175.78060 | (08031018) | 631864.47 | 4175144.83 | 180.17193 | (08031018) |
| 631864.13 | 4175164.45 | 182.90274 | (08031018) | 631863.80 | 4175184.06 | 183.67888 | (08031018) |
| 631863.46 | 4175203.68 | 189.49512 | (05011317) | 631863.12 | 4175223.29 | 203.61649 | (05011317) |
| 631862.78 | 4175242.91 | 215.32847 | (05011317) | 631862.44 | 4175262.52 | 223.64493 | (05011317) |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK8 ***

INCLUDING SOURCE(S): STCK8 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 240.29009 | (05112916) | 631861.77 | 4175301.75 | 256.08359 | (05112916) |
| 631861.43 | 4175321.37 | 268.28550 | (05112916) | 631861.09 | 4175340.98 | 357.18179 | (05011417) |
| 631860.75 | 4175360.60 | 586.24274 | (05110817) | 631860.41 | 4175380.21 | 509.97388 | (07111901) |
| 631860.07 | 4175399.83 | 624.25637 | (08022004) | 631859.73 | 4175419.44 | 592.80359 | (08012218) |
| 631859.40 | 4175439.06 | 638.94861 | (07102701) | 631859.06 | 4175458.67 | 802.49422 | (07080303) |
| 631858.72 | 4175478.29 | 621.96946 | (07080303) | 631858.38 | 4175497.90 | 628.33052 | (04081304) |
| 631858.04 | 4175517.52 | 621.16252 | (05071701) | 631857.70 | 4175537.13 | 581.88984 | (05071701) |
| 631857.37 | 4175556.75 | 653.87220 | (04030118) | 631857.03 | 4175576.36 | 830.24504 | (04030118) |
| 631856.69 | 4175595.98 | 640.16390 | (04030118) | 631856.35 | 4175615.59 | 660.77023 | (04030118) |
| 631856.01 | 4175635.21 | 565.84792 | (08112619) | 631855.67 | 4175654.82 | 659.17537 | (08112619) |
| 631855.33 | 4175674.44 | 705.46507 | (08112619) | 631855.00 | 4175694.05 | 735.97903 | (06111908) |
| 631854.66 | 4175713.67 | 773.34216 | (06111908) | 631854.32 | 4175733.28 | 755.22690 | (06111908) |
| 631853.98 | 4175752.90 | 736.07542 | (06111908) | 631853.64 | 4175772.51 | 562.08451 | (05072806) |
| 631853.30 | 4175792.13 | 728.50044 | (06110305) | 631852.97 | 4175811.74 | 576.55560 | (05072806) |
| 631852.63 | 4175831.36 | 612.55840 | (04121019) | 631852.29 | 4175850.97 | 454.45451 | (06052306) |
| 631851.95 | 4175870.59 | 477.39787 | (07020318) | 631851.61 | 4175890.20 | 263.80611 | (06052306) |
| 631851.27 | 4175909.82 | 254.72865 | (06062806) | 631850.94 | 4175929.43 | 260.61409 | (06062806) |
| 631850.60 | 4175949.05 | 262.10765 | (06062806) | 631850.26 | 4175968.66 | 258.98087 | (06062806) |
| 631830.54 | 4175988.13 | 253.24999 | (06062806) | 631811.15 | 4175987.98 | 247.69497 | (06062806) |
| 631791.77 | 4175987.83 | 234.91238 | (06062806) | 631772.39 | 4175987.67 | 215.65353 | (06062806) |
| 631753.00 | 4175987.52 | 204.65994 | (07010322) | 631733.62 | 4175987.37 | 204.17225 | (06081406) |
| 631714.24 | 4175987.22 | 247.50451 | (08102318) | 631694.85 | 4175987.07 | 375.14349 | (06081406) |
| 631675.47 | 4175986.92 | 350.81566 | (07102901) | 631656.09 | 4175986.77 | 359.35185 | (06080603) |
| 631636.70 | 4175986.62 | 336.07880 | (06080603) | 631617.32 | 4175986.46 | 308.26195 | (04020106) |
| 631597.94 | 4175986.31 | 308.91550 | (05072006) | 631578.55 | 4175986.16 | 296.00994 | (04111519) |
| 631559.17 | 4175986.01 | 268.10629 | (04111519) | 631539.79 | 4175985.86 | 231.53198 | (04111519) |
| 631520.40 | 4175985.71 | 219.17147 | (07030418) | 631501.02 | 4175985.56 | 217.50897 | (07080306) |
| 631481.64 | 4175985.40 | 215.81812 | (07080306) | 631462.25 | 4175985.25 | 214.64634 | (07020208) |
| 631442.87 | 4175985.10 | 222.03656 | (08091907) | 631423.49 | 4175984.95 | 231.73596 | (08091907) |
| 631404.10 | 4175984.80 | 235.00428 | (08091907) | 631384.72 | 4175984.65 | 227.78542 | (08091907) |
| 631365.34 | 4175984.50 | 211.59110 | (08091907) | 631345.95 | 4175984.35 | 203.59522 | (05122507) |
| 631326.57 | 4175984.19 | 205.29656 | (05122507) | 631307.19 | 4175984.04 | 200.93543 | (07012721) |
| 631287.80 | 4175983.89 | 201.20016 | (04022205) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP:

STCK9 ***

INCLUDING SOURCE(S): STCK9 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 632121.21 | 4174952.36 | 126.05848 | (05011417) | 632304.44 | 4174354.52 | 64.93323 | (05020818) |
| 632192.15 | 4174956.32 | 117.74427 | (05011417) | 632420.62 | 4175510.15 | 126.55917 | (06011619) |
| 632418.97 | 4175552.92 | 143.08336 | (07012318) | 631187.00 | 4175727.00 | 216.62551 | (07120623) |
| 631166.00 | 4175729.00 | 207.29603 | (07120623) | 631121.00 | 4175719.00 | 199.19086 | (05110619) |
| 631035.00 | 4174830.00 | 130.95043 | (07121217) | 631106.00 | 4174825.00 | 158.06329 | (06011109) |
| 631937.00 | 4174528.00 | 91.63755 | (05011817) | 631322.00 | 4174522.00 | 97.76845 | (08022002) |
| 629800.63 | 4173850.44 | 30.23217 | (06121421) | 630150.63 | 4173850.44 | 31.60570 | (04012317) |
| 630500.63 | 4173850.44 | 48.11804 | (07011517) | 630850.63 | 4173850.44 | 49.91634 | (06011021) |
| 631200.63 | 4173850.44 | 55.69856 | (08022002) | 631550.63 | 4173850.44 | 49.46188 | (05021805) |
| 631900.63 | 4173850.44 | 54.00630 | (07020623) | 632250.63 | 4173850.44 | 50.10571 | (06020105) |
| 632600.63 | 4173850.44 | 43.68410 | (05020818) | 632950.63 | 4173850.44 | 36.85040 | (04022018) |
| 633300.63 | 4173850.44 | 32.48542 | (05021018) | 629800.63 | 4174200.44 | 30.89351 | (07020624) |
| 630150.63 | 4174200.44 | 41.99338 | (06121421) | 630500.63 | 4174200.44 | 46.98030 | (07121217) |
| 630850.63 | 4174200.44 | 75.61427 | (05012117) | 631200.63 | 4174200.44 | 69.59664 | (08022002) |
| 631550.63 | 4174200.44 | 65.65476 | (05021805) | 631900.63 | 4174200.44 | 70.40829 | (05021804) |
| 632250.63 | 4174200.44 | 64.22974 | (04122822) | 632600.63 | 4174200.44 | 55.07280 | (05011520) |
| 632950.63 | 4174200.44 | 43.72346 | (05021018) | 633300.63 | 4174200.44 | 43.62598 | (06011617) |
| 629800.63 | 4174550.44 | 38.75226 | (06120217) | 630150.63 | 4174550.44 | 50.29727 | (07020624) |
| 630500.63 | 4174550.44 | 66.84410 | (06121421) | 630850.63 | 4174550.44 | 89.42718 | (07121217) |
| 631200.63 | 4174550.44 | 109.84547 | (06102817) | 631550.63 | 4174550.44 | 88.92917 | (05021805) |
| 631900.63 | 4174550.44 | 95.03333 | (05011817) | 632250.63 | 4174550.44 | 82.49373 | (05011521) |
| 632600.63 | 4174550.44 | 63.35914 | (08030618) | 632950.63 | 4174550.44 | 57.14379 | (06011617) |
| 633300.63 | 4174550.44 | 44.61302 | (06120617) | 629800.63 | 4174900.44 | 39.49442 | (04022208) |
| 630150.63 | 4174900.44 | 53.98784 | (06121217) | 630500.63 | 4174900.44 | 85.16675 | (06120217) |
| 630850.63 | 4174900.44 | 125.79595 | (06121421) | 631200.63 | 4174900.44 | 189.20143 | (06011109) |
| 631550.63 | 4174900.44 | 135.50645 | (05110722) | 631900.63 | 4174900.44 | 130.54662 | (08031018) |
| 632250.63 | 4174900.44 | 105.76528 | (05011417) | 632600.63 | 4174900.44 | 81.93123 | (06121106) |
| 632950.63 | 4174900.44 | 61.09143 | (05021801) | 633300.63 | 4174900.44 | 50.24527 | (07010217) |
| 629800.63 | 4175250.44 | 41.05734 | (08012221) | 630150.63 | 4175250.44 | 57.48951 | (08012221) |
| 630500.63 | 4175250.44 | 93.79614 | (04022207) | 630850.63 | 4175250.44 | 142.27187 | (04022208) |
| 631200.63 | 4175250.44 | 281.20740 | (07020624) | 631550.63 | 4175250.44 | 299.94049 | (04102623) |
| 631900.63 | 4175250.44 | 219.11876 | (04012318) | 632250.63 | 4175250.44 | 144.32544 | (07010217) |
| 632600.63 | 4175250.44 | 96.07903 | (07020218) | 632950.63 | 4175250.44 | 64.14324 | (06011618) |
| 633300.63 | 4175250.44 | 49.11254 | (05122223) | 629800.63 | 4175600.44 | 47.75229 | (05122618) |
| 630150.63 | 4175600.44 | 59.74260 | (05122618) | 630500.63 | 4175600.44 | 75.67888 | (05122618) |
| 630850.63 | 4175600.44 | 137.11785 | (07042002) | 631200.63 | 4175600.44 | 299.05341 | (05030324) |
| 631550.63 | 4175600.44 | 806.50867 | (06111518) | 631900.63 | 4175600.44 | 819.61217 | (04111603) |
| 632250.63 | 4175600.44 | 199.46018 | (07012418) | 632600.63 | 4175600.44 | 107.94135 | (07012318) |
| 632950.63 | 4175600.44 | 67.23729 | (07012318) | 633300.63 | 4175600.44 | 49.99097 | (07011518) |
| 629800.63 | 4175950.44 | 40.40782 | (06011024) | 630150.63 | 4175950.44 | 51.28899 | (04041820) |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK9 ***

INCLUDING SOURCE(S): STCK9 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 630500.63 | 4175950.44 | 83.98219 | (07120622) | 630850.63 | 4175950.44 | 114.61491 | (06041301) |
| 631200.63 | 4175950.44 | 156.20345 | (04022205) | 631550.63 | 4175950.44 | 237.35499 | (07030418) |
| 631900.63 | 4175950.44 | 242.04946 | (06062806) | 632250.63 | 4175950.44 | 158.28257 | (08122903) |
| 632600.63 | 4175950.44 | 101.97267 | (05011418) | 632950.63 | 4175950.44 | 69.49370 | (05122401) |
| 633300.63 | 4175950.44 | 49.74872 | (08010924) | 629800.63 | 4176300.44 | 42.05932 | (07120622) |
| 630150.63 | 4176300.44 | 53.79686 | (06122121) | 630500.63 | 4176300.44 | 67.85393 | (04021520) |
| 630850.63 | 4176300.44 | 90.66079 | (04120903) | 631200.63 | 4176300.44 | 119.02654 | (08091907) |
| 631550.63 | 4176300.44 | 118.94983 | (06111518) | 631900.63 | 4176300.44 | 143.49550 | (07091007) |
| 632250.63 | 4176300.44 | 116.27104 | (07122918) | 632600.63 | 4176300.44 | 95.70842 | (08021808) |
| 632950.63 | 4176300.44 | 63.69951 | (05011818) | 633300.63 | 4176300.44 | 47.14013 | (04011021) |
| 629800.63 | 4176650.44 | 38.36683 | (04021520) | 630150.63 | 4176650.44 | 47.56222 | (04021521) |
| 630500.63 | 4176650.44 | 60.67891 | (04120903) | 630850.63 | 4176650.44 | 73.42152 | (07122917) |
| 631200.63 | 4176650.44 | 79.16718 | (08091907) | 631550.63 | 4176650.44 | 86.78441 | (07121903) |
| 631900.63 | 4176650.44 | 114.09186 | (07091007) | 632250.63 | 4176650.44 | 86.17050 | (07010323) |
| 632600.63 | 4176650.44 | 71.66315 | (08122905) | 632950.63 | 4176650.44 | 55.29378 | (07021220) |
| 633300.63 | 4176650.44 | 45.24810 | (08021808) | 629800.63 | 4177000.44 | 35.72293 | (04021521) |
| 630150.63 | 4177000.44 | 41.60350 | (04120903) | 630500.63 | 4177000.44 | 48.68001 | (07012719) |
| 630850.63 | 4177000.44 | 58.75517 | (04022021) | 631200.63 | 4177000.44 | 68.49938 | (08011009) |
| 631550.63 | 4177000.44 | 66.90453 | (07121903) | 631900.63 | 4177000.44 | 66.46450 | (07021206) |
| 632250.63 | 4177000.44 | 64.56699 | (06122319) | 632600.63 | 4177000.44 | 56.74935 | (04121820) |
| 632950.63 | 4177000.44 | 46.22197 | (05010604) | 633300.63 | 4177000.44 | 41.30500 | (08021908) |
| 629800.63 | 4177350.44 | 31.16400 | (04010518) | 630150.63 | 4177350.44 | 36.14983 | (04120908) |
| 630500.63 | 4177350.44 | 42.06932 | (08122718) | 630850.63 | 4177350.44 | 45.10631 | (07012722) |
| 631200.63 | 4177350.44 | 53.88034 | (07021108) | 631550.63 | 4177350.44 | 52.06229 | (07121903) |
| 631900.63 | 4177350.44 | 53.15010 | (05122402) | 632250.63 | 4177350.44 | 49.47834 | (06012820) |
| 632600.63 | 4177350.44 | 45.03668 | (06010522) | 632950.63 | 4177350.44 | 40.82694 | (07022408) |
| 633300.63 | 4177350.44 | 33.65853 | (05010604) | 631670.70 | 4175493.59 | 454.64152 | (07021102) |
| 631669.80 | 4175641.41 | 490.89771 | (05111717) | 631665.32 | 4175796.39 | 214.14176 | (06081406) |
| 631417.17 | 4175826.85 | 207.73167 | (05042719) | 631417.17 | 4175673.66 | 269.89976 | (08091907) |
| 631422.55 | 4175484.63 | 637.18916 | (04041821) | 631268.42 | 4175983.74 | 159.75389 | (05122507) |
| 631275.69 | 4175523.99 | 388.26920 | (04101604) | 631345.65 | 4175419.50 | 535.58890 | (07110617) |
| 631384.72 | 4175441.30 | 650.17148 | (07110617) | 631491.93 | 4175442.21 | 1486.41161 | (05072102) |
| 631491.93 | 4175414.95 | 1081.76564 | (05111717) | 631385.63 | 4175413.14 | 645.99757 | (04022118) |
| 631358.37 | 4175395.87 | 567.62890 | (04022118) | 631409.25 | 4175336.81 | 501.99217 | (04012317) |
| 631567.35 | 4175235.96 | 318.91633 | (04102617) | 631756.33 | 4175028.80 | 185.35082 | (08071406) |
| 631807.22 | 4175003.36 | 157.32081 | (08071406) | 631867.18 | 4174987.91 | 155.01301 | (08031018) |
| 631849.92 | 4175988.28 | 194.35513 | (06062806) | 631268.74 | 4175963.75 | 164.22745 | (05122507) |
| 631269.05 | 4175943.76 | 167.95595 | (07012721) | 631269.37 | 4175923.77 | 171.60358 | (04022205) |
| 631269.68 | 4175903.78 | 179.28914 | (04022205) | 631270.00 | 4175883.79 | 185.27660 | (04022205) |
| 631270.32 | 4175863.81 | 189.04714 | (04022205) | 631270.63 | 4175843.82 | 190.41741 | (05122508) |

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK9 ***

INCLUDING SOURCE(S): STCK9 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631270.95 | 4175823.83 | 202.38673 | (05122508) | 631271.26 | 4175803.84 | 211.26743 | (05122508) |
| 631271.58 | 4175783.85 | 216.16183 | (04022119) | 631271.90 | 4175763.86 | 229.36737 | (04022119) |
| 631272.21 | 4175743.87 | 238.15916 | (07010318) | 631272.53 | 4175723.88 | 279.91795 | (04110906) |
| 631272.85 | 4175703.89 | 260.66382 | (05122621) | 631273.16 | 4175683.90 | 267.35326 | (05122621) |
| 631273.48 | 4175663.91 | 273.24501 | (07120623) | 631273.79 | 4175643.92 | 291.63832 | (06033021) |
| 631274.11 | 4175623.94 | 304.98822 | (08081602) | 631274.43 | 4175603.95 | 323.38021 | (06011217) |
| 631274.74 | 4175583.96 | 355.66278 | (05030324) | 631275.06 | 4175563.97 | 370.94837 | (06072906) |
| 631275.37 | 4175543.98 | 379.95349 | (06111024) | 631285.68 | 4175509.06 | 368.38802 | (04101604) |
| 631295.68 | 4175494.14 | 344.43980 | (06032819) | 631305.67 | 4175479.21 | 398.61951 | (06032819) |
| 631315.67 | 4175464.28 | 400.06944 | (04110818) | 631325.66 | 4175449.35 | 446.85043 | (04022207) |
| 631335.66 | 4175434.43 | 508.95870 | (07101502) | 631358.67 | 4175426.77 | 571.23100 | (07110617) |
| 631371.70 | 4175434.03 | 609.40652 | (07110617) | 631402.59 | 4175441.45 | 710.48028 | (07110617) |
| 631420.46 | 4175441.60 | 951.44057 | (08081806) | 631438.33 | 4175441.76 | 1112.04213 | (08081806) |
| 631456.19 | 4175441.91 | 1737.09080 | (05072102) | 631474.06 | 4175442.06 | 1696.49524 | (05072102) |
| 631491.93 | 4175428.58 | 1173.00619 | (05111717) | 631474.21 | 4175414.65 | 1479.50890 | (05072102) |
| 631456.50 | 4175414.35 | 1288.74963 | (05111717) | 631438.78 | 4175414.05 | 1269.10358 | (08081806) |
| 631421.06 | 4175413.74 | 822.58337 | (06041020) | 631403.35 | 4175413.44 | 913.27174 | (06041020) |
| 631372.00 | 4175404.51 | 604.63677 | (04022118) | 631371.09 | 4175381.11 | 536.99401 | (05072102) |
| 631383.81 | 4175366.34 | 489.76454 | (05122619) | 631396.53 | 4175351.58 | 492.17062 | (06120517) |
| 631425.06 | 4175326.73 | 528.83548 | (05030118) | 631440.87 | 4175316.64 | 577.11515 | (06102817) |
| 631456.68 | 4175306.56 | 535.74200 | (06102817) | 631472.49 | 4175296.47 | 477.55249 | (07100818) |
| 631488.30 | 4175286.39 | 513.99030 | (07100818) | 631504.11 | 4175276.30 | 412.11977 | (07100818) |
| 631519.92 | 4175266.22 | 322.72877 | (08081805) | 631535.73 | 4175256.13 | 293.43541 | (08081805) |
| 631551.54 | 4175246.05 | 297.08153 | (04102623) | 631579.95 | 4175222.15 | 290.19443 | (04102617) |
| 631592.55 | 4175208.34 | 282.59492 | (04102617) | 631605.15 | 4175194.53 | 270.66166 | (04102617) |
| 631617.74 | 4175180.72 | 257.15617 | (04102617) | 631630.34 | 4175166.91 | 241.67312 | (04102617) |
| 631642.94 | 4175153.10 | 224.82744 | (04102617) | 631655.54 | 4175139.29 | 220.82987 | (05011817) |
| 631668.14 | 4175125.47 | 220.09283 | (05011817) | 631680.74 | 4175111.66 | 217.60302 | (05011817) |
| 631693.34 | 4175097.85 | 213.70267 | (05011817) | 631705.94 | 4175084.04 | 208.69689 | (05011817) |
| 631718.53 | 4175070.23 | 202.98051 | (08071406) | 631731.13 | 4175056.42 | 197.61387 | (08071406) |
| 631743.73 | 4175042.61 | 191.68484 | (08071406) | 631773.29 | 4175020.32 | 177.52486 | (08071406) |
| 631790.26 | 4175011.84 | 168.00958 | (08071406) | 631822.21 | 4174999.50 | 148.78500 | (08031018) |
| 631837.20 | 4174995.64 | 152.24176 | (08031018) | 631852.19 | 4174991.77 | 154.29771 | (08031018) |
| 631866.84 | 4175007.53 | 161.18742 | (08031018) | 631866.50 | 4175027.14 | 166.41397 | (08031018) |
| 631866.16 | 4175046.76 | 170.42947 | (08031018) | 631865.83 | 4175066.37 | 172.94588 | (08031018) |
| 631865.49 | 4175085.99 | 173.69048 | (08031018) | 631865.15 | 4175105.60 | 179.34220 | (05011317) |
| 631864.81 | 4175125.22 | 191.53401 | (05011317) | 631864.47 | 4175144.83 | 201.51061 | (05011317) |
| 631864.13 | 4175164.45 | 208.45191 | (05011317) | 631863.80 | 4175184.06 | 212.51467 | (05011417) |
| 631863.46 | 4175203.68 | 224.73531 | (05011417) | 631863.12 | 4175223.29 | 232.10011 | (05011417) |
| 631862.78 | 4175242.91 | 233.34505 | (05011417) | 631862.44 | 4175262.52 | 240.12450 | (05110817) |



file:///C/...977GSBU)/Documents/HRA/Tracy%20Costco%20DepotV2/AERMOD/Tracy%20CostcoV2.ADO%20(AERMOD%20Output%20file).txt[6/8/2022 6:45:42 PM]

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: STCK9 ***

INCLUDING SOURCE(S): STCK9 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) | X-COORD (M) | Y-COORD (M) | CONC | (YYMMDDHH) |
|---|---|---|---|---|---|---|---|
| 631862.10 | 4175282.14 | 243.07414 | (04012318) | 631861.77 | 4175301.75 | 247.13813 | (08022004) |
| 631861.43 | 4175321.37 | 260.00653 | (08021718) | 631861.09 | 4175340.98 | 278.32245 | (04022019) |
| 631860.75 | 4175360.60 | 287.74812 | (04022019) | 631860.41 | 4175380.21 | 314.61564 | (08021718) |
| 631860.07 | 4175399.83 | 352.33405 | (08012218) | 631859.73 | 4175419.44 | 360.43786 | (06111919) |
| 631859.40 | 4175439.06 | 421.08865 | (04081304) | 631859.06 | 4175458.67 | 557.30525 | (05020803) |
| 631858.72 | 4175478.29 | 717.44548 | (05020803) | 631858.38 | 4175497.90 | 848.22516 | (05020803) |
| 631858.04 | 4175517.52 | 996.51020 | (08041119) | 631857.70 | 4175537.13 | 1021.75055 | (04082203) |
| 631857.37 | 4175556.75 | 1023.21693 | (07091005) | 631857.03 | 4175576.36 | 837.28363 | (06081403) |
| 631856.69 | 4175595.98 | 580.65642 | (06111908) | 631856.35 | 4175615.59 | 615.57251 | (06111908) |
| 631856.01 | 4175635.21 | 610.25126 | (06111908) | 631855.67 | 4175654.82 | 565.73819 | (06111908) |
| 631855.33 | 4175674.44 | 485.42895 | (06102818) | 631855.00 | 4175694.05 | 481.11088 | (06092519) |
| 631854.66 | 4175713.67 | 489.25438 | (06092419) | 631854.32 | 4175733.28 | 460.99013 | (06092419) |
| 631853.98 | 4175752.90 | 452.27732 | (06052306) | 631853.64 | 4175772.51 | 464.43332 | (06052306) |
| 631853.30 | 4175792.13 | 461.61357 | (06052306) | 631852.97 | 4175811.74 | 450.19301 | (06110304) |
| 631852.63 | 4175831.36 | 429.96170 | (06110304) | 631852.29 | 4175850.97 | 425.53623 | (06062806) |
| 631851.95 | 4175870.59 | 460.33969 | (07020318) | 631851.61 | 4175890.20 | 305.40142 | (06062806) |
| 631851.27 | 4175909.82 | 282.09242 | (06062806) | 631850.94 | 4175929.43 | 260.19485 | (06062806) |
| 631850.60 | 4175949.05 | 238.24691 | (06062806) | 631850.26 | 4175968.66 | 216.19351 | (06062806) |
| 631830.54 | 4175988.13 | 191.20441 | (05102804) | 631811.15 | 4175987.98 | 192.58516 | (06120218) |
| 631791.77 | 4175987.83 | 203.71260 | (07091007) | 631772.39 | 4175987.67 | 231.39232 | (07091007) |
| 631753.00 | 4175987.52 | 256.82121 | (07091007) | 631733.62 | 4175987.37 | 278.19766 | (07091007) |
| 631714.24 | 4175987.22 | 293.80643 | (07091007) | 631694.85 | 4175987.07 | 312.33869 | (07091007) |
| 631675.47 | 4175986.92 | 386.09955 | (07091007) | 631656.09 | 4175986.77 | 402.31731 | (07091007) |
| 631636.70 | 4175986.62 | 377.45479 | (07091007) | 631617.32 | 4175986.46 | 344.05101 | (07091007) |
| 631597.94 | 4175986.31 | 302.65256 | (07091007) | 631578.55 | 4175986.16 | 265.26075 | (04111519) |
| 631559.17 | 4175986.01 | 239.31414 | (04111519) | 631539.79 | 4175985.86 | 207.92347 | (04111519) |
| 631520.40 | 4175985.71 | 177.29306 | (06080606) | 631501.02 | 4175985.56 | 175.55963 | (07030418) |
| 631481.64 | 4175985.40 | 174.26150 | (07080306) | 631462.25 | 4175985.25 | 172.07157 | (07080306) |
| 631442.87 | 4175985.10 | 172.96887 | (07010319) | 631423.49 | 4175984.95 | 171.72956 | (07020208) |
| 631404.10 | 4175984.80 | 185.90867 | (08091907) | 631384.72 | 4175984.65 | 193.86781 | (08091907) |
| 631365.34 | 4175984.50 | 194.76959 | (08091907) | 631345.95 | 4175984.35 | 188.89481 | (08091907) |
| 631326.57 | 4175984.19 | 177.20064 | (08091907) | 631307.19 | 4175984.04 | 161.08519 | (08091907) |
| 631287.80 | 4175983.89 | 158.96161 | (05122507) | | | | |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

NETWORK

| GROUP ID | AVERAGE CONC | RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID |
|---|---|---|
| SLINE1 | 1ST HIGHEST VALUE IS | 44.60841 AT ( 631861.77, 4175301.75, 158.00, 158.00, 0.00) DC |
| | 2ND HIGHEST VALUE IS | 44.35599 AT ( 631861.43, 4175321.37, 158.00, 158.00, 0.00) DC |
| | 3RD HIGHEST VALUE IS | 44.22139 AT ( 631862.10, 4175282.14, 158.00, 158.00, 0.00) DC |
| | 4TH HIGHEST VALUE IS | 43.49104 AT ( 631862.44, 4175262.52, 158.00, 158.00, 0.00) DC |
| | 5TH HIGHEST VALUE IS | 43.08757 AT ( 631861.09, 4175340.98, 158.00, 158.00, 0.00) DC |
| | 6TH HIGHEST VALUE IS | 42.95218 AT ( 631491.93, 4175442.21, 158.00, 158.00, 0.00) DC |
| | 7TH HIGHEST VALUE IS | 41.48004 AT ( 631860.75, 4175360.60, 158.00, 158.00, 0.00) DC |
| | 8TH HIGHEST VALUE IS | 40.30381 AT ( 631860.41, 4175380.21, 158.00, 158.00, 0.00) DC |
| | 9TH HIGHEST VALUE IS | 39.97217 AT ( 631474.06, 4175442.06, 158.00, 158.00, 0.00) DC |
| | 10TH HIGHEST VALUE IS | 39.58140 AT ( 631860.07, 4175399.83, 158.00, 158.00, 0.00) DC |
| SLINE2 | 1ST HIGHEST VALUE IS | 107.65204 AT ( 631423.49, 4175984.95, 158.00, 158.00, 0.00) DC |
| | 2ND HIGHEST VALUE IS | 106.54758 AT ( 631404.10, 4175984.80, 158.00, 158.00, 0.00) DC |
| | 3RD HIGHEST VALUE IS | 106.37902 AT ( 631442.87, 4175985.10, 158.00, 158.00, 0.00) DC |
| | 4TH HIGHEST VALUE IS | 104.83644 AT ( 631384.72, 4175984.65, 158.00, 158.00, 0.00) DC |
| | 5TH HIGHEST VALUE IS | 102.93031 AT ( 631365.34, 4175984.50, 158.00, 158.00, 0.00) DC |
| | 6TH HIGHEST VALUE IS | 100.96499 AT ( 631345.95, 4175984.35, 158.00, 158.00, 0.00) DC |
| | 7TH HIGHEST VALUE IS | 98.92712 AT ( 631326.57, 4175984.19, 158.00, 158.00, 0.00) DC |
| | 8TH HIGHEST VALUE IS | 97.00289 AT ( 631307.19, 4175984.04, 158.00, 158.00, 0.00) DC |
| | 9TH HIGHEST VALUE IS | 95.12138 AT ( 631287.80, 4175983.89, 158.00, 158.00, 0.00) DC |
| | 10TH HIGHEST VALUE IS | 93.28892 AT ( 631268.42, 4175983.74, 158.00, 158.00, 0.00) DC |
| SLINE3 | 1ST HIGHEST VALUE IS | 80.45729 AT ( 631849.92, 4175988.28, 158.00, 158.00, 0.00) DC |
| | 2ND HIGHEST VALUE IS | 79.90610 AT ( 631830.54, 4175988.13, 158.00, 158.00, 0.00) DC |
| | 3RD HIGHEST VALUE IS | 79.34489 AT ( 631811.15, 4175987.98, 158.00, 158.00, 0.00) DC |
| | 4TH HIGHEST VALUE IS | 78.77247 AT ( 631791.77, 4175987.83, 158.00, 158.00, 0.00) DC |
| | 5TH HIGHEST VALUE IS | 78.12619 AT ( 631772.39, 4175987.67, 158.00, 158.00, 0.00) DC |
| | 6TH HIGHEST VALUE IS | 77.51980 AT ( 631753.00, 4175987.52, 158.00, 158.00, 0.00) DC |
| | 7TH HIGHEST VALUE IS | 76.88980 AT ( 631733.62, 4175987.37, 158.00, 158.00, 0.00) DC |
| | 8TH HIGHEST VALUE IS | 76.23165 AT ( 631714.24, 4175987.22, 158.00, 158.00, 0.00) DC |
| | 9TH HIGHEST VALUE IS | 75.53735 AT ( 631694.85, 4175987.07, 158.00, 158.00, 0.00) DC |
| | 10TH HIGHEST VALUE IS | 74.79579 AT ( 631675.47, 4175986.92, 158.00, 158.00, 0.00) DC |
| SLINE4 | 1ST HIGHEST VALUE IS | 68.33518 AT ( 631849.92, 4175988.28, 158.00, 158.00, 0.00) DC |
| | 2ND HIGHEST VALUE IS | 25.91760 AT ( 632250.63, 4175950.44, 158.00, 158.00, 0.00) DC |
| | 3RD HIGHEST VALUE IS | 25.61356 AT ( 632600.63, 4175950.44, 158.00, 158.00, 0.00) DC |
| | 4TH HIGHEST VALUE IS | 15.73965 AT ( 631900.63, 4175950.44, 158.00, 158.00, 0.00) DC |
| | 5TH HIGHEST VALUE IS | 15.28804 AT ( 631850.26, 4175968.66, 158.00, 158.00, 0.00) DC |
| | 6TH HIGHEST VALUE IS | 14.51995 AT ( 631830.54, 4175988.13, 158.00, 158.00, 0.00) DC |
| | 7TH HIGHEST VALUE IS | 8.31317 AT ( 631850.60, 4175949.05, 158.00, 158.00, 0.00) DC |
| | 8TH HIGHEST VALUE IS | 8.01996 AT ( 632950.63, 4175950.44, 158.00, 158.00, 0.00) DC |
| | 9TH HIGHEST VALUE IS | 6.71086 AT ( 631811.15, 4175987.98, 158.00, 158.00, 0.00) DC |
| | 10TH HIGHEST VALUE IS | 5.66821 AT ( 631850.94, 4175929.43, 158.00, 158.00, 0.00) DC |



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | AVERAGE CONC | NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) | OF TYPE GRID-ID |
|---|---|---|---|
| SLINE5 | 1ST HIGHEST VALUE IS | 97.14841 AT ( 631462.25, 4175985.25, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 95.88661 AT ( 631423.49, 4175984.95, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 95.37476 AT ( 631404.10, 4175984.80, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 95.22375 AT ( 631753.00, 4175987.52, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 94.77535 AT ( 631384.72, 4175984.65, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 94.17501 AT ( 631365.34, 4175984.50, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 93.66128 AT ( 631345.95, 4175984.35, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 93.58945 AT ( 631694.85, 4175987.07, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 93.09967 AT ( 631617.32, 4175986.46, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 93.04582 AT ( 631772.39, 4175987.67, 158.00, 158.00, 0.00) | DC |
| STCK1 | 1ST HIGHEST VALUE IS | 38.47248 AT ( 631852.97, 4175811.74, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 29.20670 AT ( 631853.30, 4175792.13, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 23.96028 AT ( 631852.63, 4175831.36, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 18.04640 AT ( 631852.29, 4175850.97, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 14.96747 AT ( 631851.95, 4175870.59, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 11.48198 AT ( 631851.61, 4175890.20, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 9.80118 AT ( 631851.27, 4175909.82, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 8.12587 AT ( 631853.64, 4175772.51, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 7.84236 AT ( 631850.94, 4175929.43, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 6.19877 AT ( 631850.60, 4175949.05, 158.00, 158.00, 0.00) | DC |
| STCK10 | 1ST HIGHEST VALUE IS | 17.16308 AT ( 631859.73, 4175419.44, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 16.94317 AT ( 631860.07, 4175399.83, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 16.48178 AT ( 631860.41, 4175380.21, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 16.01653 AT ( 631859.40, 4175439.06, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 15.54194 AT ( 631860.75, 4175360.60, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 14.16411 AT ( 631861.09, 4175340.98, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 13.62577 AT ( 631859.06, 4175458.67, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 12.51444 AT ( 631861.43, 4175321.37, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 10.82440 AT ( 631861.77, 4175301.75, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 10.78339 AT ( 631491.93, 4175414.95, 158.00, 158.00, 0.00) | DC |
| STCK11 | 1ST HIGHEST VALUE IS | 45.79931 AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 27.01346 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 25.97704 AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 11.91044 AT ( 631417.17, 4175826.85, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 10.71469 AT ( 631855.33, 4175674.44, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 10.62011 AT ( 631855.67, 4175654.82, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 10.58721 AT ( 631855.00, 4175694.05, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 10.28048 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 10.27816 AT ( 631854.66, 4175713.67, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 10.16858 AT ( 631665.32, 4175796.39, 158.00, 158.00, 0.00) | DC |



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*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | | AVERAGE CONC | RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) | NETWORK OF TYPE GRID-ID |
|---|---|---|---|---|
| STCK12 | 1ST HIGHEST VALUE IS | 135.87124 | AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 31.30458 | AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 24.26039 | AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 15.31483 | AT ( 631670.70, 4175493.59, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 11.69526 | AT ( 631491.93, 4175442.21, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 10.50218 | AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 10.42959 | AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 10.37106 | AT ( 631857.37, 4175556.75, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 10.17480 | AT ( 631856.35, 4175615.59, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 10.02039 | AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) | DC |
| STCK13 | 1ST HIGHEST VALUE IS | 76.09948 | AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 27.41590 | AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 23.73647 | AT ( 631272.53, 4175723.88, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 23.32171 | AT ( 631272.85, 4175703.89, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 22.56734 | AT ( 631272.21, 4175743.87, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 20.84602 | AT ( 631273.16, 4175683.90, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 19.06022 | AT ( 631271.90, 4175763.86, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 17.42970 | AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 16.48820 | AT ( 631273.48, 4175663.91, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 15.90604 | AT ( 631271.58, 4175783.85, 158.00, 158.00, 0.00) | DC |
| STCK14 | 1ST HIGHEST VALUE IS | 55.50322 | AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 16.92300 | AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 16.75059 | AT ( 631274.43, 4175603.95, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 16.66788 | AT ( 631274.74, 4175583.96, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 15.85179 | AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 14.87789 | AT ( 631491.93, 4175442.21, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 14.68014 | AT ( 631474.06, 4175442.06, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 14.37319 | AT ( 631275.06, 4175563.97, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 13.72654 | AT ( 631274.11, 4175623.94, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 12.15859 | AT ( 631275.37, 4175543.98, 158.00, 158.00, 0.00) | DC |
| STCK15 | 1ST HIGHEST VALUE IS | 68.68354 | AT ( 631852.97, 4175811.74, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 54.87852 | AT ( 631853.30, 4175792.13, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 36.11460 | AT ( 631852.63, 4175831.36, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 23.56994 | AT ( 631852.29, 4175850.97, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 18.11573 | AT ( 631851.95, 4175870.59, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 13.32598 | AT ( 631851.61, 4175890.20, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 12.81883 | AT ( 631853.64, 4175772.51, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 11.05391 | AT ( 631851.27, 4175909.82, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 8.80238 | AT ( 631850.94, 4175929.43, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 6.90889 | AT ( 631850.60, 4175949.05, 158.00, 158.00, 0.00) | DC |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | AVERAGE CONC | RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) | NETWORK OF TYPE GRID-ID |
|---|---|---|---|
| STCK16 | 1ST HIGHEST VALUE IS | 121.59003 AT ( 631855.00, 4175694.05, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 117.29148 AT ( 631854.66, 4175713.67, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 66.81704 AT ( 631855.33, 4175674.44, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 58.29163 AT ( 631854.32, 4175733.28, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 34.28283 AT ( 631855.67, 4175654.82, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 30.81879 AT ( 631853.98, 4175752.90, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 17.54707 AT ( 631853.64, 4175772.51, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 17.28785 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 14.88154 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 12.92290 AT ( 631853.30, 4175792.13, 158.00, 158.00, 0.00) | DC |
| STCK17 | 1ST HIGHEST VALUE IS | 159.37853 AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 106.59129 AT ( 631856.35, 4175615.59, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 97.12828 AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 87.40733 AT ( 631900.63, 4175600.44, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 56.38339 AT ( 631857.37, 4175556.75, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 46.68333 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 40.42467 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 36.48170 AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 25.70592 AT ( 631858.04, 4175517.52, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 24.44585 AT ( 631855.67, 4175654.82, 158.00, 158.00, 0.00) | DC |
| STCK18 | 1ST HIGHEST VALUE IS | 140.43305 AT ( 631858.38, 4175497.90, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 109.56955 AT ( 631858.72, 4175478.29, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 91.16003 AT ( 631858.04, 4175517.52, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 79.83697 AT ( 631859.06, 4175458.67, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 54.34537 AT ( 631859.40, 4175439.06, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 42.56515 AT ( 631670.70, 4175493.59, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 39.12984 AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 38.10954 AT ( 631859.73, 4175419.44, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 32.91539 AT ( 631860.07, 4175399.83, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 25.88334 AT ( 631860.41, 4175380.21, 158.00, 158.00, 0.00) | DC |
| STCK19 | 1ST HIGHEST VALUE IS | 96.52970 AT ( 631860.07, 4175399.83, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 82.03993 AT ( 631860.41, 4175380.21, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 61.01911 AT ( 631860.75, 4175360.60, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 46.82771 AT ( 631861.09, 4175340.98, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 43.58331 AT ( 631859.73, 4175419.44, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 38.37840 AT ( 631861.43, 4175321.37, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 26.34210 AT ( 631861.77, 4175301.75, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 23.21199 AT ( 631670.70, 4175493.59, 158.00, 158.00, 0.00) | DC |

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | AVERAGE CONC | NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID |
|---|---|---|
| STCK2 | 1ST HIGHEST VALUE IS | 87.55917 AT ( 631854.66, 4175713.67, 158.00, 158.00, 0.00) DC |
| | 2ND HIGHEST VALUE IS | 85.73752 AT ( 631855.00, 4175694.05, 158.00, 158.00, 0.00) DC |
| | 3RD HIGHEST VALUE IS | 53.21937 AT ( 631855.33, 4175674.44, 158.00, 158.00, 0.00) DC |
| | 4TH HIGHEST VALUE IS | 48.35829 AT ( 631854.32, 4175733.28, 158.00, 158.00, 0.00) DC |
| | 5TH HIGHEST VALUE IS | 29.82631 AT ( 631855.67, 4175654.82, 158.00, 158.00, 0.00) DC |
| | 6TH HIGHEST VALUE IS | 26.50261 AT ( 631853.98, 4175752.90, 158.00, 158.00, 0.00) DC |
| | 7TH HIGHEST VALUE IS | 15.71327 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) DC |
| | 8TH HIGHEST VALUE IS | 14.99369 AT ( 631853.64, 4175772.51, 158.00, 158.00, 0.00) DC |
| | 9TH HIGHEST VALUE IS | 12.98264 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) DC |
| | 10TH HIGHEST VALUE IS | 10.77699 AT ( 631853.30, 4175792.13, 158.00, 158.00, 0.00) DC |
| STCK20 | 1ST HIGHEST VALUE IS | 18.01802 AT ( 631854.32, 4175733.28, 158.00, 158.00, 0.00) DC |
| | 2ND HIGHEST VALUE IS | 16.20738 AT ( 631853.30, 4175792.13, 158.00, 158.00, 0.00) DC |
| | 3RD HIGHEST VALUE IS | 15.90091 AT ( 631852.97, 4175811.74, 158.00, 158.00, 0.00) DC |
| | 4TH HIGHEST VALUE IS | 15.54189 AT ( 631853.64, 4175772.51, 158.00, 158.00, 0.00) DC |
| | 5TH HIGHEST VALUE IS | 14.60697 AT ( 631852.63, 4175831.36, 158.00, 158.00, 0.00) DC |
| | 6TH HIGHEST VALUE IS | 14.58934 AT ( 631854.66, 4175713.67, 158.00, 158.00, 0.00) DC |
| | 7TH HIGHEST VALUE IS | 14.11964 AT ( 631853.98, 4175752.90, 158.00, 158.00, 0.00) DC |
| | 8TH HIGHEST VALUE IS | 12.60748 AT ( 631852.29, 4175850.97, 158.00, 158.00, 0.00) DC |
| | 9TH HIGHEST VALUE IS | 11.16098 AT ( 631665.32, 4175796.39, 158.00, 158.00, 0.00) DC |
| | 10TH HIGHEST VALUE IS | 10.88062 AT ( 631855.00, 4175694.05, 158.00, 158.00, 0.00) DC |
| STCK21 | 1ST HIGHEST VALUE IS | 32.72942 AT ( 631855.67, 4175654.82, 158.00, 158.00, 0.00) DC |
| | 2ND HIGHEST VALUE IS | 32.04081 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) DC |
| | 3RD HIGHEST VALUE IS | 32.02370 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) DC |
| | 4TH HIGHEST VALUE IS | 30.36142 AT ( 631855.33, 4175674.44, 158.00, 158.00, 0.00) DC |
| | 5TH HIGHEST VALUE IS | 28.52582 AT ( 631856.35, 4175615.59, 158.00, 158.00, 0.00) DC |
| | 6TH HIGHEST VALUE IS | 26.67967 AT ( 631855.00, 4175694.05, 158.00, 158.00, 0.00) DC |
| | 7TH HIGHEST VALUE IS | 23.38247 AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) DC |
| | 8TH HIGHEST VALUE IS | 22.23635 AT ( 631854.66, 4175713.67, 158.00, 158.00, 0.00) DC |
| | 9TH HIGHEST VALUE IS | 18.83234 AT ( 631854.32, 4175733.28, 158.00, 158.00, 0.00) DC |
| | 10TH HIGHEST VALUE IS | 17.75795 AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) DC |
| STCK22 | 1ST HIGHEST VALUE IS | 34.40100 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) DC |
| | 2ND HIGHEST VALUE IS | 27.52499 AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) DC |
| | 3RD HIGHEST VALUE IS | 26.58801 AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) DC |
| | 4TH HIGHEST VALUE IS | 25.79135 AT ( 631857.37, 4175556.75, 158.00, 158.00, 0.00) DC |
| | 5TH HIGHEST VALUE IS | 22.91834 AT ( 631856.35, 4175615.59, 158.00, 158.00, 0.00) DC |

6TH HIGHEST VALUE IS 19.70016 AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) DC
7TH HIGHEST VALUE IS 18.84490 AT ( 631858.04, 4175517.52, 158.00, 158.00, 0.00) DC
8TH HIGHEST VALUE IS 18.69294 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) DC
9TH HIGHEST VALUE IS 17.88264 AT ( 631858.38, 4175497.90, 158.00, 158.00, 0.00) DC
10TH HIGHEST VALUE IS 16.69720 AT ( 631858.72, 4175478.29, 158.00, 158.00, 0.00) DC



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | AVERAGE CONC | RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE | NETWORK GRID-ID |
|---|---|---|---|
| STCK23 | 1ST HIGHEST VALUE IS | 44.35984 AT ( 631670.70, 4175493.59, 158.00, 158.00, 0.00) DC | |
| | 2ND HIGHEST VALUE IS | 29.35119 AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) DC | |
| | 3RD HIGHEST VALUE IS | 27.90446 AT ( 631857.37, 4175556.75, 158.00, 158.00, 0.00) DC | |
| | 4TH HIGHEST VALUE IS | 27.58204 AT ( 631858.04, 4175517.52, 158.00, 158.00, 0.00) DC | |
| | 5TH HIGHEST VALUE IS | 24.24605 AT ( 631858.38, 4175497.90, 158.00, 158.00, 0.00) DC | |
| | 6TH HIGHEST VALUE IS | 21.21219 AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) DC | |
| | 7TH HIGHEST VALUE IS | 20.84353 AT ( 631858.72, 4175478.29, 158.00, 158.00, 0.00) DC | |
| | 8TH HIGHEST VALUE IS | 18.45750 AT ( 631859.06, 4175458.67, 158.00, 158.00, 0.00) DC | |
| | 9TH HIGHEST VALUE IS | 16.93631 AT ( 631491.93, 4175442.21, 158.00, 158.00, 0.00) DC | |
| | 10TH HIGHEST VALUE IS | 16.51266 AT ( 631859.40, 4175439.06, 158.00, 158.00, 0.00) DC | |
| STCK24 | 1ST HIGHEST VALUE IS | 17.54030 AT ( 631859.73, 4175419.44, 158.00, 158.00, 0.00) DC | |
| | 2ND HIGHEST VALUE IS | 17.32053 AT ( 631860.07, 4175399.83, 158.00, 158.00, 0.00) DC | |
| | 3RD HIGHEST VALUE IS | 16.81296 AT ( 631860.41, 4175380.21, 158.00, 158.00, 0.00) DC | |
| | 4TH HIGHEST VALUE IS | 16.38301 AT ( 631859.40, 4175439.06, 158.00, 158.00, 0.00) DC | |
| | 5TH HIGHEST VALUE IS | 15.80337 AT ( 631860.75, 4175360.60, 158.00, 158.00, 0.00) DC | |
| | 6TH HIGHEST VALUE IS | 14.86206 AT ( 631491.93, 4175414.95, 158.00, 158.00, 0.00) DC | |
| | 7TH HIGHEST VALUE IS | 14.36354 AT ( 631861.09, 4175340.98, 158.00, 158.00, 0.00) DC | |
| | 8TH HIGHEST VALUE IS | 13.91292 AT ( 631859.06, 4175458.67, 158.00, 158.00, 0.00) DC | |
| | 9TH HIGHEST VALUE IS | 12.67787 AT ( 631861.43, 4175321.37, 158.00, 158.00, 0.00) DC | |
| | 10TH HIGHEST VALUE IS | 11.16415 AT ( 631491.93, 4175428.58, 158.00, 158.00, 0.00) DC | |
| STCK25 | 1ST HIGHEST VALUE IS | 53.70963 AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) DC | |
| | 2ND HIGHEST VALUE IS | 29.34453 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) DC | |
| | 3RD HIGHEST VALUE IS | 29.16184 AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) DC | |
| | 4TH HIGHEST VALUE IS | 13.01970 AT ( 631417.17, 4175826.85, 158.00, 158.00, 0.00) DC | |
| | 5TH HIGHEST VALUE IS | 11.31110 AT ( 631665.32, 4175796.39, 158.00, 158.00, 0.00) DC | |
| | 6TH HIGHEST VALUE IS | 11.28040 AT ( 631855.33, 4175674.44, 158.00, 158.00, 0.00) DC | |
| | 7TH HIGHEST VALUE IS | 11.17797 AT ( 631855.00, 4175694.05, 158.00, 158.00, 0.00) DC | |
| | 8TH HIGHEST VALUE IS | 11.15063 AT ( 631855.67, 4175654.82, 158.00, 158.00, 0.00) DC | |
| | 9TH HIGHEST VALUE IS | 10.88176 AT ( 631854.66, 4175713.67, 158.00, 158.00, 0.00) DC | |
| | 10TH HIGHEST VALUE IS | 10.76873 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) DC | |
| STCK26 | 1ST HIGHEST VALUE IS | 179.67875 AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) DC | |
| | 2ND HIGHEST VALUE IS | 35.80115 AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) DC | |

*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | | AVERAGE CONC | RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) | OF TYPE GRID-ID |
|---|---|---|---|---|
| STCK27 | 1ST HIGHEST VALUE IS | 83.98880 | AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 29.16895 | AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 28.19009 | AT ( 631272.53, 4175723.88, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 27.87743 | AT ( 631272.85, 4175703.89, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 26.57681 | AT ( 631272.21, 4175743.87, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 24.94755 | AT ( 631273.16, 4175683.90, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 22.19423 | AT ( 631271.90, 4175763.86, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 19.51150 | AT ( 631273.48, 4175663.91, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 18.34279 | AT ( 631271.58, 4175783.85, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 17.57994 | AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| STCK28 | 1ST HIGHEST VALUE IS | 57.58289 | AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 21.45340 | AT ( 631274.43, 4175603.95, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 21.45314 | AT ( 631274.74, 4175583.96, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 18.64767 | AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 18.20460 | AT ( 631275.06, 4175563.97, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 17.30775 | AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 16.83669 | AT ( 631274.11, 4175623.94, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 15.83328 | AT ( 631491.93, 4175442.21, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 15.73379 | AT ( 631474.06, 4175442.06, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 15.14943 | AT ( 631275.37, 4175543.98, 158.00, 158.00, 0.00) | DC |
| STCK3 | 1ST HIGHEST VALUE IS | 118.38626 | AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) | DC |
| | 2ND HIGHEST VALUE IS | 81.64816 | AT ( 631856.35, 4175615.59, 158.00, 158.00, 0.00) | DC |
| | 3RD HIGHEST VALUE IS | 78.55349 | AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) | DC |
| | 4TH HIGHEST VALUE IS | 69.19602 | AT ( 631900.63, 4175600.44, 158.00, 158.00, 0.00) | DC |
| | 5TH HIGHEST VALUE IS | 49.28817 | AT ( 631857.37, 4175556.75, 158.00, 158.00, 0.00) | DC |
| | 6TH HIGHEST VALUE IS | 39.63827 | AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) | DC |
| | 7TH HIGHEST VALUE IS | 35.07432 | AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) | DC |
| | 8TH HIGHEST VALUE IS | 32.34582 | AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) | DC |
| | 9TH HIGHEST VALUE IS | 22.97847 | AT ( 631858.04, 4175517.52, 158.00, 158.00, 0.00) | DC |
| | 10TH HIGHEST VALUE IS | 21.33316 | AT ( 631855.67, 4175654.82, 158.00, 158.00, 0.00) | DC |

STCK4 1ST HIGHEST VALUE IS 103.62968 AT ( 631858.38, 4175497.90, 158.00, 158.00, 0.00) DC
2ND HIGHEST VALUE IS 88.62533 AT ( 631858.72, 4175478.29, 158.00, 158.00, 0.00) DC
3RD HIGHEST VALUE IS 70.31358 AT ( 631858.04, 4175517.52, 158.00, 158.00, 0.00) DC
4TH HIGHEST VALUE IS 69.15486 AT ( 631859.06, 4175458.67, 158.00, 158.00, 0.00) DC
5TH HIGHEST VALUE IS 47.56123 AT ( 631859.40, 4175439.06, 158.00, 158.00, 0.00) DC
6TH HIGHEST VALUE IS 33.66356 AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) DC
7TH HIGHEST VALUE IS 33.39683 AT ( 631859.73, 4175419.44, 158.00, 158.00, 0.00) DC
8TH HIGHEST VALUE IS 32.04930 AT ( 631670.70, 4175493.59, 158.00, 158.00, 0.00) DC
9TH HIGHEST VALUE IS 29.02112 AT ( 631860.07, 4175399.83, 158.00, 158.00, 0.00) DC
10TH HIGHEST VALUE IS 22.87187 AT ( 631860.41, 4175380.21, 158.00, 158.00, 0.00) DC



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | AVERAGE CONC | NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID |
|---|---|---|

STCK5 1ST HIGHEST VALUE IS 62.60845 AT ( 631860.07, 4175399.83, 158.00, 158.00, 0.00) DC
2ND HIGHEST VALUE IS 58.78541 AT ( 631860.41, 4175380.21, 158.00, 158.00, 0.00) DC
3RD HIGHEST VALUE IS 50.29488 AT ( 631860.75, 4175360.60, 158.00, 158.00, 0.00) DC
4TH HIGHEST VALUE IS 41.11948 AT ( 631861.09, 4175340.98, 158.00, 158.00, 0.00) DC
5TH HIGHEST VALUE IS 34.77788 AT ( 631861.43, 4175321.37, 158.00, 158.00, 0.00) DC
6TH HIGHEST VALUE IS 29.60531 AT ( 631859.73, 4175419.44, 158.00, 158.00, 0.00) DC
7TH HIGHEST VALUE IS 24.08532 AT ( 631861.77, 4175301.75, 158.00, 158.00, 0.00) DC
8TH HIGHEST VALUE IS 20.80322 AT ( 631670.70, 4175493.59, 158.00, 158.00, 0.00) DC
9TH HIGHEST VALUE IS 17.26183 AT ( 631862.10, 4175282.14, 158.00, 158.00, 0.00) DC
10TH HIGHEST VALUE IS 13.72538 AT ( 631862.44, 4175262.52, 158.00, 158.00, 0.00) DC

STCK6 1ST HIGHEST VALUE IS 17.58606 AT ( 631854.32, 4175733.28, 158.00, 158.00, 0.00) DC
2ND HIGHEST VALUE IS 15.78339 AT ( 631853.30, 4175792.13, 158.00, 158.00, 0.00) DC
3RD HIGHEST VALUE IS 15.45452 AT ( 631852.97, 4175811.74, 158.00, 158.00, 0.00) DC
4TH HIGHEST VALUE IS 15.18750 AT ( 631853.64, 4175772.51, 158.00, 158.00, 0.00) DC
5TH HIGHEST VALUE IS 14.23327 AT ( 631854.66, 4175713.67, 158.00, 158.00, 0.00) DC
6TH HIGHEST VALUE IS 14.20427 AT ( 631852.63, 4175831.36, 158.00, 158.00, 0.00) DC
7TH HIGHEST VALUE IS 13.84060 AT ( 631853.98, 4175752.90, 158.00, 158.00, 0.00) DC
8TH HIGHEST VALUE IS 12.27492 AT ( 631852.29, 4175850.97, 158.00, 158.00, 0.00) DC
9TH HIGHEST VALUE IS 10.57841 AT ( 631855.00, 4175694.05, 158.00, 158.00, 0.00) DC
10TH HIGHEST VALUE IS 10.41440 AT ( 631665.32, 4175796.39, 158.00, 158.00, 0.00) DC

STCK7 1ST HIGHEST VALUE IS 31.15243 AT ( 631855.67, 4175654.82, 158.00, 158.00, 0.00) DC
2ND HIGHEST VALUE IS 30.37946 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) DC
3RD HIGHEST VALUE IS 29.69476 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) DC
4TH HIGHEST VALUE IS 29.15111 AT ( 631855.33, 4175674.44, 158.00, 158.00, 0.00) DC
5TH HIGHEST VALUE IS 27.07434 AT ( 631856.35, 4175615.59, 158.00, 158.00, 0.00) DC
6TH HIGHEST VALUE IS 25.93604 AT ( 631855.00, 4175694.05, 158.00, 158.00, 0.00) DC
7TH HIGHEST VALUE IS 22.31205 AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) DC

8TH HIGHEST VALUE IS 21.80781 AT ( 631854.66, 4175713.67, 158.00, 158.00, 0.00) DC
9TH HIGHEST VALUE IS 18.54790 AT ( 631854.32, 4175733.28, 158.00, 158.00, 0.00) DC
10TH HIGHEST VALUE IS 16.92147 AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) DC

STCK8 1ST HIGHEST VALUE IS 31.57105 AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) DC
2ND HIGHEST VALUE IS 26.80137 AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) DC
3RD HIGHEST VALUE IS 25.98617 AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) DC
4TH HIGHEST VALUE IS 25.22231 AT ( 631857.37, 4175556.75, 158.00, 158.00, 0.00) DC
5TH HIGHEST VALUE IS 22.49612 AT ( 631856.35, 4175615.59, 158.00, 158.00, 0.00) DC
6TH HIGHEST VALUE IS 19.35751 AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) DC
7TH HIGHEST VALUE IS 18.36456 AT ( 631856.01, 4175635.21, 158.00, 158.00, 0.00) DC
8TH HIGHEST VALUE IS 18.29762 AT ( 631858.04, 4175517.52, 158.00, 158.00, 0.00) DC
9TH HIGHEST VALUE IS 17.14202 AT ( 631858.38, 4175497.90, 158.00, 158.00, 0.00) DC
10TH HIGHEST VALUE IS 16.22002 AT ( 631900.63, 4175600.44, 158.00, 158.00, 0.00) DC



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | AVERAGE CONC | RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE | NETWORK GRID-ID |
|---|---|---|---|
| STCK9 | 1ST HIGHEST VALUE IS | 40.29938 AT ( 631670.70, 4175493.59, 158.00, 158.00, 0.00) DC | |
| | 2ND HIGHEST VALUE IS | 27.84799 AT ( 631857.70, 4175537.13, 158.00, 158.00, 0.00) DC | |
| | 3RD HIGHEST VALUE IS | 26.54224 AT ( 631858.04, 4175517.52, 158.00, 158.00, 0.00) DC | |
| | 4TH HIGHEST VALUE IS | 26.19544 AT ( 631857.37, 4175556.75, 158.00, 158.00, 0.00) DC | |
| | 5TH HIGHEST VALUE IS | 23.66494 AT ( 631858.38, 4175497.90, 158.00, 158.00, 0.00) DC | |
| | 6TH HIGHEST VALUE IS | 20.56445 AT ( 631858.72, 4175478.29, 158.00, 158.00, 0.00) DC | |
| | 7TH HIGHEST VALUE IS | 19.89462 AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) DC | |
| | 8TH HIGHEST VALUE IS | 18.31262 AT ( 631859.06, 4175458.67, 158.00, 158.00, 0.00) DC | |
| | 9TH HIGHEST VALUE IS | 16.39219 AT ( 631859.40, 4175439.06, 158.00, 158.00, 0.00) DC | |
| | 10TH HIGHEST VALUE IS | 14.27064 AT ( 631491.93, 4175442.21, 158.00, 158.00, 0.00) DC | |

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | AVERAGE CONC | DATE (YYMMDDHH) | NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) | OF TYPE | GRID-ID |
|---|---|---|---|---|---|
| SLINE1 | HIGH 1ST HIGH VALUE IS | 514.90866 | ON 07011417: AT ( 631384.72, 4175441.30, 158.00, 158.00, 0.00) | DC | |
| SLINE2 | HIGH 1ST HIGH VALUE IS | 1130.92896 | ON 05121217: AT ( 631442.87, 4175985.10, 158.00, 158.00, 0.00) | DC | |
| SLINE3 | HIGH 1ST HIGH VALUE IS | 833.40243 | ON 04121304: AT ( 631849.92, 4175988.28, 158.00, 158.00, 0.00) | DC | |
| SLINE4 | HIGH 1ST HIGH VALUE IS | 1383.55531 | ON 04121304: AT ( 631849.92, 4175988.28, 158.00, 158.00, 0.00) | DC | |
| SLINE5 | HIGH 1ST HIGH VALUE IS | 1016.43548 | ON 08011019: AT ( 631753.00, 4175987.52, 158.00, 158.00, 0.00) | DC | |
| STCK1 | HIGH 1ST HIGH VALUE IS | 1675.10273 | ON 06062806: AT ( 631851.95, 4175870.59, 158.00, 158.00, 0.00) | DC | |
| STCK10 | HIGH 1ST HIGH VALUE IS | 861.20813 | ON 06011109: AT ( 631488.30, 4175286.39, 158.00, 158.00, 0.00) | DC | |
| STCK11 | HIGH 1ST HIGH VALUE IS | 1152.42675 | ON 05061703: AT ( 631270.95, 4175823.83, 158.00, 158.00, 0.00) | DC | |
| STCK12 | HIGH 1ST HIGH VALUE IS | 2427.14569 | ON 05012118: AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) | DC | |
| STCK13 | HIGH 1ST HIGH VALUE IS | 1915.64087 | ON 05111817: AT ( 631272.53, 4175723.88, 158.00, 158.00, 0.00) | DC | |
| STCK14 | HIGH 1ST HIGH VALUE IS | 1770.18135 | ON 05071702: AT ( 631274.43, 4175603.95, 158.00, 158.00, 0.00) | DC | |
| STCK15 | HIGH 1ST HIGH VALUE IS | 1960.47008 | ON 06062806: AT ( 631851.95, 4175870.59, 158.00, 158.00, 0.00) | DC | |
| STCK16 | HIGH 1ST HIGH VALUE IS | 2691.70471 | ON 06111908: AT ( 631854.32, 4175733.28, 158.00, 158.00, 0.00) | DC | |
| STCK17 | HIGH 1ST HIGH VALUE IS | 2800.14303 | ON 04030118: AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) | DC | |
| STCK18 | HIGH 1ST HIGH VALUE IS | 2955.08296 | ON 06052002: AT ( 631859.06, 4175458.67, 158.00, 158.00, 0.00) | DC | |
| STCK19 | HIGH 1ST HIGH VALUE IS | 1957.54720 | ON 05111917: AT ( 631860.75, 4175360.60, 158.00, 158.00, 0.00) | DC | |
| STCK2 | HIGH 1ST HIGH VALUE IS | 1891.31800 | ON 06111908: AT ( 631854.32, 4175733.28, 158.00, 158.00, 0.00) | DC | |

STCK20 HIGH 1ST HIGH VALUE IS 809.43033 ON 07030418: AT ( 631550.63, 4175950.44, 158.00, 158.00, 0.00) DC

STCK21 HIGH 1ST HIGH VALUE IS 1431.10108 ON 04041821: AT ( 631417.17, 4175673.66, 158.00, 158.00, 0.00) DC

STCK22 HIGH 1ST HIGH VALUE IS 1033.93356 ON 04030118: AT ( 631857.03, 4175576.36, 158.00, 158.00, 0.00) DC

STCK23 HIGH 1ST HIGH VALUE IS 1897.87781 ON 05072102: AT ( 631456.19, 4175441.91, 158.00, 158.00, 0.00) DC

STCK24 HIGH 1ST HIGH VALUE IS 1231.00298 ON 08081806: AT ( 631670.70, 4175493.59, 158.00, 158.00, 0.00) DC

STCK25 HIGH 1ST HIGH VALUE IS 1429.18391 ON 05061703: AT ( 631270.95, 4175823.83, 158.00, 158.00, 0.00) DC

STCK26 HIGH 1ST HIGH VALUE IS 3524.82683 ON 05020803: AT ( 631550.63, 4175600.44, 158.00, 158.00, 0.00) DC

STCK27 HIGH 1ST HIGH VALUE IS 2630.38096 ON 04041821: AT ( 631273.16, 4175683.90, 158.00, 158.00, 0.00) DC



*** MODELOPTs: NonDFAULT CONC FLAT RURAL ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

| GROUP ID | AVERAGE CONC | DATE (YYMMDDHH) | NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID |
|---|---|---|---|

STCK28 HIGH 1ST HIGH VALUE IS 2457.59634 ON 05071702: AT ( 631274.43, 4175603.95, 158.00, 158.00, 0.00) DC

STCK3 HIGH 1ST HIGH VALUE IS 1741.02451 ON 04030118: AT ( 631856.69, 4175595.98, 158.00, 158.00, 0.00) DC

STCK4 HIGH 1ST HIGH VALUE IS 2237.09373 ON 06052002: AT ( 631859.06, 4175458.67, 158.00, 158.00, 0.00) DC

STCK5 HIGH 1ST HIGH VALUE IS 1486.33672 ON 04042519: AT ( 631860.75, 4175360.60, 158.00, 158.00, 0.00) DC

STCK6 HIGH 1ST HIGH VALUE IS 786.79956 ON 04101820: AT ( 631669.80, 4175641.41, 158.00, 158.00, 0.00) DC

STCK7 HIGH 1ST HIGH VALUE IS 1159.34416 ON 04041821: AT ( 631417.17, 4175673.66, 158.00, 158.00,

0.00)  DC

STCK8    HIGH   1ST HIGH VALUE IS     849.19178  ON 06051905: AT (  631422.55,  4175484.63,   158.00,   158.00,
0.00)  DC

STCK9    HIGH   1ST HIGH VALUE IS    1737.09080  ON 05072102: AT (  631456.19,  4175441.91,   158.00,   158.00,
0.00)  DC

*** RECEPTOR TYPES:  GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
*** AERMOD - VERSION  19191 ***   *** C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy C ***  06/06/22
*** AERMET - VERSION  18081 ***   ***  ***  12:14:02
PAGE 364
*** MODELOPTs:  NonDFAULT  CONC  FLAT  RURAL  ADJ_U*

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of  0 Fatal Error Message(s)
A Total of  15 Warning Message(s)
A Total of  375 Informational Message(s)

A Total of  43848 Hours Were Processed

A Total of  375 Calm Hours Identified

A Total of  0 Missing Hours Identified (  0.00 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********

| | | | |
|---|---|---|---|
| SO W320 | 4660 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4661 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4662 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4663 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4664 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4665 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4666 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4667 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4668 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4669 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4670 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4671 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4672 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| SO W320 | 4673 | PPARM: Input Parameter May Be Out-of-Range for Parameter | VS |
| ME W187 | 6403 | MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET | |

**********

*** AERMOD Finishes Successfully ***
**********

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# Appendix 4 – HARP2 Output File:

HARP2 - HRACalc (dated 21081) 6/8/2022 6:35:57 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCAcute
Calculation Method: Derived

**********
EXPOSURE DURATION PARAMETERS FOR CANCER
**Exposure duration are only adjusted for cancer assessments**

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: LongTerm24HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

**********
TIER 2 SETTINGS
Tier2 not used.

**********

Calculating acute risk

Acute risk breakdown by pollutant and receptor saved to: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\HARP2\TRACYV2\hra\AcuteNCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\HARP2\TRACYV2\hra\AcuteNCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 21081) 6/8/2022 6:35:40 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCChronic
Calculation Method: HighEnd

**********
EXPOSURE DURATION PARAMETERS FOR CANCER
**Exposure duration are only adjusted for cancer assessments**

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: LongTerm24HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

**********
TIER 2 SETTINGS
Tier2 not used.

**********

Calculating chronic risk

Chronic risk breakdown by pollutant and receptor saved to: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\HARP2\TRACYV2\hra\ChronicNCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\HARP2\TRACYV2\hra\ChronicNCChronicRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 21081) 6/8/2022 6:18:15 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: HighEnd

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 70

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 0
16 to 70 Years Bin: 54

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: True
Fish: True
Homegrown crops: True
Beef: True
Dairy: True
Pig: True
Chicken: True
Egg: True

**********
INHALATION

Daily breathing rate: LongTerm24HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

**********
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

**********
WATER PATHWAY SETTINGS

Surface area (m^2): 0
Volume (kg): 0
Volume changes per year: 0
Fraction from contaminated source: 0

**********
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

**********
FISH PATHWAY SETTINGS

Surface area (m^2): 0
Volume (kg): 0
Volume changes per year: 0
Fraction from contaminated source: 0

**********
BEEF & DAIRY PATHWAY SETTINGS

Surface area (m^2): 0
Volume (kg): 0
Volume changes per year: 0

Beef
Fraction consumed from contaminated water source: 0
Fraction consumed of contaminated grazing: 0.5

Dairy
Fraction consumed from contaminated water source: 0
Fraction consumed of contaminated grazing: 0.5

**********
PIG, CHICKEN, & EGG PATHWAY SETTINGS

Surface area (m^2): 0
Volume (kg): 0
Volume changes per year: 0

Pig
Fraction consumed from contaminated water source: 0
Fraction consumed of contaminated leafy crop: 0.25
Fraction consumed of contaminated exposed crop: 0.25
Fraction consumed of contaminated protected crop: 0.25
Fraction consumed of contaminated root crop: 0.25

Chicken
Fraction consumed from contaminated water source: 0
Fraction consumed of contaminated leafy crop: 0.25
Fraction consumed of contaminated exposed crop: 0.25
Fraction consumed of contaminated protected crop: 0.25
Fraction consumed of contaminated root crop: 0.25

Egg
Fraction consumed from contaminated water source: 0
Fraction consumed of contaminated leafy crop: 0.25
Fraction consumed of contaminated exposed crop: 0.25
Fraction consumed of contaminated protected crop: 0.25
Fraction consumed of contaminated root crop: 0.25

**********
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment.  Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\HARP2\TRACYV2\hra\Residential CancerCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\HARP2\TRACYV2\hra\Residential CancerCancerRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 21081) 6/8/2022 6:29:33 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: Cancer
Calculation Method: HighEnd

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 40

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 40

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: Moderate8HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

**********
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

**********
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment.  Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\HARP2\TRACYV2\hra\Workplace CancerCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\Smith\Dropbox\My PC (DESKTOP-977GSBU)\Documents\HRA\Tracy Costco DepotV2\HARP2\TRACYV2\hra\Workplace CancerCancerRiskSumByRec.csv
HRA ran successfully

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# APPENDIX B.4

## Analysis of Models and Tools to Correlate Project-Generated Pollutants to Health End Points

# APPENDIX B

Appendix B of the Draft EIR includes additional information regarding models and tools for correlating project-generated criteria pollutant emissions to health end points. The following table is an addition to Appendix B.

***ANALYSIS OF MODELS AND TOOLS TO CORRELATE PROJECT-GENERATED CRITERIA POLLUTANT EMISSIONS TO HEALTH END POINTS***

| TOOL | CREATED BY | DESCRIPTION | RESOLUTION | POLLUTANTS ANALYZED | PROJECT-LEVEL CEQA APPLICABILITY |
|---|---|---|---|---|---|
| AERMOD Modeling System[1,2] | AERMIC | A steady-state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. The modeling system incorporates air dispersion based on a planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. | Project-level | $SO_2$, ROG, $NO_2$, Lead, $PM_{2.5}$, $PM_{10}$, $NH_3$ | This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis. |
| AirCounts[3] | Abt Assoc. | Online tool that helps large and medium-sized cities quickly estimate the health benefits of $PM_{2.5}$ emission reductions and economic value of those benefits. The tool estimates the number of deaths (mortality) avoided and economic value related to user-specified regional, annual $PM_{2.5}$ emissions reduction. | City-level | Primary $PM_{2.5}$ | This tool is only illustrative, as it is limited to certain cities and does not target specific sectors. The tool is not sector specific, and includes limited California data. It cannot provide results at a project-level. Therefore, the tool is not recommended for project-level CEQA analysis. |
| Air Pollution Emission Experiments and Policy analysis (APEEP) model[4] | Mueller and Mendelsohn2006, 2009 | The Air Pollution Emission Experiments and Policy (APEEP) analysis model (Muller and Mendelsohn 2006, 2009) is a traditional integrated assessment model. Like other integrated assessment models, APEEP connects emissions of air pollution through air-quality modeling to exposures, physical effects, and monetary damages. Making these links requires the use of findings reported in the peer-reviewed literature across several scientific disciplines. The air-quality models in APEEP use the emission data provided by EPA to estimate corresponding ambient concentrations in each county in the coterminous states. | National or county-level | $SO_2$, ROG, $NO_x$, Ozone, $PM_{2.5}$, $PM_{10}$ | The model operates at the national scale but may be applied at the county-level (although it is not clear how this adjustment should be made). It cannot provide results at a project-level. The tool is also not commercially available. Therefore, the tool is not recommended for project-level CEQA analysis. |

[1] See: https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

[2] Note: May require additional software to estimate the level of each specific pollutant at the modeled receptors.

[3] See: https://www.abtassociates.com/tools

[4] See: https://public.tepper.cmu.edu/nmuller/APModel.aspx

| Tool | Created by | Description | Resolution | Pollutants Analyzed | Project-level CEQA Applicability |
|---|---|---|---|---|---|
| CALINE3/ CAL3QHC/ CAL3QHCR[1, 2] | USEPA | A steady-state Gaussian dispersion model designed to determine air pollution concentrations at receptor locations downwind of highways located in relatively uncomplicated terrain. CALINE3 is incorporated into the more refined CAL3QHC and CAL3QHCR models. CAL3QHCR is a more refined version based on CAL3QHC that requires local meteorological data. | Project-level | $SO_2$, ROG, $NO_2$, Lead, $PM_{2.5}$, $PM_{10}$ | This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis. |
| Complex Terrain Dispersion Model Plus Algorithms for Unstable Situations (CTDMPLUS)[1, 2] | USEPA | A refined point source gaussian air quality model for use in all stability conditions for complex terrain. The purpose of the model is to provide a practical, refined plum model for elevated point sources near complex terrain. | Project-level | $SO_2$, ROG, $NO_2$, Lead, $PM_{2.5}$, $PM_{10}$ | This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis. |
| Co-Benefits Risk Assessment (COBRA)[5] | USEPA | Preliminary screening tool that contains baseline emission estimates of a variety of air pollutants for a single year. COBRA is targeted to state and local governments as a screening assessment for clean energy policies. EPA's CO–Benefits Risk Assessment (COBRA) screening model is a free tool that helps state and local governments:<br>• Explore how changes in air pollution from clean energy policies and programs;<br>• Estimate the economic value of the health benefits associated with clean energy policies and programs to compare against program costs;<br>• Map and visually represent the air quality, human health, and health-related economic benefits from reductions in emissions of particulate matter ($PM_{2.5}$), sulfur dioxide ($S0_2$), nitrogen oxides ($NO_X$), ammonia ($NH_3$), and volatile organic compounds (VOCs) that result from clean energy policies and programs. | National, regional, state, or county-levels | $PM_{2.5}$, $SO_2$, $NO_x$, $NH_3$, and ROG | COBRA is a preliminary screening tool only and cannot be used at sub-county resolution. It cannot provide results at a project-level. It also does not account for secondary emission changes resulting from market responses. Accordingly, the tool is not recommended for project-level CEQA analysis. |

[5] See: https://www.epa.gov/statelocalenergy/co-benefits-risk-assessment-cobra-health-impacts-screening-and-mapping-tool

| Tool | Created by | Description | Resolution | Pollutants Analyzed | Project-level CEQA Applicability |
|---|---|---|---|---|---|
| Environmental Benefits and Mapping Program-Community Edition (BenMAP-CE)[6] | USEPA | The USEPA's detailed model for estimating the health impacts from air pollution. It relies on input concentrations and applies concentration-response (C-R) health impact functions, which relate a change in the concentration of a pollutant with a change in the incidence of a health endpoint, including premature mortality, heart attacks, chronic respiratory illnesses, asthma exacerbation and other adverse health effects. Detailed inputs are required for air quality changes (concentrations from AERMOD), population, baseline incidence rates, and effect estimates. | National, County, City, and sub-regional levels | Ozone, PM, $NO_2$, $SO_2$, CO | This tool is not well suited to analyze small or localized changes in pollutant concentrations associated with individual projects. Although this tool is under consideration by some California air districts for use towards project-level analysis, no air district in California has promulgated a methodology (using this tool or any other) that would correlate the expected air quality emissions of projects to the likely health consequences of the increased emissions. Accordingly, the tool is not recommended. |
| Fast Scenario Screening Tool (TM5-FASST)[7] | Joint Research Centre (Italy) | A tool that allows users to evaluate how air pollutant emissions affect large scale pollutant concentrations and their impact on human health (mortality and years of life lost) and crop yield from national to regional air quality policies, such as climate policies. The target policy domains are national to regional air quality policies, or air pollutant scenarios linked to other policy domains (e.g. climate policy). The tool is web-based and does not require coding or modelling. Users must gain access through publishers. | Global and national-levels | $PM_{2.5}$, Ozone, $NO_x$, $NH_3$, CO, ROG, $CH_4$, $SO_2$ | This tool is applicable at national to global scales. It cannot provide results a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis. |
| Long-range Energy Alternatives Planning System-Integrated Benefits Calculator (LEAP-IBC)[8] | Climate and Clean Air Coalition (CCAC) | A calculator that allows users to rapidly estimate the impacts of reducing emissions on health, climate, and agriculture. The tool uses sensitivity coefficients that link gridded emissions of air pollutants and precursors to health, climate and agricultural impacts at a national level. The tool is primarily used for policy analysis. The tool is currently Excel-based and is available through the developers only. A web-based interface is currently under development. | National-level | $PM_{2.5}$, Ozone, $NO_2$ | This tool is applicable at national scale. Accordingly, the tool is not recommended for project-level CEQA analysis. |
| Methodology for Estimating Premature Deaths Associated with Long-Term Exposure to Fine Airborne Particulate Matter in California[9] | California Air Resources Board | The staff report identifies a relative risk of premature death associated with $PM_{2.5}$ exposure based on a review of all relevant scientific literature, and a new relative risk factor was developed. This new factor is a 10% increase in risk of premature death per 10 $\mu g/m^3$ increase in exposure to $PM_{2.5}$ concentrations (uncertainty interval: 3% to 20%) | National | $PM_{2.5}$ | The primary author of the CARB staff report notes that the analysis method is not suited for small projects and may yield unreliable results due to various uncertainties. The tool also cannot provide results on a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis. |

[6] See: https://www.epa.gov/benmap

[7] See: http://tm5-fasst.jrc.ec.europa.eu/

[8] See: https://www.ccacoalition.org/en/resources/long-range-energy-alternatives-planning-integrated-benefits-calculator-leap-ibc-factsheet

[9] See: https://ww3.arb.ca.gov/research/health/pm-mort/pmmortalityreportfinalr10-24-08.pdf

| Tool | Created by | Description | Resolution | Pollutants Analyzed | Project-level CEQA Applicability |
|---|---|---|---|---|---|
| Multi-Pollutant Evaluation Method (MPEM)[10] | BAAQMD | Estimates the impacts of control measures on pollutant concentration, population exposures, and health outcomes for criteria, toxic, and GHG pollutants. Monetizes the value of total health benefits from reductions in $PM_{2.5}$, ozone, and certain carcinogens, and the social value of GHG reductions. MPEM was designed for development of a Clean Air Plan for the San Francisco Bay Area. The inputs are specific to the SF region and are not appropriate for projects outside BAAQMD. | Regional level in the SFBAAB | Ozone, PM, air toxics, GHG | This tool is designed to support the BAAQMD in regional planning and emissions analysis within the San Francisco Bay Area Air Basin (SFBAAB). The model applies changes in pollutant concentrations over a four-square kilometer grid. The tool also cannot provide results on a project-level. Additionally, this tool is only applicable for the SFBAAB. Accordingly, the tool is not recommended for project-level CEQA analysis. |
| Offshore and Coastal Dispersion Model Version 5 (OCD)[1, 2] | USEPA | A straight-line Gaussian model developed to determine the impact of offshore emissions from point, area or line sources on the air quality of coastal regions. OCD incorporates overwater plume transport and dispersion as well as changes that occur as the plume crosses the shoreline. Hourly meteorological data are needed from both offshore and onshore locations. | Project-level | $SO_2$, ROG, $NO_2$, Lead, $PM_{2.5}$, $PM_{10}$ | This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis. |
| Response Surface Model (RSM)-based Benefit-per-Ton Estimates[11] | USEPA | Consists of tables reporting the monetized $PM_{2.5}$-related health benefits from reducing $PM_{2.5}$ precursors from certain source types nationally and for 9 US cities/regions. Applying these estimates simply involves multiplying the emissions reduction by the relevant benefit per-ton metric. The resulting value is the PM mortality risk estimate at a 3% discount rate. | National or regional (San Joaquin County only) levels | SOx, VOC, $NH_3$, $NO_x$ | RSM includes regional values specific to San Joaquin County. The values are also dated. Accordingly, the tool is not recommended for project-level CEQA analysis. |
| Sector-based Benefit-per-Ton Estimates[12] | USEPA | Two specific sets of Benefit-per-ton (BPT) estimates for 17 key source categories are available. Both are a reduced-form approach based on BenMAP modeling. Applying these factors involves multiplying the emissions reduction (in tons) by the relevant benefit (economic value) or incidence (rates of mortality and morbidity) per-ton metric. The resulting value is the economics, mortality, and morbidity of direct and indirect $PM_{2.5}$ emissions. | National-scale | $PM_{2.5}$, $SO_2$, $NO_x$ | The BPT estimates do not account for project-specific emissions or receptor locations, local dispersion characteristics, or regional photochemistry. The resultant health effects are therefore reflective of national averages and may not be accurate when applied to the project-level. Accordingly, the tool is not recommended for project-level CEQA analysis. |

[10] See: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/mpem_nov_dec_2016-pdf.pdf?la=en

[11] See: https://www.epa.gov/benmap/response-surface-model-rsm-based-benefit-ton-estimates

[12] See: https://www.epa.gov/benmap/sector-based-pm25-benefit-ton-estimates. The updated Technical Support Document (February 2018) is available at: https://www.epa.gov/sites/production/files/2018-02/documents/sourceapportionmentbpttsd_2018.pdf

# APPENDIX C

**Geotechnical Review**

April 20, 2018
Project No. 20190182.001A

**Costco Wholesale**
999 Lake Drive
Issaquah, Washington 98027

Attention: Mr. Peter Kahn
Director of Real Estate Development

**Subject: Geotechnical Review**
**Proposed Costco E-Commerce Facility**
**Tracy Hom Trust Property**
**16000 West Schulte Road**
**Tracy, California**
**CW# 17-0267**

Dear Mr. Kahn

This letter presents the results of Kleinfelder's geotechnical review for the proposed Costco E-Commerce facility to be located within the Tracy Hom Trust Property site (APN Parcel ID: 209-230-02) at 16000 W. Schulte Road in Tracy, California. The purpose of our services was to review readily-available geotechnical and geologic information for the project site to apprise Costco of potential geotechnical-related risks that may affect the cost and long-term performance of the proposed project. A review of the environmental-related risks, which include a Limited Phase II Environmental Site Assessment (ESA), is currently being performed by Kleinfelder and the results will be submitted in a separate report.

## PROJECT INFORMATION

The Tracy Hom Trust Property site is approximately 103 acres and is bound by the Delta Mendota channel to the south, W. Schulte Road to the north and private roads to the east and west. We understand the proposed E-Commerce facility will include the construction of an E-Commerce building with office and warehouse space. Like the proposed E-commerce development to the west, minor ancillary structures, such as a new guard booth and pump room are anticipated. Based on conversations with Costco, the E-Commerce facility will occupy approximately 400,000 to 500,000-square-feet of the Tracy Hom Trust Property. We anticipate the new facility will consist of single-story, concrete tilt-up structures and that the building's surroundings will include parking areas with loading docks, landscaping and drainage basins. Parking lots and drive aisles are typically paved with either Portland cement concrete or asphalt concrete.

Conceptual grading plans were not available at this time. Based on the existing topography, we anticipate the building pads may be raised up to 5 feet. We understand that fill material generated during grading of the overall development may be used to raise the Costco site and/or import fill may be needed.


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## EXISTING SITE CONDITIONS

The Tracy Hom Trust Property site comprises of approximately 103-acres and is located north of the Highway 580 and Delta Mendota channel in Tracy, California. On April 18, 2018, a Kleinfelder engineering professional visited the site to observe the existing conditions. The site is vacant and undeveloped with perimeter dirt roads, some graded areas, and sparse scrub vegetation in thick grasses. Based on historical aerial photographs, the entire Tracy Hom Trust Property site was previously used for agriculture and farming (i.e. a former orchard).

The northern portion of the site, near W. Schulte Road is topographically higher than the south end of the site which is bounded by the Delta Mendota channel; the site generally grades from low to high toward the northeast. The Delta-Mendota channel overflow spillway structure is approximately located in the center of the southern boundary of the site. The spillway's orientation is northeast and trends down toward the south portion of the site. The Delta-Mendota Channel banks slope up towards the south to the top of the concrete channel. We anticipate the proposed Costco facility will be in the southern portion of the Tracy Hom Trust Property site; however, the precise location and orientation of the facility are unknown.

In addition, there are two existing features within the northeast corner of site consisting of an existing PG&E gas line running northwest and a large depressed area possibly used as a drainage basin or detention pond during previous agricultural use. The depth of the basin is up to approximately 10 feet below the surrounding grades at its center. Details regarding the depth and size of the gas line are currently not currently known.

The fieldwork for the Limited Phase II ESA is currently being performed. Representative soil samples have been taken at various locations across the site. The soil samples are comprised of shallow near surface samples up to a depth of 12 inches below ground surface. The results of the testing will be available in a few weeks and presented in a separate report. The description of the near surface cover soils is typical of the agricultural region and consists of moderate vegetation (in the form of thick grasses) and clay rich top soil.

## SUBSURFACE CONDITIONS

Based on our review of available geotechnical and geologic information from two reports by Kleinfelder for the surrounding properties, we anticipate subsurface conditions consist of topsoil over native basin deposits underlain and interbedded with alluvial fan deposits. We anticipate the basin deposits will consists of stiff to hard, lean to fat clay and silt and extend up to a depth of about 50 feet bgs. Alluvial soils generally interbed with basin deposits below a depth of about 5 to 10 feet and primarily consist of medium to very dense silty and clayey sand and sand with varying amounts of gravel. Based on available groundwater data and maps, we anticipate the groundwater level is generally greater than 40 to 50 feet bgs. Neighboring geotechnical field studies indicate near surface basin deposits within the upper 5 feet exhibit medium to high expansion characteristics and are moderately compressible.

## FINDINGS

Based on the results of our geotechnical review, it is our professional opinion that the proposed project is geotechnically feasible. We identified the following key geotechnical considerations.

On previous IPC projects we have suggested attempting to "surgically" strip off near surface expansive clays to expose a uniform non to low-expansive subgrade for the he near surface clays


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may exhibit medium to high expansion characteristics. Based on our understanding of the site topography and subsurface information, we anticipate grading will expose expansive clays. Therefore, expansive soil mitigation measures will be required. Mitigation measures may include importing non-expansive fill for placement over the subgrade (in fill areas), removing and replacing with non-expansive fill at subgrade level, or using cement or lime treating the upper 12 to 18 inches of the subgrade. In addition, due to the tendency of expansive clays to swell and heave, site drainage should be directed away from building footprints to minimize moisture and volume change underneath floor slabs or foundations.

- Assuming expansive soils and deleterious materials are overexcavated/removed and structural fill or stabilized (i.e., lime treated), the proposed Costco depot buildings may be supported on a conventional shallow foundation system. If footing excavations bear in native expansive soils, footing embedment up to 30 inches below the lowest adjacent subgrade may be required. Foundations should be supported below the critical zone of seasonal moisture fluctuations where soil shrink-swell cycles are most severe.
- Conceptual grading plans were not available at this time; however, we anticipate fills up to 5 feet may be placed to construct the building pads. The native near surface clay is considered expansive and should not be used in structural fills unless they have been stabilized. As an alternative, relatively non-expansive import fills may be used in structural fills. Based on our experience in the area and typical Costco building loads, static settlements should be within tolerable levels. However, if fills greater than about 5 feet are placed to create the building pads, excessive settlements may occur. Depending on the height of fill placed, pre-loading or surcharging may be required.
- A PG&E gas line easement is located within the northeast corner of the site. Details regarding depth and size of the gas line are not known at this time. The direction of the gas line runs from the northwest through W. Schulte Road and towards the southeast through the eastern site boundary. The facility development should consider setbacks from the easement. If setbacks are not an option and the facility development plans to encroach onto the easement or the gas line, the impacted of the proposed construction should evaluated in detail.
- Just north of the existing PG&E easement south of W. Schulte Road is a large depressed area, which was possibly a drainage basin or detention pond during previous agricultural use. The depth of the basin is about 8 to 10 feet deep at its center and the length is about 200 feet. The history and use of this depression and construction implications to bring this area up to subgrade should evaluated. Backfill material should follow and be placed in accordance with current Costco standards.
- Near surface expansive clays do not have favorable drainage conditions (low permeability) for shallow infiltration systems (i.e., bioswale or infiltration basins) and therefore, will not infiltrate effectively. Infiltration Best Management Practices (BMPs) are not considered a viable option for use at this site.
- Corrosion testing results on the neighboring sites indicated near surface soils may be highly corrosive to corrosive towards ferrous metals. In general at these sites, sulfate and chloride results do not indicate corrosivity impacts; however one isolated sample north of the site indicated the evaluation of special provisions for selecting cement type. Special provisions for the selection of cement type may need to be considered if building pads and footings are bearing in native soils. In general, corrosion protection for future buried utilities and concrete foundations should be considered.


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## CLOSURE

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions, and at the date the services are provided. Our conclusions, opinions, and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee, or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

We appreciate the opportunity to provide geotechnical engineering services to you on this project. If you have any questions regarding this report or if we can be of further service, please do not hesitate to contact the project manager Andrea Traum at 408.595.3275, or Andy Franks, Kleinfelder's Client Account Manager for Costco, at 480.650.4905.

Respectfully submitted,

**KLEINFLDER, INC.**

Gabriel J. Alcantar, PE
Project Engineer




Brian E. Crystal, PE, GE
Principal Geotechnical Engineer




Attachments: References


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## REFERENCES

David Babcock + Associates, 2016, Hom Trust Regional Aerial, Preliminary Concept Plan, Sheet 1 of 3, Tracy, CA, dated August 23, 2016.

Kleinfelder, 2017, Geotechnical Study, Proposed E-Commerce Building and Wet Depot Expansion, Costco Tracy, CA Depot (CW# 14-0171), 25862 W. Schulte Road, Tracy, California, dated August 23, 2017.

Kleinfelder, 2017, Geotechnical Services Report, International Park of Commerce (IPC) Building 23, Tracy, California, dated May 4, 2017.


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# APPENDIX D

**Phase I Environmental Site Assessment**

April 27, 2018
Kleinfelder Project No. 20190071.001A

**Costco Wholesale**
999 Lake Drive
Issaquah, Washington 98027

Attention: Mr. Peter Kahn
AVP, Real Estate Development

**SUBJECT: Phase I Environmental Site Assessment**
**Proposed Costco E-Commerce Facility**
**16000 West Schulte Road**
**Tracy, California**
**CW# 17-0267**

Dear Mr. Kahn:

Enclosed is the Phase I Environmental Site Assessment (ESA) report for the above-referenced property. We trust the information presented in this report meets your needs at this time.

An executive summary is provided. However, we recommend that the report be read in its entirety for a comprehensive understanding of the items contained therein.

We appreciate the opportunity to provide these services to Costco Wholesale. If you have questions regarding this report or if we can be of further service, please do not hesitate to contact Paolo Dizon at 949.727.4466 or Andy Franks, Kleinfelder's Client Account Manager for Costco, at 480.650.4905.

Sincerely,

**KLEINFELDER**

Paolo Dizon
Project Manager

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# PHASE I ENVIRONMENTAL SITE ASSESSMENT PROPOSED COSTCO E-COMMERCE FACILITY 16000 WEST SCHULTE ROAD TRACY, CALIFORNIA KLEINFELDER PROJECT NO. 20190071.001A

**APRIL 27, 2018**

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A Report Prepared for:

**Costco Wholesale**
999 Lake Drive
Issaquah, Washington 98027

**PHASE I ENVIRONMENTAL**
**SITE ASSESSMENT**
**PROPOSED COSTCO E-COMMERCE CENTER**
**16000 WEST SCHULTE ROAD**
**TRACY, CALIFORNIA**


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April 27, 2018
Kleinfelder Project No. 20190071.001A

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# 1 EXECUTIVE SUMMARY

This report documents results of a Phase I Environmental Site Assessment (ESA) performed by Kleinfelder, Inc. (Kleinfelder) for Costco Wholesale Corporation (Costco / Client), of the proposed location of a Costco e-commerce facility at 16000 West Schulte Road (Site) in the City of Tracy, San Joaquin County, California. Kleinfelder understands the Client has requested a Phase I ESA be performed prior to purchasing the Site for redevelopment as an e-commerce facility.

This report was prepared using the ASTM International Designation E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (the "Standard Practice"), the All Appropriate Inquiry (AAI) section of the Small Business Liability Relief and Revitalization Act (the Federal Brownfields Law), and Costco's Development Requirements, Version 2014, revised June 13, 2014. The Phase I ESA findings include the following:

- The Site comprises a 103-acre parcel of land identified by the San Joaquin County Assessor as Assessor's Parcel Number (APN) 209-230-020-000. Currently, the Site is used for agricultural purposes.
- The Site was historically used for agricultural purposes (both agricultural fields and orchards) since at least 1937 through the present. Kleinfelder performed soil sampling throughout the Site to assess for the presence of pesticides and arsenic in shallow soil at the Site as a result of historical and current agricultural activities. Based on the analytical laboratory results, pesticides were not detected in shallow soil, and arsenic was detected at concentrations consistent with naturally-occurring background. Thus, the former agricultural use is not considered an environmental concern.
- A retention basin is located in the northeastern corner of the Site. A corrugated metal pipe culvert is present at the base of the retention basin. Irrigation-related standpipes were noted in the southeastern Site corner. These stand pipes appear to be gate valves for Site irrigation. Irrigation-related pipes were also noted along the southwestern Site border.
- Crimson Pipeline, L.P. operates a crude oil pipeline, and Pacific, Gas and Electric (PG&E) operates two natural gas pipelines, which run generally southeast-northwest across the northeastern portion of the Site (see Figure 2). No incidental/accidental releases were reported along the pipelines in the vicinity of the Site. However, the presence of the pipelines on Site, along with the potential for undocumented leaks to have occurred, represents a recognized environmental condition (REC).


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- Discarded oil and paint thinner containers, and an empty discarded propane tank, were noted in a concrete box culvert near the southwestern border of the Site, near the Delta Mendota Canal. Debris and general household trash was noted along the northern and southern borders of the Site, and in the southeastern corner of the Site. No evidence of stained soil was noted in the vicinity of the discarded items or debris/trash.
- No off-Site facilities are considered likely to have affected soil, soil vapor or groundwater beneath the Site.

This assessment has revealed no evidence of RECs or controlled RECs (CRECs) associated with the Site, with the exception of the following:

- The presence of natural gas pipelines and the potential for undocumented leaks to have occurred from the crude oil pipeline, which run through the northeastern portion of the Site represents a REC. However, should subsurface contamination be detected in the future as a result of leaks from this pipeline, Crimson Pipeline, L.P. (or current operator at that time) would be responsible for cleanup.

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# 2 INTRODUCTION

This report is a summary of work performed using the guidelines set forth in the Standard Practice, the AAI section of the Federal Brownfields Law, Costco's Development Requirements, Version 2014, revised June 13, 2014. This report also generally conforms to the Standard Practice's suggested table of contents. Minor format modifications have been made to the Standard Practice's suggested table of contents to assist in better reading and understanding the report findings.

## 2.1 PURPOSE

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the scope of services defined in our Proposal No. MPCOSTCO.001C/IRV18P76351, dated April 6, 2018, the scope defined in the Standard Practice, and limitations discussed in this report, RECs and other environmental issues related to the Site.

As defined in the Standard Practice, an REC is:

> *"The presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions."*

As defined in the Standard Practice, a de minimis condition is:

> *"A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."*

The 2013 Standard Practice also introduced the designation of CREC. As defined in the Standard Practice, a CREC is:

> *"… a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the*


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*implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)."*

The 2013 Standard Practice defines an HREC as:

*"…a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to environmental controls."*

The final decision regarding whether a past release is an HREC rests with the environmental professional (EP) and will be influenced by the current impact (if any) of the past release to the Site.

This report describes Kleinfelder's assessment methodology and documents its findings, subject to the limitations presented in Section 2.5 of this report.

## 2.2 DETAILED SCOPE OF SERVICES

The following sections describe Kleinfelder's work scope:

- Section 2, **Introduction**, includes a discussion of the purpose/reason for performing the Phase I ESA, additional services requested by the Client (e.g., an evaluation of business environmental risk factors associated with the Site), significant assumptions (e.g., property boundaries if not marked in the field), limitations, exceptions, special terms and conditions (e.g., contractual), and user reliance parameters.
- Section 3, **Site Description**, is a compilation of information concerning the Site location, legal description (if provided by the Client), current and proposed use of the Site, a description of structures and improvements on the Site at the time of Kleinfelder's assessment, and adjoining property use.
- Section 4, **Records Review**, is a compilation of Kleinfelder's review of several databases available from Federal, State, and local regulatory agencies regarding hazardous substance use, storage, or disposal at the Site; and for off-Site facilities within the search distances specified by the Standard Practice. Records provided by the Client are summarized, and copies of relevant documents are included in the appendices of this report. Physical setting sources (including topography and soil and groundwater


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conditions) and typical Client-provided information (e.g., title records, environmental liens, specialized knowledge, valuation reduction for environmental issues, and owner, property manager, and occupant information) are also summarized. Other interviews with people knowledgeable about the Site (including the Client) are included in Section 7.

- Section 5, **History of the Site**, summarizes the history of the Site and adjoining properties. This Site history is based on various sources, which may include a review of historical aerial photographs, Sanborn Fire Insurance Maps, city or suburban directories, historical topographic maps, building department records, and results of previous Site assessments (if any and reasonably ascertainable).
- Section 6, **Site Reconnaissance**, describes Kleinfelder's observations during the Site reconnaissance. The methodology used and limiting conditions are also described.
- Section 7, **Interviews**, is a summary of telephone and personal interviews performed with "Key Site Managers" that may include the Site owner/manager, occupants/tenants, local government officials, and the Client. Additional interview sources may be contacted if Key Site Managers were not available prior to production of this report and may include adjoining landowners and people with historical knowledge of the area.
- Section 8**, Limited Phase II ESA**, presents rationale and findings of shallow soil sampling conducted as part of a Phase II ESA to evaluate agricultural use of the Site.
- Section 9, **Evaluation**, is a presentation of findings and opinions regarding the information provided in Sections 3 through 7 and presents the conclusions regarding the presence of RECs connected with the Site, and Kleinfelder's recommendations.
- Section 10, **References**, is a summary listing of the resources used to compile this report.

A statement of qualifications of the signatories of this report is provided in Appendix A of this report, and pertinent documentation regarding the Site is included in Appendices B through E.

## 2.3 ADDITIONAL SERVICES

Kleinfelder's scope of services as part of this Phase I ESA did not include Standard Practice non-scope evaluations of cultural, historic, and archaeological resources; and environmental regulatory compliance that may be required for a Phase I ESA pursuant to Costco's Development Requirements publication (revised June 13, 2014). In addition, the Phase I ESA did not include an assessment for asbestos-containing materials (ACMs), radon, lead-based paint (LBP), lead in


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drinking water, molds and mildews, indoor air quality, industrial hygiene, health and safety, and other Standard Practice non-scope considerations not described herein.

The Phase I ESA did, however, include evaluations of wetlands and surface water; and threatened, endangered, and other protected species that are required for a Phase I ESA pursuant to Costco's Development Requirements. These evaluations have not been received at the time of publication of this report, and will therefore, be submitted under separate cover. No other additional services were provided by Kleinfelder for this Phase I ESA.

## 2.4 SIGNIFICANT ASSUMPTIONS

Kleinfelder does not guarantee the accuracy of information supplied by its sources, but reserves the right to rely on the information in forming a professional opinion regarding the potential for contamination at the Site. It is assumed the Client provided Kleinfelder all applicable and available environmental records and specialized knowledge in its possession regarding the Site. Kleinfelder has not made other significant assumptions during the performance of this Phase I ESA.

## 2.5 LIMITATIONS AND EXCEPTIONS

Phase I ESAs are non-comprehensive by nature and may not identify all environmental problems, and will not eliminate all risk. This report is a qualitative assessment. Kleinfelder offers a range of investigative and engineering services to suit the needs of its clients, including more quantitative investigations. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help the Client understand and better manage risks. Since such detailed services involve greater expense, Kleinfelder asks its clients to participate in identifying the level of service that will provide them with an acceptable level of risk. Please contact the signatories of this report if you would like to discuss this issue of risk further.

Kleinfelder performed this Phase I ESA consistent with the guidelines set forth in the Standard Practice; Costco's Development Requirements, Version 2014 (revised June 13, 2014); and the proposed scope of services subsequently approved by Costco. No other warranty, either express or implied, is made. Environmental issues not specifically addressed in this report were beyond the scope of Kleinfelder's services and not included in the evaluation.

This report may be used only by Costco and only for the purposes stated within a reasonable time from its issuance, but in no event later than one year from the date of the report. Land or facility use, on- and off-Site conditions, regulations, or other factors may change over time, and additional


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work may be required with the passage of time. Since Site activities and regulations beyond Kleinfelder's control may change at any time after the completion of this report, the observations, findings, and opinions provided herein are considered valid only as of the date of the Site visit. Pursuant to Section 4.6 of the Standard Practice, this report should not be relied upon after 180 days from the date of its oldest component. Any party other than the Client who wishes to use this report shall notify Kleinfelder of such intended use. Based on the intended use of the report, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party, but only to the extent of any such non-compliance by the Client.

The Phase I ESA has been conducted in accordance with and conforms to the Costco Wholesale Development Requirements Document and the latest edition of ASTM E 1527. This assessment has been prepared for the sole use of Costco Wholesale Corporation. Its contents should not be relied upon by other parties without the express written consent of Costco Wholesale Corporation.

## 2.6 SPECIAL TERMS AND CONDITIONS

No special terms and conditions were agreed to by the Client and Kleinfelder.

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# 3 SITE DESCRIPTION

The Site description is presented in this section and describes the condition of the Site at the time of the Phase I ESA. The Site location is shown on Figure 1. Tables 3-1 through 3-4 summarize the physical characteristics of the Site and adjoining properties.

## 3.1 LOCATION AND LEGAL DESCRIPTION

The information presented in Table 3-1 denotes the physical location and legal description of the Site. This information was obtained from review of various maps (such as topographic maps and tax assessor maps), aerial photographs, public records at City and/or County offices, interviews, and/or information provided by the Client.

**TABLE 3-1**

**Location and Legal Description**

| PARAMETER | INFORMATION/COMMENTS |
|---|---|
| LOCATION | The Site is located south of West Schulte Road, approximately 750 feet east of the intersection of West Schulte Road and Hansen Road (see Figure 1 – Site Location Map). |
| LEGAL DESCRIPTION | The legal description of the Site is presented in the EDR Environmental Lien and AUL Search report (EDR, 2018a) provided in Appendix C. |
| ASSESSOR'S PARCEL NUMBER | The Site is situated on one parcel of land identified by the San Joaquin Assessor as APN 209-230-020-000. |
| ADDRESS | The Site is associated with the street address of 16000 West Schulte Road, City of Tracy, California. |
| SECTION, TOWNSHIP, AND RANGE | Township 2 South, Range 4 East, Section 35, Mt. Diablo Base and Meridian. |
| ZONING | Based on Kleinfelder's review of online property information available on the San Joaquin County Assessor (http://sjmap.org/website/DistrictViewer/Viewer.asp), the Site is zoned "AG-40" for agricultural use. |

## 3.2 CURRENT / PROPOSED USE OF THE PROPERTY

At the time of Kleinfelder's assessment, the Site was developed with agricultural land (low-lying crops) and associated irrigation infrastructure. Current and proposed Site uses are described in Table 3-2.


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**TABLE 3-2**

**Current and Proposed Uses**

| PARAMETER | GENERAL OBSERVATIONS |
|---|---|
| CURRENT USE | Agricultural land (low-lying crops). |
| PROPOSED USE | Costco e-commerce facility. |

## 3.3 DESCRIPTION OF STRUCTURES / IMPROVEMENTS

Structures and/or improvements observed on the Site at the time of Kleinfelder's reconnaissance are described in Table 3-3.

**TABLE 3-3**

**Structures and Improvements**

| PARAMETER | GENERAL OBSERVATIONS |
|---|---|
| STRUCTURES | No structures are located on the Site. |
| IMPROVEMENTS | Irrigation piping/infrastructure; Retention basin with associated corrugated metal pipe at base; Pipeline markers indicating the presence of below grade pipelines. |

## 3.4 CURRENT USES OF ADJOINING PROPERTIES

Kleinfelder performed a brief drive-by survey of the properties immediately adjoining to the Site on April 17, 2018. A summary of the observations regarding the surrounding properties is presented in Table 3-4 and shown on Figure 2, Site Vicinity Map.

**TABLE 3-4**

**Adjoining Properties**

| DIRECTION | LAND USE DESCRIPTION |
|---|---|
| NORTH | West Schulte Road and a parcel of land associated with the address of 5902 Hopkins Road. This land appeared to be under construction (e.g., graded) at the time of the Site reconnaissance. |
| EAST | Two parcels of land associated with the addresses 15580 and 15178 West Schulte Road, used for agricultural purposes (fields). |

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**Table 3-4 (Continued)**

**Adjoining Properties**

| DIRECTION | LAND USE DESCRIPTION |
|---|---|
| SOUTH; SOUTHWEST | Delta Mendota Canal and a parcel of land associated with the address 26301 South Hansen Road, used for agricultural purposes (orchards). A box culvert and canal flume are located along the southwestern Site border. |
| WEST | Two parcels of land associated with the addresses 16310 and 16286 West Schulte Road adjoin the Site to the west. The property identified as 16310 West Schulte Road adjoins the northwestern corner of the Site and appeared to be developed with a communications facility. The property identified as 16286 West Schulte Road adjoins the remaining portions and consisted of agricultural (fields) with farm-related structures. |

Properties surrounding the Site appeared to be used for agricultural purposes. Farm-related structures are located west of the Site, on the property that is north of the Delta Mendota Canal. Various aboveground storage tanks (ASTs) were visible on the property to the west of the Site; some appeared empty, while others appeared to be in use. However, these ASTs did not appear immediately adjacent to the western Site boundary and are not considered to be an environmental concern to the Site. Discarded oil and paint thinner containers were noted in the concrete box culvert near the canal flume adjacent to the southwestern Site boundary. In addition, a discarded propane tank was noted just east of the box culvert. No evidence of soil staining was observed beneath these discarded items. A possible backup generator was noted approximately 120 feet west of the Site, associated with the adjoining communications facility to the west. No associated fuel tank was noted to be associated with this generator. No other indications of obvious or suspect RECs were apparent on the adjoining properties at the time of Kleinfelder's Site reconnaissance that are considered likely to affect soil, soil vapor or groundwater beneath the Site.

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# 4 RECORDS REVIEW

## 4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

The purpose of the records review is to obtain and review records that would help to evaluate RECs in connection with the Site and bordering properties. Federal, State, and local regulatory agencies publish databases or "lists" of businesses and properties that handle hazardous materials or hazardous waste, or are the known location of a release of hazardous substances to soil and/or groundwater. These databases are available for review and/or purchase at the regulatory agencies, or the information may be obtained through a commercial database service. Kleinfelder contracted a commercial database service, EDR, of Shelton, Connecticut, to perform the government database search for listings within the appropriate Standard Practice minimum search distance of the Site, and the distances set forth in Costco's Development Requirements, Version 2014, revised June 13, 2014. Kleinfelder provided EDR with a Site map to incorporate the search distances from the Site boundary. Included in the EDR Radius Map™ Report with GeoCheck® (EDR, 2018b) is a listing of specific databases outlined by the Standard Practice. If required, the search distances included an extended radius from those specified by the Standard Practice. A listing of the search distances, databases evaluated, dates the databases were last updated, and types of information contained in each database are included in the regulatory database search report provided in Appendix B of this report.

EDR utilizes a geographical information system to plot the locations of reported spills, leaks, incidents, etc. Kleinfelder reviews this information to help establish if the Site or nearby properties are listed in the databases and lists. Each of the listings was reviewed by Kleinfelder to assess whether the corresponding property details included in EDR's report revealed a potential environmental impact to the Site. Many listings in the report were concluded not to have the potential to impact the Site based on the following, or a combination thereof:

- The listed property is located at a distance where the facility is unlikely to impact the Site based on Kleinfelder's evaluation of the relevant data in EDR's report and knowledge of the Site vicinity.
- The listed property is located in a down-gradient or cross-gradient direction from the Site, based on the anticipated direction of groundwater flow (northeast) at the property being evaluated, and is located at a distance such that it is unlikely to impact the Site. Note that the groundwater flow direction is estimated to be to the northeast, based on review of


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available information, and judgements as to down- or cross-gradient direction are best made if groundwater flow direction information is available for a specific property.

- The listed property is identified in the underground storage tank (UST) or Small Quantity Generator (SQG) databases and does not immediately adjoin the Site. The property is furthermore not listed in other databases that report a release of a hazardous substance or petroleum product and/or is not listed as having environmental violations. The listing of a facility in these databases alone is not indicative of an unauthorized release.
- The listing for the facility suggested a short-term release occurred (e.g., from incidental traffic accidents or involving limited quantities of chemicals from illegal drug labs found at residences), with associated response actions completed.
- The quantity of the hazardous substances or petroleum product released from an off-Site, non-adjoining facility was not judged to have resulted in contamination above the most stringent criteria requiring regulatory action. Therefore, no impact to the Site is anticipated.
- The listed property record indicates that the property was characterized, the reported release affected soil only, the listed property was not on or adjacent to the Site, and the release was not recognized as indicative of area-wide conditions or was characterized as a soil removal action only.
- The listed property record indicates that contamination on the property is limited to relatively non-mobile contaminants, including polyaromatic hydrocarbons and metals, in soil only, on a non-adjacent property.
- The listed property record indicates that the case for the property has been closed to the satisfaction of the designated lead regulatory agency, and residual contamination, if present, is not considered likely to affect the Site based on one or more of the criteria mentioned in the bulleted items above (a condition referred to by the Standard Practice as an HREC).

Based on these criteria indicating no material threat of a release that affected the Site and/or no release that could require future regulatory agency oversight, the listings concluded not to have the potential to impact the Site were not evaluated further and are not discussed in the following sections.

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## 4.2 RESULTS OF DATABASE SEARCH

The remaining property listings were reviewed to assess whether these properties had environmental releases that may have resulted in RECs in relation to the Site. If the listed properties had a reported release which may have resulted in an REC, the property was further assessed by performing a review of agency files available via the GeoTracker™ website (http://geotracker.waterboards.ca.gov/) of the State Water Resources Control Board (SWRCB) and/or other relevant regulatory agency websites to evaluate whether the listed release represents a potential impact to the Site.

### 4.2.1 Site Listings

The Site was not listed in databases searched by EDR.

### 4.2.2 Off-Site Listings

Three off-Site properties were listed in standard Federal, State, and local lists within the Standard Practice search distances and the distances set forth in Costco's Development Requirements, Version 2014, revised June 13, 2014. Kleinfelder reviewed the listing information to assess the potential for impacts to soil, soil vapor, and groundwater beneath the Site. The following summarizes the information for these facilities.

- *"Shell Pipeline Co LP Location No. 805248 Drum Location" and "Shell Oil Company" (West Schulte Road and Hansen Road)* – These listings represent one facility. It was listed as a SQG of hazardous waste in the year 2012, having disposed of ignitable, "benzene" waste. No violations were reported for this facility. The facility was also listed in the Spills, Leaks, Investigations, and Cleanup (SLIC) database as having had a reported release of total petroleum hydrocarbons ("TPH"). Details were not provided in the database listing information. However, based on information obtained from the SWRCB GeoTracker™ database, the release associated with this facility occurred over 3,500 feet to the north of the Site. Soil and groundwater impacts associated with a crude oil release from pipelines appear to be limited in extent, and based on the distance of this release to the Site, this listing is not considered likely to have impacted soil, soil vapor or groundwater beneath the Site.
- *"Tracy Youth Sports Park" (15178 Schulte Road)* – This facility partially adjoins the Site to the east. It is listed in the SLIC database as having had a release (substance not reported)


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that affected soil. A link to the SWRCB GeoTracker™ case for this facility was provided in the EDR database report (see Section 4.3.3 for further discussion).

### 4.2.3 Orphan List

Facilities not plotted by EDR due to poor or inadequate address information are referred to as orphan sites. No unmapped orphan sites are listed in the EDR report.

## 4.3 OTHER RECORDS REVIEWED / AGENCIES CONTACTED

The following additional sources of environmental records were reviewed during this Phase I ESA for the purposes of meeting the Standard Practice. Local regulatory agencies were contacted for reasonably ascertainable and practically reviewable documentation regarding RECs present at the Site and adjoining facilities. Summaries of interviews with local regulatory agency representatives, when performed, are included in Section 7 of this report (with interview documentation included in Appendix C). The following agencies (if marked with an "X") were contacted for documentation:

- ☒ San Joaquin County Environmental Health Department (SJCEHD)
- ☒ City of Tracy, Building Safety Division
- ☒ State Water Resources Control Board (SWRCB) / GeoTracker™ Database
- ☒ Pipeline and Hazardous Materials Safety Administration (PHMSA), National Pipeline Mapping System (NPMS)
- ☒ State Department of Toxic Substances Control (DTSC) / EnviroStor Database
- ☒ San Joaquin Valley Air Pollution Control District (SJVAPCD)

Information obtained from these agencies is summarized below.

### 4.3.1 San Joaquin County Environmental Health Department

Kleinfelder submitted a written request to the SJCEHD on April 16, 2018 for information pertaining to hazardous materials usage and storage, including AST and UST records for the Site. Based on an April 17, 2018 email from Dom Martorella, Office Assistant Specialist with the SJEHD, no records are on file associated with the Site. A copy of the SJCEHD response is provided in Appendix C.

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### 4.3.2 City of Tracy, Building Safety Division

Since no structures have historically been present on the Site, a review building permits at the City of Tracy, Building Safety Division was not performed as part of this Phase I ESA. EDR provided an EDR Building Permit Report (EDR, 2018g) for the Site. A search of building permit information by EDR did not identify building permits for the Site. A copy of the EDR Building Permit Report is provided in Appendix C.

### 4.3.3 State Water Resources Control Board / GeoTracker™ Database

Kleinfelder reviewed the SWRCB GeoTracker™ website (http://geotracker.waterboards.ca.gov/) on April 16, 2018 for information associated with releases of hazardous materials or substances at the Site. No listings associated with the Site were included in databases maintained by the SWRCB. One listing was noted for an adjoining property. A summary is provided below.

*"Tracy Youth Sports Park" (15178 Schulte Road)* – This property partially adjoins the Site to the east. A July 24, 2013 "No Further Action Required Letter" was prepared by the Central Valley Regional Water Quality Control Board (RWQCB), which indicated the RWQCB had no files associated with this case. The letter stated that in June 2006, the City of Tracy prepared an Environmental Impact Report to evaluate the potential environmental impacts from a proposed development of a youth sports park (e.g., baseball, softball, soccer fields, sports/football stadium, and a recreation area) at this location. Environmental impacts noted included increased traffic and regional air quality impacts, and the presence of two PG&E transmission pipelines and one Chevron crude oil pipeline beneath the property. The proposed sports park development was rejected by the City in December 2007. The case for this facility was reportedly open in GeoTracker™ on September 1, 2007 following receipt of the Environmental Impact Report. However, the RWQCB indicated it would not be activating the case and considers the case closed.

Based on the information provided in the SWRCB GeoTracker™ database, the listing associated with the Tracy Youth Sports Park is not considered an environmental concern to the Site. Information associated with this facility is provided in Appendix C.

### 4.3.4 Pipeline and Hazardous Materials Safety Administration, National Pipeline Mapping System

Pipeline information is available at the PHMSA's online NPMS website (https://www.npms.phmsa.dot.gov). Kleinfelder researched pipeline information on the website on


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April 16, 2018 for the Site. Based on Kleinfelder's review of the NPMS website, the following pipelines are present beneath the Site.

- Crimson Pipeline, L.P. operates a crude oil pipeline, identified as Los Medanos Pipeline ID 499, which runs generally southeast-northwest across the northeastern portion of the Site. The NPMS database does not list accidental releases along this pipeline near the Site. Kleinfelder also forwarded a request to Crimson Pipeline, L.P. for information regarding potential accidental releases or incidents along their pipeline beneath the Site. A response has not been received as of the date of this report.
- PG&E operates two natural gas pipelines, identified as Pipeline IDs 002_481377 and 401-1422906, which run generally southeast-northwest across the northeastern portion of the Site. No incidents were reported along these natural gas pipelines.

These pipelines appear to pass through the northeastern portion of the Site within and near a PG&E easement depicted on the San Joaquin County Assessor's parcel map (see Figure 2). Although releases were not reported along Crimson Pipeline, L.P.'s crude oil pipeline, the potential exists for undocumented releases to have occurred, which represents a REC. A copy of the NPMS map is included in Appendix C.

#### 4.3.5 State Department of Toxic Substances Control / EnviroStor

Kleinfelder reviewed the DTSC EnviroStor website (http://www.envirostor.dtsc.ca.gov/) on April 16, 2018 for information pertaining to the Site and adjoining properties. Based on Kleinfelder's review of the website, no listings were found pertaining to the Site or for properties immediately adjoining to the Site.

#### 4.3.6 San Joaquin Valley Air Pollution Control District

Kleinfelder submitted a written request for information pertaining to the Site to the SJVAPCD on April 16, 2018. Based on a response from Ms. Theresa Haywood, Senor Office Assistant with the SJVAPCD, no records are available for the Site. A copy of the SJVAPCD response is provided in Appendix C.

### 4.4 PHYSICAL SETTING SOURCE(S)

Table 4-2 presents information concerning the physical setting of the Site. The information was primarily obtained from published maps.


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**TABLE 4-2**

**Physical Setting**

| DATA | GENERAL INFORMATION |
|---|---|
| USGS TOPOGRAPHIC QUADRANGLE | Based on the United States Geological Survey (USGS) Midway Quadrangle 7.5-Minute Series (Topographic) Map, dated 1980, the Site elevation ranges from approximately 185 feet above Mean Sea Level (MSL) near the southwest portion of the Site, to 150 feet above MSL at the northeastern corner of the Site. Topography in the vicinity of the Site slopes to the northeast. |
| SOIL TYPE | The Site is located within the Tracy Subbasin, which is comprised of continental deposits of Late Tertiary to Quaternary age. These deposits include the Tulare Formation (semi-consolidated, poorly-sorted, discontinuous deposits of clay, silt and gravel), Older Alluvium (loosely- to moderately-compacted sand, silt and gravel deposited in alluvial fans), Flood Basin Deposits (silts and clays, with occasional interbeds of gravel), and Younger Alluvium (unconsolidated silt, fine-to medium-grained sand, and gravel) (California Department of Water Resources [CDWR], 2006). |
| OIL AND GAS WELLS | Information concerning oil and gas fields was obtained by Kleinfelder from published maps available for download on the Division of Oil, Gas, and Geothermal Resources (DOGGR)'s internet web site (http://maps.conservation.ca.gov/doggr/index.html). Kleinfelder researched oil well information on the DOGGR website on April 16, 2018 for the Site and Site vicinity. Based on Kleinfelder's review, no oil wells are located on the Site or in the immediate Site vicinity. The nearest well is located approximately 1,500 feet northeast of the Site. |

Table 4-3 presents information concerning regional geology and hydrogeology. The information was obtained from published maps and other sources.

**TABLE 4-3**

**Regional Geology and Hydrogeology**

| PHYSICAL PARAMETER | INFORMATION/COMMENTS |
|---|---|
| REGIONAL PHYSIOGRAPHY AND GEOLOGY | The Site is located in Great Valley Geomorphic Province of California, which is a broad structural trough bound by the Sierra Nevada on the east and the Coast Ranges on the west. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic (California Geological Survey [CGS], 2002). |
| REGIONAL HYDROGEOLOGY | The Site is located in the San Joaquin Valley Groundwater Basin, Tracy Subbasin, which is defined by the areal extent of unconsolidated to semi-consolidated sedimentary deposits that are bound by the Diablo Range on the west, the Mokelumne and San Joaquin Rivers on the north, the San Joaquin River to the east, and the San Joaquin-Stanislaus County line on the south. The Subbasin is drained by the San Joaquin River and one of its major westside tributaries – Corral Hollow Creek. The San Joaquin River flows northward into the Sacramento and San Joaquin Delta and discharges into the San Francisco Bay (CDWR, 2006). |


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**TABLE 4-3 (Continued)**

**Regional Geology and Hydrogeology**

| PHYSICAL PARAMETER | INFORMATION/COMMENTS |
|---|---|
| DEPTH TO GROUNDWATER DIRECTION OF ANTICIPATED FLOW [1] | Based on a Contour Map of Spring 2005 Unconfined Aquifer Groundwater Levels dated January 2007, depth to groundwater is indicated to be approximately 50 to 55 feet above MSL (approximately 130 feet to 95 feet below ground surface) and is anticipated to flow generally to the northeast beneath the Site (City of Tracy, 2007). |
| REGIONAL GROUNDWATER QUALITY PROBLEMS | Groundwater quality in the City of Tracy is considered of decent quality with some local problem constituents including total dissolved solids, nitrates, boron, chloride, and sulfate (City of Tracy, 2007). Regional groundwater quality problems were not identified beneath the Site. |
| WATER SUPPLY | The well search performed by EDR indicated no private or public water supply wells are located on the Site, or within ¼-mile of the Site (EDR, 2018b). |
| FLOOD ZONE DESIGNATION | According to The EDR Radius Map™ Report with GeoCheck®, the Site is not located within a 100-year or 500-year flood zone (EDR, 2018b). |

[1] Groundwater flow direction is based on regional information sources. Site-specific conditions may vary due to a variety of factors including geologic anomalies, utilities, nearby pumping wells (if present), and others.

## 4.5 USER PROVIDED INFORMATION

According to the Client, the purpose for performing this Phase I ESA is to evaluate the potential for RECs at the Site prior to purchasing the Site for redevelopment as an e-commerce facility. Information regarding the current owners/occupants of the Site is summarized in Table 4-4.

**TABLE 4-4**

**Owner and Occupant Information**

| ENTITY | NAME |
|---|---|
| OWNER | Based on the EDR Environmental Lien and AUL Search report (EDR, 2018a), the Site is vested in “Allen E Hom Trustee”. |
| OCCUPANT(S) | The Site is an agricultural field. |

Summaries of interviews of key individuals with knowledge of the Site (“Key Site Managers”) are provided in Section 7. The following sections present information provided to Kleinfelder by the Client.

## 4.6 TITLE RECORDS

Chain-of-title information was not provided by the Client. Therefore, a review of a chain-of-title report was not reviewed as part of this Phase I ESA.


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## 4.7 ENVIRONMENTAL LIENS AND USAGE LIMITATIONS

According to information provided in EDR's regulatory agency database search report (EDR, 2018b), there are no liens pertaining to the Site listed in the Federal superfund liens list maintained by the United States Environmental Protection Agency (US EPA), nor known recorded land-use environmental deed restrictions pertaining to the Site listed in the State Liens Database. Kleinfelder's review of the EDR Environmental Lien and AUL Search report (EDR, 2018a) for the Site indicates there are no environmental liens or activity and use limitations (AULs) associated with the Site.

## 4.8 VALUE REDUCTION

As part of the Standard Practice process, information is to be gathered regarding the prospective purchase price of the Site relative to its fair market value. If there appears to be a value reduction, that reduction must be identified with respect to whether the difference may be attributed to environmental degradation of the property. Based on a questionnaire completed by Mr. Peter Kahn of Costco on April 11, 2018, the purchase price of the property reflects the fair market value. A copy of the completed questionnaire is provided in Appendix C.

## 4.9 OTHER INFORMATION / DOCUMENTS PROVIDED

Information and other documents pertaining to the Site were not available for review.

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# 5 SITE HISTORY

The history of the Site was researched to identify obvious uses. Historical land use was researched to the first developed use, or back to 1940, whichever was earlier or readily available. Table 5-1 summarizes the availability of information reviewed during this assessment.

**TABLE 5-1**

**Historical Information Sources**

| SOURCE | YEARS REVIEWED | SOURCE / AVAILABILITY |
|---|---|---|
| SANBORN FIRE INSURANCE MAPS | Not available | EDR, 2018c |
| AERIAL PHOTOGRAPHS | 1937, 1940, 1949, 1957, 1963, 1968, 1975, 1982, 1993, 2006, 2010, 2014 | EDR, 2018d |
| CITY DIRECTORIES | 1959 – 2014 (select years) | EDR, 2018e |
| HISTORICAL TOPOGRAPHIC MAP REPORT | 1907, 1916, 1922, 1942, 1943, 1947, 1953, 1968, 1980, 2012 | EDR, 2018f |
| BUILDING DEPARTMENT | Not available | EDR, 2018g |
| PREVIOUS ASSESSMENT(S) | Not applicable | Not available |

## 5.1 SANBORN FIRE INSURANCE MAPS

Sanborn Fire Insurance Maps provide historical land use information for some metropolitan areas and small, established towns. Kleinfelder requested EDR to search its library of Sanborn Fire Insurance Maps for maps of the Site. EDR responded that Sanborn Fire Insurance Maps were not available for the Site (EDR, 2018c).

## 5.2 AERIAL PHOTOGRAPHS

A review of historical aerial photography may indicate past activities at a property that may not be documented by other means or observed during a reconnaissance visit. The effectiveness of this technique depends on the scale and quality of the photographs and the available coverage. Aerial photographs were obtained from several historical photograph collections through EDR (2018d) and span a period of 77 years. A tabulation of the aerial photographs reviewed by Kleinfelder is


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presented in Table 5-2. Copies of the aerial photographs provided by EDR are included in Appendix D.

**TABLE 5-2**

**Historical Aerial Photographs Reviewed**

| YEAR | APPROXIMATE SCALE | SUMMARY |
|---|---|---|
| 1937 | 1" = 500' | **Site:** The Site appeared to be used for agricultural purposes (possibly orchards). A natural drainage was apparent passing through the central portion of the Site in a general southwest-northeast direction.<br><br>**Surrounding Area:** West Schulte Road was apparent adjoining to the north of the Site. Several residential or farm-related structures are apparent adjoining to the west of the Site. Remaining adjoining properties appeared to be used for agricultural purposes. |
| 1940 | 1" = 500' | **Site:** The Site appeared to be used for agricultural purposes, although orchards were not apparent.<br><br>**Surrounding Area:** Adjoining properties appeared to be used for agricultural purposes, with residential or farm-related structures apparent on the property to the west. |
| 1949<br>1957<br>1963 | 1" = 500' | **Site:** The Site may have been vacant in 1949, but in the 1957 and 1963 aerial photographs, agricultural use was apparent. A possible small retention pond is apparent in the northeast corner of the Site in the 1957 and 1963 aerial photographs.<br><br>**Surrounding Area:** The Delta Mendota Canal, including an apparent canal flume, were apparent adjoining the southwestern Site boundary. Adjoining properties appeared to remain developed for agricultural purposes, except for the property southwest of the Site, beyond the canal, which appeared vacant. Structures remained apparent on the property that adjoined to the west. |
| 1968 | 1" = 500' | **Site:** The Site appeared to be developed for agricultural purposes (orchards). The natural drainage was not apparent.<br><br>**Surrounding Area:** The surrounding properties appeared similar to that shown in the previously-reviewed aerial photographs. |
| 1975<br>1982 | 1" = 500' | **Site:** The Site appeared the same as in the 1968 aerial photograph. However, an unimproved road appears to pass through the northeastern corner of the Site, in the approximate location of the pipeline right-of-way previously discussed.<br><br>**Surrounding Area:** The surrounding properties appeared generally the same as on the previously-reviewed aerial photograph. |


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**TABLE 5-2 (Continued)**

**Historical Aerial Photographs Reviewed**

| YEAR | APPROXIMATE SCALE | SUMMARY |
|---|---|---|
| 1993 | 1" = 500' | **Site:** The Site appeared to remain agricultural, although the Site appears to consist of low-lying crop fields. Construction along the unimproved road (pipeline alignment) through the northeastern corner of the Site was apparent in the 1993 aerial photograph. Sections of piping, heavy equipment, excavated soils, and what appeared to be material staging areas were visible.<br><br>**Surrounding Area:** The surrounding properties appeared generally the same as on the previously-reviewed aerial photographs, with the exception of apparent pipeline construction activities along the alignment, similar to that taking place at the Site. |
| 2006<br>2010<br>2012 | 1" = 500' | **Site:** The Site appeared the same as on the previously-reviewed aerial photographs. However, the unimproved road and construction through the northeastern corner of the Site was no longer apparent.<br><br>**Surrounding Area:** The surrounding properties appeared generally the same as on the previously-reviewed aerial photographs, with little to no visible indication of the pipeline alignment. |
| Note: Aerial photographs only provide information concerning indications of land use, and no conclusions regarding the release of hazardous substances or petroleum products can be drawn from the review of photographs alone. | | |

Although not considered a REC pursuant to the Standard Practice, residual pesticides may be present in shallow soil beneath the Site. The unimproved road noted on aerial photographs between 1975 and 1993 follows the alignment of an existing PG&E right-of-way easement noted on the San Joaquin County Assessor's parcel map (see Appendix C).

## 5.3 CITY DIRECTORIES

City directories provide information regarding property occupants by address. EDR provided a city directory image report (EDR, 2018e), included in Appendix D, which included a search of city directories for the period between 1959 and 2014. West Schulte Road was listed in city directories between 1975 and 2014; however, the Site address was not listed in city directories reviewed. Adjoining properties along West Schulte Road were also not listed in city directories reviewed.


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## 5.4 HISTORICAL TOPOGRAPHIC MAP REVIEW

Kleinfelder obtained information regarding historical topographic maps of the Site vicinity from EDR (2018f). The topographic maps reviewed for this assessment are listed in Table 5-3 and copies of the maps are included in Appendix D.

**TABLE 5-3**

**Historical Topographic Maps Reviewed**

| YEAR | SCALE | SUMMARY |
|---|---|---|
| 1907 | 1:62,500 | **Site:** The Site was depicted undeveloped.<br><br>**Surrounding Area:** A road was apparent adjoining to the north of the Site. Adjoining properties were shown as undeveloped land, except for a residential-type structure located on the property to the west. |
| 1916 | 1:31,680 | **Site:** The Site was the same as on the 1907 map. A natural drainage channel was shown entering the Site near the southwestern portion toward the central portion.<br><br>**Surrounding Area:** The Site vicinity was shown generally the same as on the 1907 map. |
| 1922 | | **Site:** The Site was not covered on the 1922 map.<br><br>**Surrounding Area:** The adjoining properties were not covered on the 1922 map. |
| 1942<br>1943 | 1:62,500 | **Site:** The Site was the same as on the 1907 and 1916 maps, although the natural drainage that entered the Site as shown on the 1916 map was not shown on the 1942 and 1943 maps.<br><br>**Surrounding Area:** The Site vicinity was shown generally the same as on the 1916 map. A natural drainage was shown near the northwestern corner of the Site. |
| 1947 | | **Site:** The Site was not covered on the 1947 map.<br><br>**Surrounding Area:** The adjoining properties were not covered on the 1947 map. |

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**TABLE 5-3 (Continued)**

**Historical Topographic Maps Reviewed**

| YEAR | SCALE | SUMMARY |
|---|---|---|
| 1953<br>1968 | 1:24,000 | **Site:** The natural drainage was again depicted on the 1953 map, passing generally southwest-northeast through the central portion of the Site.<br><br>**Surrounding Area:** West Schulte Road was shown adjoining to the north of the Site. Adjoining properties to the north, east and south were undeveloped. The Delta Mendota Canal was shown adjoining the southwestern Site boundary. A canal flume was depicted adjoining to the Site, in the canal. Seven structures were shown on the property that adjoined to the west, just north of the canal. |
| 1980 | 1:24,000 | **Site:** The Site was depicted to be developed for agricultural use (orchards). The on-Site natural drainage was still shown.<br><br>**Surrounding Area:** Changes to the Site vicinity included the presence of agricultural land on the properties that adjoined to the north, beyond West Schulte Road, and to the southwest, beyond the Delta Mendota Canal. Some structural changes were noted on the property that adjoined to the west, just north of the canal. |
| 2012 | 1:24,000 | **Site:** The 2012 topographic map depicted roads and other physical features, but did not depict structures in the area. The natural drainage feature on Site was shown.<br><br>**Surrounding Area:** West Shulte Road, a natural drainage near the northwestern corner of the Site, and the Delta Mendota Canal were shown on the map. Structures and other features were not shown. |

## 5.5 BUILDING DEPARTMENT

EDR provided an EDR Building Permit Report (EDR, 2018g) for the Site. Permits for the Site were not found in records reviewed by EDR.

## 5.6 PREVIOUS ASSESSMENTS

Previous environmental assessments were not available for the Site.

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# 6 SITE RECONNAISSANCE

Kleinfelder's Phase I ESA activities included a Site reconnaissance. This section summarizes the findings from the Site reconnaissance.

## 6.1 METHODOLOGY AND LIMITING CONDITIONS

Mr. Anthony Wohletz and Mr. Curtis Conti of Kleinfelder performed a Site reconnaissance on April 17, 2018. The Site reconnaissance included a visual inspection of the Site to assist in identifying the presence or likely presence of hazardous substances or petroleum hydrocarbons under conditions that indicate an existing release, a past release, or threat of release into structures, soil, groundwater, or surface water at the Site (i.e., RECs). Observations of readily-apparent environmental conditions are summarized in Table 6-1, and color photographs of the Site are presented on Figures 3 through 15. The approximate Site boundaries are shown on Figure 2. Mr. Wohletz and Mr. Conti were not accompanied during the Site reconnaissance.

## 6.2 GENERAL SITE SETTING

The Site is located at 16000 West Schulte Road, approximately 750 feet east of the intersection of West Schulte Road and South Hansen Road in the City of Tracy, California. At the time of the Site reconnaissance, surrounding properties appeared to be primarily developed for agricultural purposes. Commercial/light industrial properties are present farther west of the Site.

## 6.3 SITE OBSERVATIONS

Kleinfelder's Site observations are summarized in Table 6-1.

**TABLE 6-1**

**Site Observations**

| GENERAL OBSERVATIONS | REMARKS | OBSERVED | NOT OBSERVED |
|---|---|---|---|
| Current use | Agricultural land. | X | |
| Current use likely to indicate RECs | Although not considered a REC pursuant to the Standard Practice, the potential exists for pesticides to be present in shallow soil beneath the Site. | | X |
| Past use | The Site was historically used for agricultural purposes since at least 1937 through the present. | | X |


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**TABLE 6-1 (Continued)**

**Site Observations**

| GENERAL OBSERVATIONS | REMARKS | OBSERVED | NOT OBSERVED |
|---|---|---|---|
| Past use likely to indicate RECs | Although not considered a REC pursuant to the Standard Practice, the potential exists for pesticides to be present in shallow soil beneath the Site. | | X |
| Structures | | | X |
| Roads | | | X |
| Topography of Site and surrounding area | The Site is relatively flat. | X | |
| ASTs | Empty, discarded propane AST noted off Site along southwestern Site border. | X | |
| Asbestos and lead | Concrete stand pipe noted along southwestern border. Irrigation piping on agricultural properties were typically constructed of Transite pipe (asbestos). | X | |
| Below grade vaults | | | X |
| Burned or buried debris | | | X |
| Chemical storage | | | X |
| Chemical mixing areas | | | X |
| Discolored soil or water | | | X |
| Ditches, streams | Drainage ditch noted along northern Site border. | X | |
| Drains and piping | Irrigation valves noted near southeastern portion of Site. Corrugated metal pipe culverts noted along northern Site border. | X | |
| Drums | | | X |
| Electrical or hydraulic equipment (polychlorinated biphenyls [PCBs]) | | | X |
| **Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.** | | **Observed** | **Not Observed** |
| Fill dirt from an unknown source | | | X |
| Fill dirt from a known source | | | X |

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**TABLE 6-1 (Continued)**

**Site Observations**

| Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products. | | Observed | Not Observed |
|---|---|---|---|
| Hazardous chemical and petroleum products in connection with known use | | | X |
| Hazardous chemical and petroleum products in connection with unknown use | Used oil and paint thinner containers noted in apparent flood-control box culvert off Site adjacent to southwestern Site border. | X | |
| Non-hazardous containers with contents | | | X |
| Hazardous waste storage | | | X |
| Heating and cooling system and fuel source | | | X |
| Industrial waste treatment equipment | | | X |
| Loading and unloading areas | | | X |
| Odors | | | X |
| Pits, ponds, or lagoons | | | X |
| Pools of liquid | | | X |
| Process waste water | | | X |
| Sanitary sewer system | | | X |
| Septic system (e.g. tank and leach fields) | | | X |
| Soil piles | Mounded soil near retention basin in northeastern Site corner. Appears to be spoils from the retention basin. | X | |
| Solid waste/evidence of unauthorized dumping | Debris and garbage noted along northern and southern Site borders. Mattresses and other garbage noted in southeastern Site corner. | X | |
| Stained pavement, soil or concrete | | | X |

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**TABLE 6-1 (Continued)**

**Site Observations**

| Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products. | | Observed | Not Observed |
|---|---|---|---|
| Stains or corrosion (interior, non-water) | | | X |
| Storm drains/catch basins | Retention basin noted in northeastern Site corner. Corrugated metal pipe culvert noted at base of the detection basin. | X | |
| Stressed vegetation | | | X |
| Sumps and clarifiers | | | X |
| Surface water | | | X |
| UST(s) (including heating oil tanks) | | | X |
| Unidentified substance containers | | | X |
| Waste water discharge | | | X |
| Water supplies (potable and process) | | | X |
| Wells (irrigation, monitoring, or domestic) | | | X |
| Wells (dry) | | | X |
| Wells (oil and gas) | | | X |

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## 6.4 RESULTS OF SITE RECONNAISSANCE

The Site consists of a 103-acre parcel of land that is currently unpaved, agricultural land that was covered at the time of the reconnaissance with grasses. The Site is relatively flat, with 0.5- to 1-foot-tall rows of soil about 1.5 to 2.5 feet wide, running north/south every approximately 25 feet. At the time of the reconnaissance, soil was generally moist and not loose.


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A retention basin is present in the northeastern Site corner. The basin is surrounded by mounds of dirt that appear to be retention basin excavation spoils. A corrugated metal pipe was noted in the deepest portion of the basin, and an approximately 4- to 5-foot wide and 1.5- to 2-foot deep ditch runs along the northern Site boundary and into the western end of the basin. It appears the basin is used for Site drainage.

Irrigation-related standpipes were noted in the southeastern Site corner. These stand pipes appear to be gate valves for Site irrigation. Scattered debris, including a discarded mattress, was also noted in the southeastern Site corner.

A communications station/facility was noted immediately west of the northwestern Site corner. A stained pole-mounted transformer was noted off Site, near the northwest facility corner, but did not impact the Site. Also, a potential backup generator was noted in the southwestern facility corner, about 120 feet west of the Site. No associated fuel AST was noted.

Agricultural, agricultural/industrial, and residential properties were noted immediately west of the Site. Apparent storage ponds were noted about 600 feet north of the canal. These apparent ponds were empty at the time of the Site reconnaissance. Multiple agricultural structures were noted immediately west of the Site, south of the ponds. These structures include likely garages/shops/barns, animal-related housing, and potential silos. Residential structures were also noted.

Various ASTs, agricultural equipment, and other agricultural supplies were noted in the agricultural/industrial properties just west of the southern half of the Site. Multiple ASTs appeared to be empty and not in use; however, at least four ASTs appeared to be in use, and one appeared to be used for propane. These ASTs, however, were only visible from a distance.

An apparent flood control structure was noted along the southwestern Site border. The structure spans across the top of the Delta Mendota Canal and includes an approximately 5-foot-wide concrete-box culvert. It appears the structure allows excess water to be drained from the canal to the Site. Discarded oil and paint thinner containers were noted in the concrete box culvert, and a discarded propane tank was noted east of the culvert. Irrigation-related pipes were also noted along the southwestern Site border.

Communication utility vaults were noted just east of the Site, along the eastern Site border, and petroleum utility signs were noted along the eastern Site border, about 450 feet south of the northeastern Site corner. Petroleum utility signs were also noted along the northern Site border,


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about 525 feet west of the northeastern Site corner. It appears petroleum utilities; therefore, pass across the northeastern Site corner.

Evidence of discolored water, stressed vegetation, USTs, ASTs, wells, pits, ponds (other than the retention basin), or lagoons was not observed on the Site during the reconnaissance.

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# 7 INTERVIEWS

Key Site Managers are contacted to obtain current and historical environmental information concerning the Site. The following sections highlight information revealed during the interviews.

## 7.1 INTERVIEW WITH CLIENT

Kleinfelder submitted a Phase I ESA User Questionnaire to the Client. Based on information provided in the questionnaire, Costco is not aware of environmental cleanup liens or AULs associated with the Site. Costco does not have specialized knowledge of the Site, but indicated previous use of the Site was agricultural.

## 7.2 INTERVIEW WITH OWNER/MANAGER

A questionnaire was provided to the Client to forward to the appropriate owner or manager associated with the Site. To date, a completed questionnaire has not been received.

## 7.3 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS

Based on the information obtained as part of the Phase I ESA research, interviews with local government officials was not deemed necessary for this Phase I ESA.

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Based on the use of the Site for agricultural purposes, Kleinfelder collected shallow soil samples in a grid pattern from across the Site to assess the presence of pesticides and arsenic in shallow soil. Soil samples were collected pursuant to the DTSC Interim Guidance for Sampling Agricultural Properties (Third Revision), dated August 7, 2008, which recommends 60 shallow soil sample locations for the first 50 acres. As the Site is 103 acres in size, Kleinfelder collected an additional sample per acre (53), plus three additional samples based on a completed grid pattern for the Site, for a total of 116 discrete soil sample locations. The soil sampling methodology and analysis is described below. A table summarizing the soil sample analytical results, a figure showing the sample locations, and the soil sample laboratory report are included in Appendix E.

## 8.1 SOIL SAMPLING METHODOLOGY

Kleinfelder collected soil samples for environmental analysis from 116 locations at the Site. Soil samples were collected from approximately 0.5-foot bgs using a hand trowel. Soil intended for laboratory analysis was transferred into laboratory-provided wide-mouth glass jars with securely-fitting lids. The sample jars were labeled, promptly placed in a water ice-chilled cooler, and transported accompanied by chain-of-custody to a subcontracted, California-accredited analytical testing laboratory for analysis.

Sampling equipment was cleaned prior to collecting each sample by washing in a non-phosphate detergent (i.e., Liquinox™) and tap water wash, using a brush to dislodge soil, dirt, or other encrusted materials, and then double-rinsing in distilled or deionized water.

## 8.2 SOIL SAMPLE ANALYSIS

Soil samples were analyzed for organochlorine pesticides (OCPs) using US EPA Method 8081A and arsenic using US EPA Method 6010B.

## 8.3 SOIL SAMPLE RESULTS

Soil sample analytical results indicated that OCPs were not present above laboratory detection limits in shallow soils at the Site. Arsenic concentrations present in soil ranged from 2.3 milligrams per kilogram (mg/kg) to 4.3 mg/kg.


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## 8.4 EVALUATION

The soil analytical results were compared to the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) "Tier 1" Environmental Screening Level (ESL) for arsenic, last updated in February 2016. The SFBRWQCB's "Tier 1" ESLs, were designed to protect properties with unrestricted land and water use, addressing media including soil, groundwater, and soil vapor, along with a range of concerns including direct exposure human health risks, impact to drinking water, vapor intrusion, and impact to aquatic life. Use of the Tier 1 ESLs applies the most conservative ESL for the constituent of concern. The soil analytical results were also compared to human-health risk-based screening levels for residential and commercial/industrial soil presented in the California Environmental Protection Agency, DTSC, Office of Human and Ecological Risk (HERO) Human Health Risk Assessment (HHRA) Note Number (No.) 3, last updated in January 2018 (and corrected February 2018), for arsenic.

Also, in consideration of concentration thresholds for California and Federal hazardous waste, the detected concentrations of arsenic were compared to: 1) its California Code or Regulations (CCR) Title 22 Total Threshold Limit Concentration (TTLC); 2) 10 times the arsenic CCR Title 22 Soluble Threshold Limit Concentration (STLC); and 3) 20 times the arsenic Federal Toxicity Characteristic Leaching Procedure (TCLP) threshold.

Arsenic concentrations at the Site exceed the arsenic Tier 1 ESL value of 0.067 mg/kg and the DTSC HERO HHRA residential and commercial/industrial soil screening levels of 0.11 mg/kg and 0.4 mg/kg, respectively. However, it has been acknowledged by regulatory agencies, including the DTSC, that background concentrations of arsenic in soils in California commonly exceed established arsenic human-health risk-based screening levels. Reported concentrations are within generally-accepted southern California upper-bound background arsenic concentration of 12 milligrams per kilogram (mg/kg) (DTSC, 2008).

Arsenic concentrations did not exceed the arsenic TTLC of 500 mg/kg, 10 times the arsenic STLC value of 5 milligrams per liter (mg/L) (50 mg/kg), or 20 times the arsenic TCLP threshold of 5 mg/L (100 mg/kg). Therefore, arsenic concentrations at the Site do not exceed thresholds that would classify soils as Federal or California hazardous wastes.

Based on the soil analytical results, Kleinfelder does not recommend any further assessment.

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# 9 EVALUATION

Kleinfelder performed this Phase I ESA of the Site in conformance with the scope and limitations of the Standard Practice, the scope of services in our Proposal No. MPCOSTCO.001C/IRV18P76351, dated April 6, 2018, and in accordance with Costco Wholesale Development Requirements, Version 2014, Revised June 13, 2014. The following sections describe Kleinfelder's findings and provide general background information about the Site. Findings address RECs, HRECs, CRECs, and notation of *de minimis* quantities, as applicable to the Site. In summary, Kleinfelder's assessment revealed the following information concerning the Site:

## 9.1 BACKGROUND

- The Site comprises a 103-acre parcel of land identified by the San Joaquin County Assessor as APN 209-230-020-000. Currently, the Site is used for agricultural purposes.

- The Site was historically used for agricultural purposes (both agricultural fields and orchards) since at least 1937 through the present. Kleinfelder performed soil sampling throughout the Site to assess for the presence of pesticides and arsenic in shallow soil at the Site as a result of historical and current agricultural activities. Based on the analytical laboratory results, pesticides were not detected in shallow soil, and arsenic was detected at concentrations consistent with naturally-occurring background. Thus, the former agricultural use is not considered an environmental concern.

## 9.2 FINDINGS AND OPINIONS

The following is a summary of the findings and opinions of this Phase I ESA:

- A retention basin is located in the northeastern corner of the Site. A corrugated metal pipe culvert is present at the base of the retention basin. Irrigation-related standpipes were noted in the southeastern Site corner. These stand pipes appear to be gate valves for Site irrigation. Irrigation-related pipes were also noted along the southwestern Site border.

- Crimson Pipeline, L.P. operates a crude oil pipeline, and Pacific, Gas and Electric (PG&E) operates two natural gas pipelines, which run generally southeast-northwest across the northeastern portion of the Site (see Figure 2). No incidental/accidental releases were reported


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along the pipelines in the vicinity of the Site. However, the presence of the pipelines on Site, along with the potential for undocumented leaks which may have occurred, represent a REC.

- Discarded oil and paint thinner containers, and an empty discarded propane tank, were noted in a concrete box culvert near the southwestern border of the Site, near the Delta Mendota Canal. Debris and general household trash was noted along the northern and southern borders of the Site, and in the southeastern corner of the Site. No evidence of stained soil was noted in the vicinity of the discarded items or debris/trash.

- No off-Site facilities are considered likely to have affected soil, soil vapor or groundwater beneath the Site.

## 9.3 DEVIATIONS AND ADDITIONAL SERVICES

Kleinfelder's scope of services did not include Standard Practice non-scope evaluations of cultural, historic, and archaeological resources and environmental regulatory compliance that may be required for a Phase I ESA pursuant to Costco's Development Requirements publication (revised June 13, 2014). In addition, the Phase I ESA did not include an assessment for ACMs, radon, LBP, lead in drinking water, molds and mildews, indoor air quality, industrial hygiene, health and safety, and other Standard Practice non-scope considerations not described herein.

Kleinfelder's scope of services included evaluations of wetlands and threatened, endangered, and other protected species pursuant to Development Requirements, Version 2014, revised June 13, 2014. Kleinfelder contracted with Moore Biological Consultants to perform these evaluations. However, the completed report summarizing the results of these evaluations has not yet been received. Results will be presented under separate cover.

## 9.4 CONCLUSIONS

Kleinfelder has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-13 of the property located at 16000 West Schulte Road in Tracy, California. Any exceptions to, or deviations from, this practice are described in Section 8.3 of this report.

This assessment has revealed no evidence of CRECs associated with the Site. The following REC has been identified:

The presence of natural gas pipelines and the potential for undocumented leaks to have occurred from the crude oil pipeline, which runs through the northeastern portion of the Site represents a


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REC. However, should subsurface contamination be detected in the future as a result of leaks from this pipeline, Crimson Pipeline, L.P. (or current operator at that time) would be responsible for cleanup.

## 9.5 RECOMMENDATIONS

Based on the results of the Phase I ESA findings, Kleinfelder does not recommend further assessment at this time.

## 9.6 DATA GAPS

Consistent with ASTM Standard Practice E 1527-13, data gaps are to be identified, which may affect the identification of hazardous substances or petroleum products for the evaluation of RECs at the Site. Data gaps identified must be evaluated to determine if they constitute a data failure. The following data gap was identified for the Site.

- Questionnaire has not been received from the Site owner.

Based on other information gathered as part of this Phase I ESA, this data gap is not considered a data failure.

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# 10 REFERENCES

California Department of Toxic Substances Control (DTSC), 2008, *Determination of a Southern California Regional Arsenic Concentration in Soil*, March.

California Department of Water Resources (CDWR), 2006, California Groundwater Bulletin 118, San Joaquin River Hydrologic Region, San Joaquin Valley Groundwater Basin, Tracy Subbasin, January 20.

_____, 2002, California Geomorphic Provinces, Note 36, December.

City of Tracy, 2007, Tracy Regional Groundwater Management Plan, Project No: 060260, March.

Environmental Data Resources Inc. (EDR), 2018a. EDR Environmental Lien and AUL Search, 16000 West Schulte Road, Tracy, CA 95377, Inquiry Number: 5253641.7, April 11.

_____, 2018b. The EDR Radius Map™ Report with GeoCheck®, 16000 West Schulte Road, Tracy, CA 95377, Inquiry Number: 5253641.2s, April 10.

_____, 2018c. Certified Sanborn® Map Report, 16000 West Schulte Road, Tracy, CA 95377, Inquiry Number: 5253641.3, April 10.

_____, 2018d. The EDR Aerial Photo Decade Package, 16000 West Schulte Road, Tracy, CA 95377, Inquiry Number: 5253641.12, April 11.

_____, 2018e. The EDR-City Directory Image Report, 16000 West Schulte Road, Tracy, CA 95377, Inquiry Number: 5253641.5, April 11.

_____, 2018f. EDR Historical Topo Map Report with QuadMatch™, 16000 West Schulte Road, Tracy, CA 95377, Inquiry Number: 5253641.4, April 10.

_____, 2018g. EDR Building Permit Report, 16000 West Schulte Road, Tracy, CA 95377, Inquiry Number: 5253641.8, April 10.

United States Geological Survey (USGS), 2012, 7.5-minute Topographic Map of the Midway, California Quadrangle, scale 1:24,000.

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# FIGURES

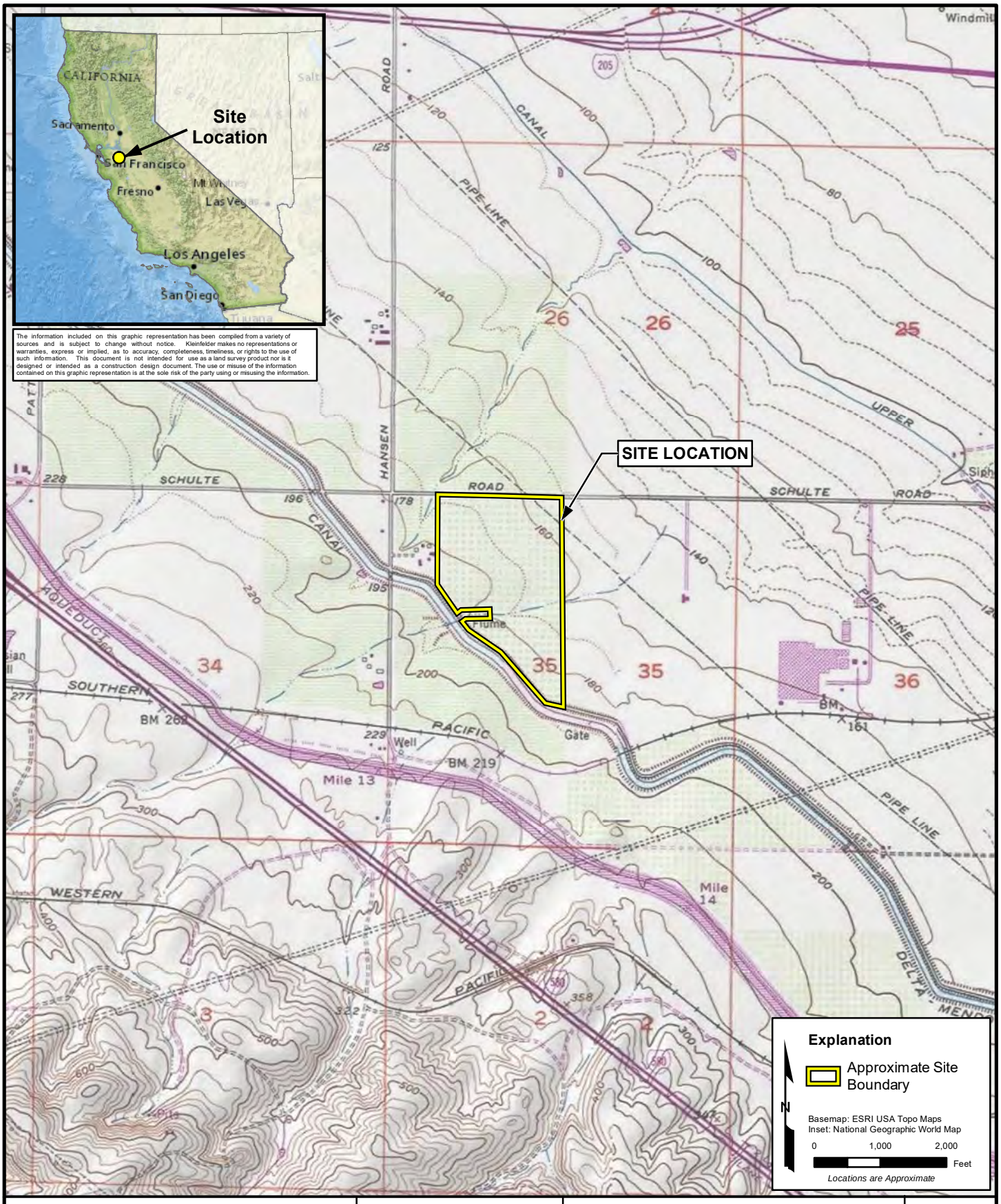
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IRVINE, CA



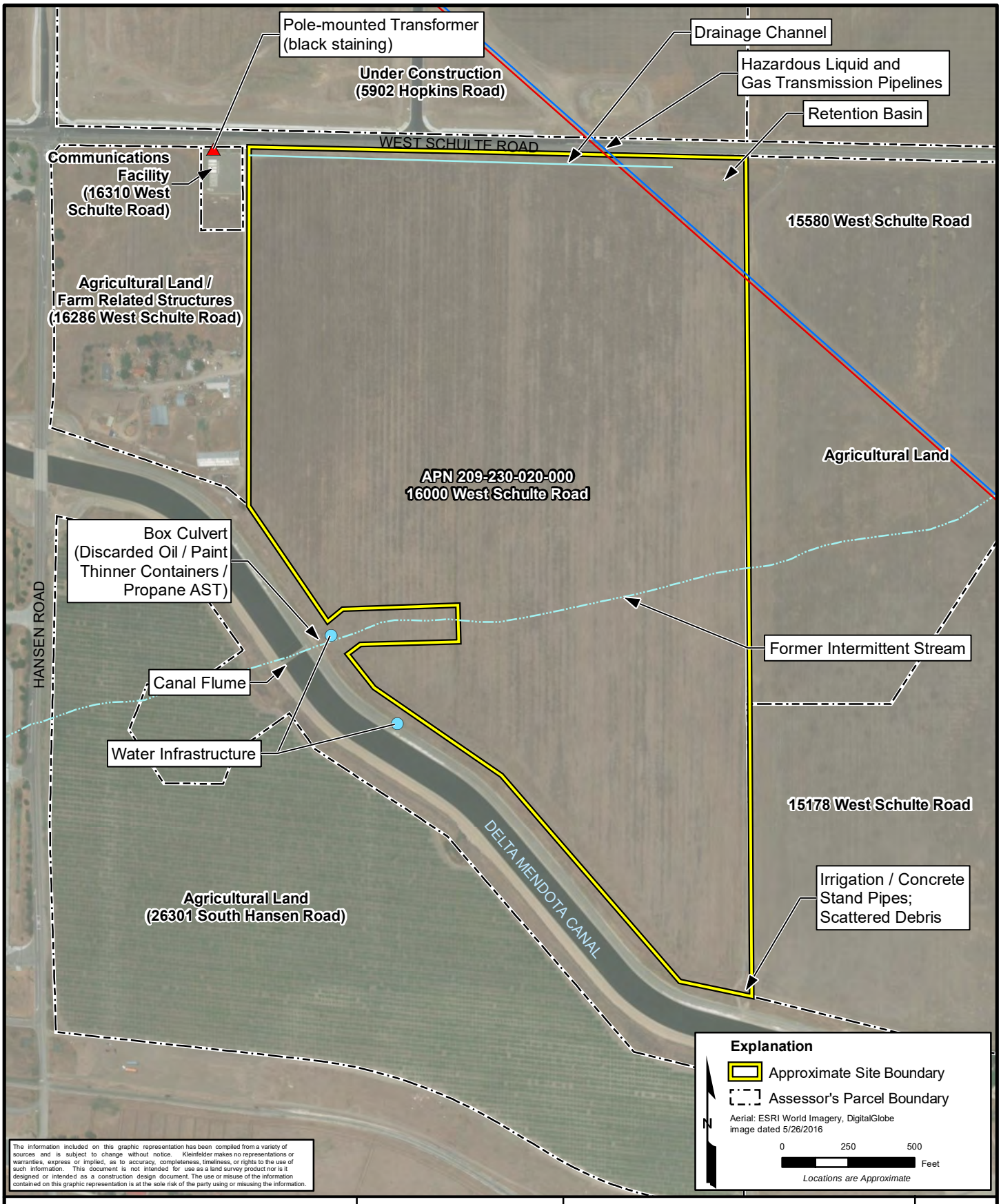

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|---|---|
| PROJECT: | 20190071 |
| DRAWN: | APR 2018 |
| DRAWN BY: | K. HAGAN |
| CHECKED BY: | M. CARROLL |
| FILE NAME: | Figure1.mxd |

SITE LOCATION MAP

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO E-COMMERCE FACILITY
16000 WEST SCHULTE ROAD
TRACY, CALIFORNIA

FIGURE
1




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| CHECKED BY: | M. CARROLL |
| FILE NAME: | Figure2.mxd |

SITE VICINITY MAP

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED COSTCO E-COMMERCE FACILITY
16000 WEST SCHULTE ROAD
TRACY, CALIFORNIA

FIGURE
2

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Photo 1: Looking southwest at adjoining Communications Facility.






Photo 2: Looking west at offsite pole-mounted transformer with dark staining.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>3 |






Photo 3: Looking east along northern Site border.






Photo 4: Looking south along western Site border.

| | | | |
|---|---|---|---|
| KLEINFELDER<br>Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>4 |






Photo 5: Looking southwest at ponds and embankments on adjoining western property.






Photo 6: Looking west at adjoining western property. Multiple ASTs visible.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>5 |






Photo 7: Looking west at adjoining western property and associated agricultural structures.






Photo 8: Looking southwest at ASTs and other items stored in southeastern portion of western adjoining property.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br>6 |






Photo 9: Looking southwest across canal flume.






Photo 10: Looking southwest at concrete culvert associated with canal flume.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>7 |




Photo 11: Looking southeast at garbage at base of canal flume culvert (above). Garbage includes oil containers (Picture 12, below left) and paint thinner containers (Picture 13, below right).



Photo 12: Oil containers noted in garbage at base of canal flume culvert.




Photo 13: Paint thinner containers noted in garbage at base of canal flume culvert.






Photo 14: Looking northeast at typical irrigation valve located along southwestern Site border.

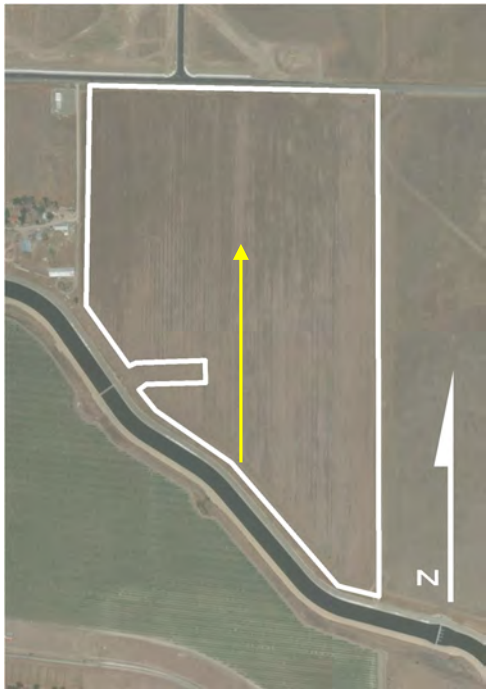





Photo 15: Looking north across Site from southwestern Site border.

| | | | |
|---|---|---|---|
| KLEINFELDER<br>Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>9 |






Photo 16: Discarded propane tank noted along southwestern Site border.






Photo 17: Looking west/northwest across canal.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>10 |






Photo 18: Garbage and debris noted in southeastern Site corner.






Photo 19: Looking east at garbage and irrigation-related concrete standpipes located in southeastern Site corner.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br>11 |






Photo 20: Looking north along eastern Site border.






Photo 21: Example of typical communication vault box noted along eastern Site border. Vaults are east of fence and therefore may be located on eastern adjoining property.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>12 |






Photo 22: Looking north along eastern Site border at petroleum utility markers.






Photo 23: Looking west across basin located at northeastern Site corner.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br>13 |






Photo 24: Looking southwest across northeastern Site basin and up surrounding embankment. Kleinfelder personnel provides scale.






Photo 25: Looking east at utility vaults and equipment located at northwest corner of eastern adjoining property.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>14 |






Photo 26: Looking west along northern Site border ditch. Garbage in ditch and petroleum utility markers immediately north of ditch visible.






Photo 27: Looking northwest at northern adjoining parcel along USA-marked petroleum alignment.

| | | | |
|---|---|---|---|
| KLEINFELDER Bright People. Right Solutions. | PROJECT NO. 20190071<br>DRAWN BY: AW<br>CHECKED BY: MC<br>DATE: 2018-04<br>REVISED: | SITE PHOTOGRAPHS<br><br>PHASE I ENVIRONMENTAL SITE ASSESSMENT<br>PROPOSED COSTCO E-COMMERCE FACILITY<br>16000 WEST SCHULTE ROAD<br>TRACY, CALIFORNIA | FIGURE<br><br>15 |

# APPENDIX A
# STATEMENT OF QUALIFICATIONS

DRAFT


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## STATEMENT OF QUALIFICATIONS

We declare that to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all-appropriate inquiries in conformance with the standards and practices set forth in CFR Part 312.

Anthony Wohletz
Environmental Professional

Margaret R. Carroll
Environmental Professional

Lizanne Simmons, PG
Senior Principal Geologist

The resumes of above-listed environmental professionals performing this Phase I ESA are on file at the Kleinfelder office and are available upon request.

DRAFT


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# APPENDIX B
# REGULATORY AGENCY DATABASE REPORT

DRAFT


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**16000 West Schulte Road**
16000 West Schulte Road
Tracy, CA 95377

Inquiry Number: 5253641.2s
April 10, 2018

# The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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| Map Findings Summary | 4 |
| Map Findings | 8 |
| Orphan Summary | 11 |
| Government Records Searched/Data Currency Tracking | GR-1 |

**GEOCHECK ADDENDUM**

| | |
|---|---|
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***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.


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# EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

## TARGET PROPERTY INFORMATION

### ADDRESS

16000 WEST SCHULTE ROAD
TRACY, CA 95377

### COORDINATES

| | |
|---|---|
| Latitude (North): | 37.7182350 - 37° 43' 5.64'' |
| Longitude (West): | 121.5066100 - 121° 30' 23.79'' |
| Universal Tranverse Mercator: | Zone 10 |
| UTM X (Meters): | 631622.8 |
| UTM Y (Meters): | 4175398.0 |
| Elevation: | 175 ft. above sea level |

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

| | |
|---|---|
| Target Property Map: | 5640068 MIDWAY, CA |
| Version Date: | 2012 |
| Southeast Map: | 5640426 TRACY, CA |
| Version Date: | 2012 |

### AERIAL PHOTOGRAPHY IN THIS REPORT

| | |
|---|---|
| Portions of Photo from: | 20140628 |
| Source: | USDA |

# MAPPED SITES SUMMARY

Target Property Address:
16000 WEST SCHULTE ROAD
TRACY, CA 95377

Click on Map ID to see full detail.

| MAP ID | SITE NAME | ADDRESS | DATABASE ACRONYMS | RELATIVE ELEVATION | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|---|
| A1 | SHELL OIL COMPANY - | HANSEN & SHULTE RD | SLIC | Higher | 833, 0.158, NW |
| A2 | SHELL PIPELINE CO LP | W SCHULTE AND HANSEN | RCRA-SQG | Higher | 833, 0.158, NW |
| 3 | TRACY YOUTH SPORTS P | 15178 SCHULTE ROAD | SLIC | Lower | 2005, 0.380, ENE |

# EXECUTIVE SUMMARY

## TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

## DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

## STANDARD ENVIRONMENTAL RECORDS

### *Federal NPL site list*

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

### *Federal Delisted NPL site list*

Delisted NPL ---------- National Priority List Deletions

### *Federal CERCLIS list*

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

### *Federal CERCLIS NFRAP site list*

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

### *Federal RCRA CORRACTS facilities list*

CORRACTS ---------- Corrective Action Report

### *Federal RCRA non-CORRACTS TSD facilities list*

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

### *Federal RCRA generators list*

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

### *Federal institutional controls / engineering controls registries*

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

# EXECUTIVE SUMMARY

***Federal ERNS list***

ERNS ---------- Emergency Response Notification System

***State- and tribal - equivalent NPL***

RESPONSE ---------- State Response Sites

***State- and tribal - equivalent CERCLIS***

ENVIROSTOR ---------- EnviroStor Database

***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF ---------- Solid Waste Information System

***State and tribal leaking storage tank lists***

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

***State and tribal registered storage tank lists***

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

***State and tribal voluntary cleanup sites***

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

***State and tribal Brownfields sites***

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

**ADDITIONAL ENVIRONMENTAL RECORDS**

***Local Brownfield lists***

US BROWNFIELDS ---------- A Listing of Brownfields Sites

***Local Lists of Landfill / Solid Waste Disposal Sites***

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

***Local Lists of Hazardous waste / Contaminated Sites***

US HIST CDL ---------- Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register

***Local Lists of Registered Storage Tanks***

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CA FID UST ---- Facility Inventory Database

***Local Land Records***

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

***Records of Emergency Release Reports***

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

***Other Ascertainable Records***

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations

| | |
|---|---|
| FUSRAP | Formerly Utilized Sites Remedial Action Program |
| UMTRA | Uranium Mill Tailings Sites |
| LEAD SMELTERS | Lead Smelter Sites |
| US AIRS | Aerometric Information Retrieval System Facility Subsystem |
| US MINES | Mines Master Index File |
| ABANDONED MINES | Abandoned Mines |
| FINDS | Facility Index System/Facility Registry System |
| UXO | Unexploded Ordnance Sites |
| ECHO | Enforcement & Compliance History Information |
| DOCKET HWC | Hazardous Waste Compliance Docket Listing |
| FUELS PROGRAM | EPA Fuels Program Registered Listing |
| CA BOND EXP. PLAN | Bond Expenditure Plan |
| Cortese | "Cortese" Hazardous Waste & Substances Sites List |
| CUPA Listings | CUPA Resources List |
| DRYCLEANERS | Cleaner Facilities |
| EMI | Emissions Inventory Data |
| ENF | Enforcement Action Listing |
| Financial Assurance | Financial Assurance Information Listing |
| HAZNET | Facility and Manifest Data |
| ICE | ICE |
| HIST CORTESE | Hazardous Waste & Substance Site List |
| HWP | EnviroStor Permitted Facilities Listing |
| HWT | Registered Hazardous Waste Transporter Database |
| MINES | Mines Site Location Listing |
| MWMP | Medical Waste Management Program Listing |
| NPDES | NPDES Permits Listing |
| PEST LIC | Pesticide Regulation Licenses Listing |
| PROC | Certified Processors Database |
| Notify 65 | Proposition 65 Records |
| UIC | UIC Listing |
| WASTEWATER PITS | Oil Wastewater Pits Listing |
| WDS | Waste Discharge System |
| WIP | Well Investigation Program Case List |

**EDR HIGH RISK HISTORICAL RECORDS**

***EDR Exclusive Records***

| | |
|---|---|
| EDR MGP | EDR Proprietary Manufactured Gas Plants |
| EDR Hist Auto | EDR Exclusive Historical Auto Stations |
| EDR Hist Cleaner | EDR Exclusive Historical Cleaners |

**EDR RECOVERED GOVERNMENT ARCHIVES**

***Exclusive Recovered Govt. Archives***

| | |
|---|---|
| RGA LF | Recovered Government Archive Solid Waste Facilities List |
| RGA LUST | Recovered Government Archive Leaking Underground Storage Tank |

**SURROUNDING SITES: SEARCH RESULTS**

Surrounding sites were identified in the following databases.

# EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

**STANDARD ENVIRONMENTAL RECORDS**

***Federal RCRA generators list***

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| SHELL PIPELINE CO LP | W SCHULTE AND HANSEN | NW 1/8 - 1/4 (0.158 mi.) | A2 | 8 |

***State and tribal leaking storage tank lists***

SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the SLIC list, as provided by EDR, has revealed that there are 2 SLIC sites within approximately 0.5 miles of the target property.

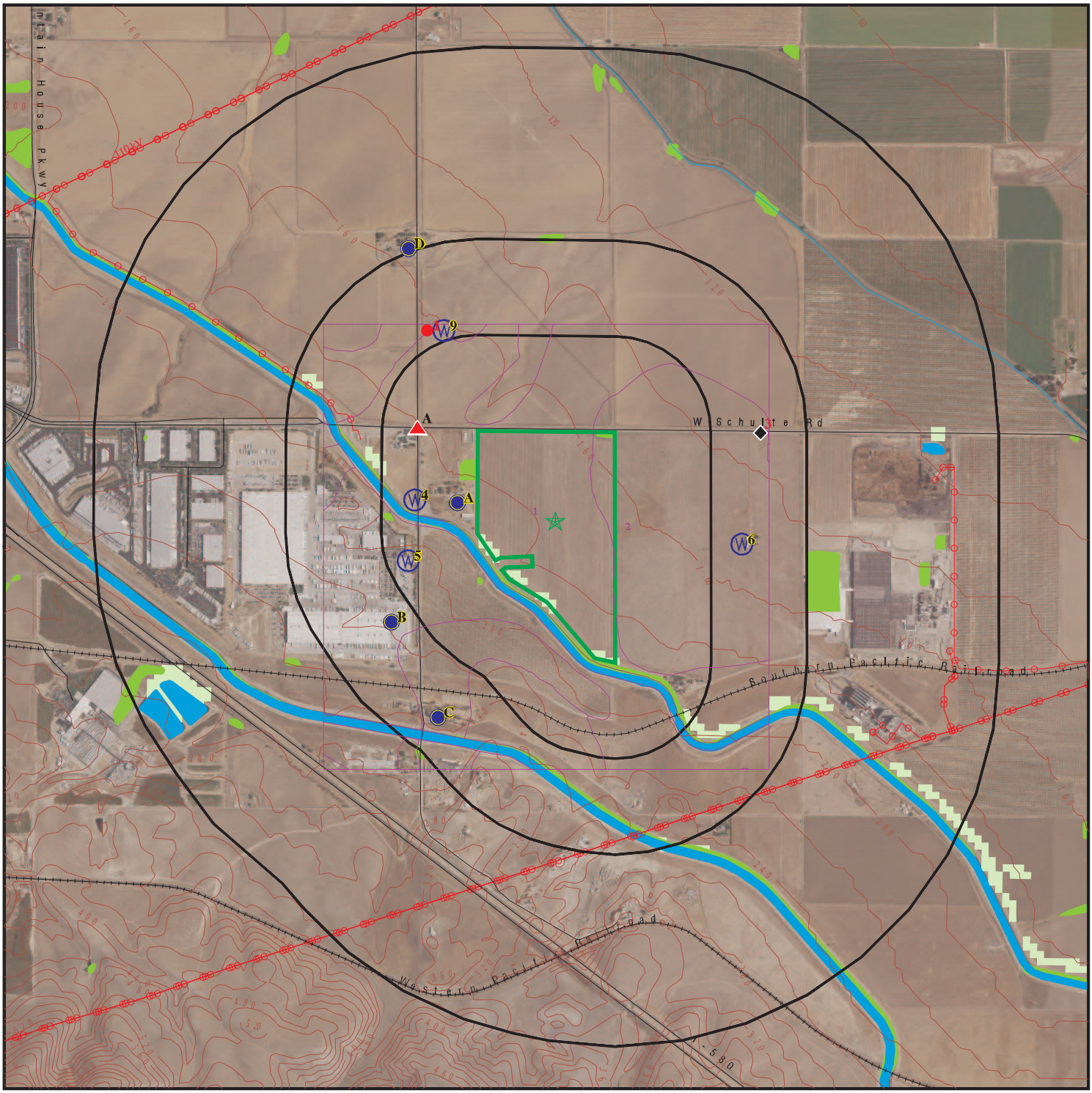
| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| SHELL OIL COMPANY - | HANSEN & SHULTE RD | NW 1/8 - 1/4 (0.158 mi.) | A1 | 8 |
| Database: SLIC REG 5, Date of Government Version: 04/01/2005 | | | | |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| TRACY YOUTH SPORTS P | 15178 SCHULTE ROAD | ENE 1/4 - 1/2 (0.380 mi.) | 3 | 9 |
| Database: SLIC, Date of Government Version: 03/12/2018 | | | | |
| Facility Status: Completed - Case Closed | | | | |
| Global Id: SL0607797298 | | | | |

# EXECUTIVE SUMMARY

There were no unmapped sites in this report.

# OVERVIEW MAP - 5253641.2S




Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

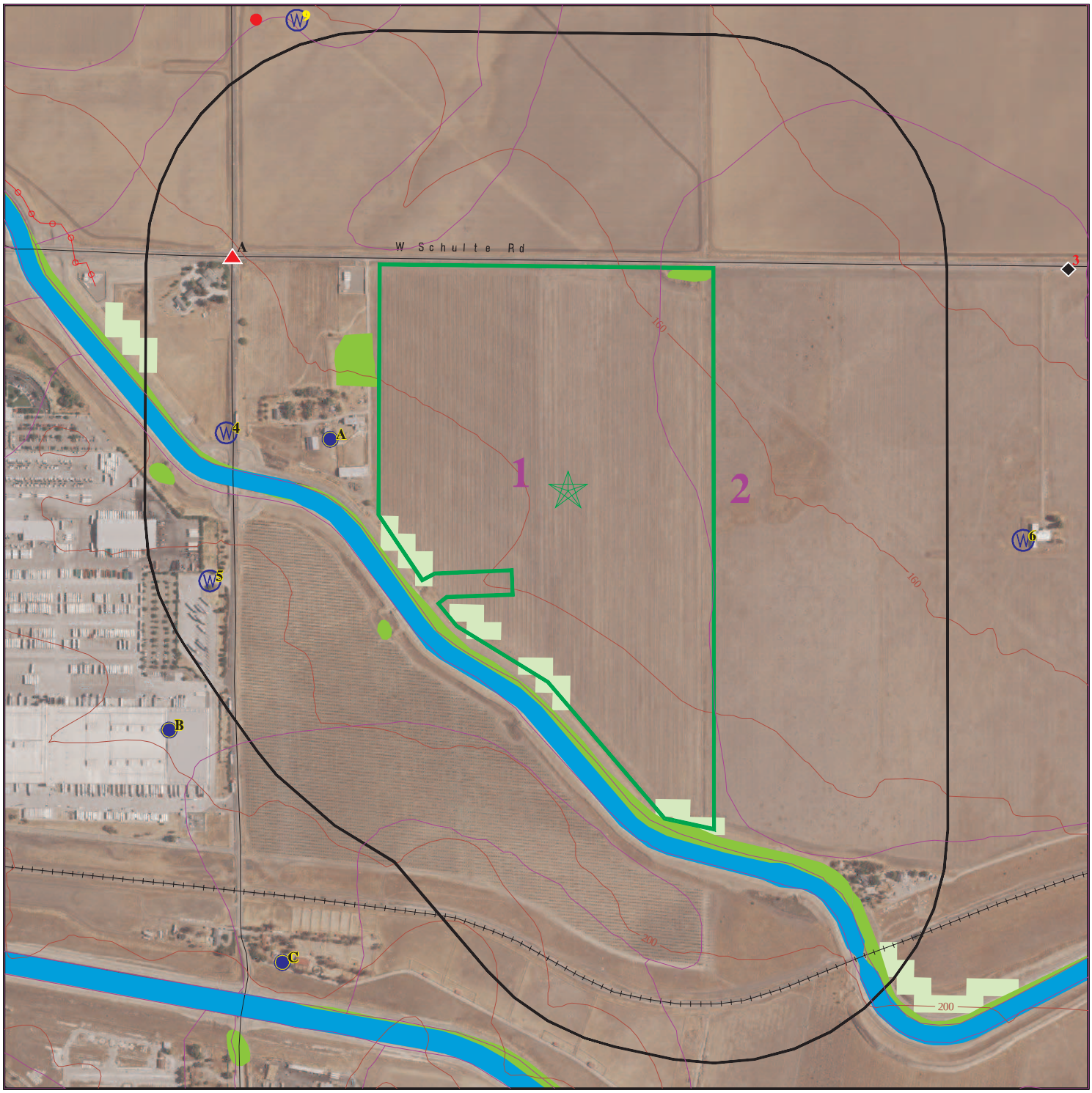
Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

| | |
|---|---|
| SITE NAME: 16000 West Schulte Road<br>ADDRESS: 16000 West Schulte Road<br>Tracy CA 95377<br>LAT/LONG: 37.718235 / 121.50661 | CLIENT: Kleinfelder, Inc.<br>CONTACT: Paolo Dizon<br>INQUIRY #: 5253641.2s<br>DATE: April 10, 2018 6:11 pm |

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# DETAIL MAP - 5253641.2S




- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

0 1/8 1/4 1/2 Miles

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

| | |
|---|---|
| SITE NAME: 16000 West Schulte Road | CLIENT: Kleinfelder, Inc. |
| ADDRESS: 16000 West Schulte Road<br>Tracy CA 95377 | CONTACT: Paolo Dizon |
| LAT/LONG: 37.718235 / 121.50661 | INQUIRY #: 5253641.2s<br>DATE: April 10, 2018 6:13 pm |

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# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| **STANDARD ENVIRONMENTAL RECORDS** | | | | | | | | |
| ***Federal NPL site list*** | | | | | | | | |
| NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Proposed NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| NPL LIENS | TP | | NR | NR | NR | NR | NR | 0 |
| ***Federal Delisted NPL site list*** | | | | | | | | |
| Delisted NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Federal CERCLIS list*** | | | | | | | | |
| FEDERAL FACILITY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SEMS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal CERCLIS NFRAP site list*** | | | | | | | | |
| SEMS-ARCHIVE | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal RCRA CORRACTS facilities list*** | | | | | | | | |
| CORRACTS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Federal RCRA non-CORRACTS TSD facilities list*** | | | | | | | | |
| RCRA-TSDF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal RCRA generators list*** | | | | | | | | |
| RCRA-LQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| RCRA-SQG | 0.250 | | 0 | 1 | NR | NR | NR | 1 |
| RCRA-CESQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***Federal institutional controls / engineering controls registries*** | | | | | | | | |
| LUCIS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US ENG CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US INST CONTROL | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal ERNS list*** | | | | | | | | |
| ERNS | TP | | NR | NR | NR | NR | NR | 0 |
| ***State- and tribal - equivalent NPL*** | | | | | | | | |
| RESPONSE | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***State- and tribal - equivalent CERCLIS*** | | | | | | | | |
| ENVIROSTOR | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***State and tribal landfill and/or solid waste disposal site lists*** | | | | | | | | |
| SWF/LF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***State and tribal leaking storage tank lists*** | | | | | | | | |
| LUST | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| INDIAN LUST | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SLIC | 0.500 | | 0 | 1 | 1 | NR | NR | 2 |
| ***State and tribal registered storage tank lists*** | | | | | | | | |
| FEMA UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| AST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| INDIAN UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***State and tribal voluntary cleanup sites*** | | | | | | | | |
| INDIAN VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***State and tribal Brownfields sites*** | | | | | | | | |
| BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| **ADDITIONAL ENVIRONMENTAL RECORDS** | | | | | | | | |
| ***Local Brownfield lists*** | | | | | | | | |
| US BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Landfill / Solid Waste Disposal Sites*** | | | | | | | | |
| WMUDS/SWAT | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SWRCY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| HAULERS | TP | | NR | NR | NR | NR | NR | 0 |
| INDIAN ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| DEBRIS REGION 9 | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| IHS OPEN DUMPS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Hazardous waste / Contaminated Sites*** | | | | | | | | |
| US HIST CDL | TP | | NR | NR | NR | NR | NR | 0 |
| HIST Cal-Sites | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCH | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| CDL | TP | | NR | NR | NR | NR | NR | 0 |
| Toxic Pits | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| US CDL | TP | | NR | NR | NR | NR | NR | 0 |
| ***Local Lists of Registered Storage Tanks*** | | | | | | | | |
| SWEEPS UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| HIST UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| CA FID UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***Local Land Records*** | | | | | | | | |
| LIENS | TP | | NR | NR | NR | NR | NR | 0 |
| LIENS 2 | TP | | NR | NR | NR | NR | NR | 0 |
| DEED | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Records of Emergency Release Reports*** | | | | | | | | |
| HMIRS | TP | | NR | NR | NR | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| CHMIRS | TP | | NR | NR | NR | NR | NR | 0 |
| LDS | TP | | NR | NR | NR | NR | NR | 0 |
| MCS | TP | | NR | NR | NR | NR | NR | 0 |
| SPILLS 90 | TP | | NR | NR | NR | NR | NR | 0 |
| ***Other Ascertainable Records*** | | | | | | | | |
| RCRA NonGen / NLR | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| FUDS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| DOD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCRD DRYCLEANERS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US FIN ASSUR | TP | | NR | NR | NR | NR | NR | 0 |
| EPA WATCH LIST | TP | | NR | NR | NR | NR | NR | 0 |
| 2020 COR ACTION | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| TSCA | TP | | NR | NR | NR | NR | NR | 0 |
| TRIS | TP | | NR | NR | NR | NR | NR | 0 |
| SSTS | TP | | NR | NR | NR | NR | NR | 0 |
| ROD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| RMP | TP | | NR | NR | NR | NR | NR | 0 |
| RAATS | TP | | NR | NR | NR | NR | NR | 0 |
| PRP | TP | | NR | NR | NR | NR | NR | 0 |
| PADS | TP | | NR | NR | NR | NR | NR | 0 |
| ICIS | TP | | NR | NR | NR | NR | NR | 0 |
| FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| MLTS | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH DOE | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH EPA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| PCB TRANSFORMER | TP | | NR | NR | NR | NR | NR | 0 |
| RADINFO | TP | | NR | NR | NR | NR | NR | 0 |
| HIST FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| DOT OPS | TP | | NR | NR | NR | NR | NR | 0 |
| CONSENT | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| INDIAN RESERV | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| FUSRAP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UMTRA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| LEAD SMELTERS | TP | | NR | NR | NR | NR | NR | 0 |
| US AIRS | TP | | NR | NR | NR | NR | NR | 0 |
| US MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ABANDONED MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| FINDS | TP | | NR | NR | NR | NR | NR | 0 |
| UXO | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ECHO | TP | | NR | NR | NR | NR | NR | 0 |
| DOCKET HWC | TP | | NR | NR | NR | NR | NR | 0 |
| FUELS PROGRAM | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| CA BOND EXP. PLAN | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Cortese | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| CUPA Listings | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| DRYCLEANERS | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| EMI | TP | | NR | NR | NR | NR | NR | 0 |
| ENF | TP | | NR | NR | NR | NR | NR | 0 |
| Financial Assurance | TP | | NR | NR | NR | NR | NR | 0 |
| HAZNET | TP | | NR | NR | NR | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| ICE | TP | | NR | NR | NR | NR | NR | 0 |
| HIST CORTESE | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| HWP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| HWT | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MWMP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| NPDES | TP | | NR | NR | NR | NR | NR | 0 |
| PEST LIC | TP | | NR | NR | NR | NR | NR | 0 |
| PROC | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Notify 65 | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UIC | TP | | NR | NR | NR | NR | NR | 0 |
| WASTEWATER PITS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| WDS | TP | | NR | NR | NR | NR | NR | 0 |
| WIP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| **EDR HIGH RISK HISTORICAL RECORDS** | | | | | | | | |
| ***EDR Exclusive Records*** | | | | | | | | |
| EDR MGP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| EDR Hist Auto | 0.125 | | 0 | NR | NR | NR | NR | 0 |
| EDR Hist Cleaner | 0.125 | | 0 | NR | NR | NR | NR | 0 |
| **EDR RECOVERED GOVERNMENT ARCHIVES** | | | | | | | | |
| ***Exclusive Recovered Govt. Archives*** | | | | | | | | |
| RGA LF | TP | | NR | NR | NR | NR | NR | 0 |
| RGA LUST | TP | | NR | NR | NR | NR | NR | 0 |
| - Totals -- | | 0 | 0 | 2 | 1 | 0 | 0 | 3 |

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

**A1**
**NW**
**1/8-1/4**
**0.158 mi.**
**833 ft.**

**SHELL OIL COMPANY - HANSEN & SHULTE RD**
**HANSEN & SHULTE RD**
**TRACY, CA**

**Site 1 of 2 in cluster A**

**SLIC** **S106230430**
**N/A**

**Relative:**
**Higher**

**Actual:**
**181 ft.**

SLIC REG 5:

| | |
|---|---|
| Region: | 5 |
| Facility Status: | RI |
| Unit: | Facility is a Spill or site |
| Pollutant: | TPH |
| Lead Agency: | DLL |
| Date Filed: | / / |
| Report Date: | / / |
| Date Added: | Not reported |
| Date Closed: | Not reported |

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**A2**
**NW**
**1/8-1/4**
**0.158 mi.**
**833 ft.**

**SHELL PIPELINE CO LP LOCATION NO 805248 DRUM LOCAT**
**W SCHULTE AND HANSEN**
**TRACY, CA 95377**

**Site 2 of 2 in cluster A**

**RCRA-SQG** **1015740401**
**CAR000231092**

**Relative:**
**Higher**

**Actual:**
**181 ft.**

RCRA-SQG:

| | |
|---|---|
| Date form received by agency: | 10/25/2012 |
| Facility name: | SHELL PIPELINE CO LP LOCATION NO 805248 DRUM LOCATION MW 5 |
| Facility address: | W SCHULTE AND HANSEN<br>ON HANSEN RD .5 MI N OF<br>TRACY, CA 95377 |
| EPA ID: | CAR000231092 |
| Mailing address: | PO BOX 2648<br>HOUSTON, TX 77252-2648 |
| Contact: | RAY E WALDING |
| Contact address: | PO BOX 2648<br>HOUSTON, TX 77252-2648 |
| Contact country: | US |
| Contact telephone: | 713-241-7008 |
| Contact email: | RAY.WALDING@SHELL.COM |
| EPA Region: | 09 |
| Classification: | Small Small Quantity Generator |
| Description: | Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | SHELL PIPELINE CO LP |
| Owner/operator address: | PO BOX 2648<br>HOUSTON, TX 77252 |
| Owner/operator country: | US |
| Owner/operator telephone: | 713-241-7008 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Private |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | 05/01/2002 |
| Owner/Op end date: | Not reported |

**SHELL PIPELINE CO LP LOCATION NO 805248 DRUM LOCATION MW 5 (Continued)** **1015740401**

| | |
|---|---|
| Owner/operator name: | SHELL PIPELINE CO LP |
| Owner/operator address: | Not reported |
| | Not reported |
| Owner/operator country: | US |
| Owner/operator telephone: | Not reported |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Private |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | 05/01/2002 |
| Owner/Op end date: | Not reported |

Handler Activities Summary:

| | |
|---|---|
| U.S. importer of hazardous waste: | No |
| Mixed waste (haz. and radioactive): | No |
| Recycler of hazardous waste: | No |
| Transporter of hazardous waste: | No |
| Treater, storer or disposer of HW: | No |
| Underground injection activity: | No |
| On-site burner exemption: | No |
| Furnace exemption: | No |
| Used oil fuel burner: | No |
| Used oil processor: | No |
| User oil refiner: | No |
| Used oil fuel marketer to burner: | No |
| Used oil Specification marketer: | No |
| Used oil transfer facility: | No |
| Used oil transporter: | No |

| | |
|---|---|
| . Waste code: | D001 |
| . Waste name: | IGNITABLE WASTE |

| | |
|---|---|
| . Waste code: | D018 |
| . Waste name: | BENZENE |

Violation Status: No violations found

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**3** **TRACY YOUTH SPORTS PARK** **SLIC** **S108937588**
**ENE** **15178 SCHULTE ROAD** **N/A**
**1/4-1/2** **TRACY, CA**
**0.380 mi.**
**2005 ft.**

**Relative:**
**Lower**

**Actual:**
**134 ft.**

SLIC:

| | |
|---|---|
| Region: | STATE |
| **Facility Status:** | **Completed - Case Closed** |
| Status Date: | 05/21/2009 |
| Global Id: | SL0607797298 |
| Lead Agency: | CENTRAL VALLEY RWQCB (REGION 5S) |
| Lead Agency Case Number: | Not reported |
| Latitude: | 37.721672 |
| Longitude: | -121.495142 |
| Case Type: | Cleanup Program Site |
| Case Worker: | ZZZ |
| Local Agency: | Not reported |
| RB Case Number: | Not reported |
| File Location: | Not reported |

**TRACY YOUTH SPORTS PARK (Continued)** **S108937588**

Potential Media Affected: Soil
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Count: 0 records.

ORPHAN SUMMARY

| City | EDR ID | Site Name | Site Address | Zip | Database(s) |
|---|---|---|---|---|---|
| | | NO SITES FOUND | | | |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

**STANDARD ENVIRONMENTAL RECORDS**

***Federal NPL site list***

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

***Federal Delisted NPL site list***

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

***Federal CERCLIS list***

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Quarterly

***Federal CERCLIS NFRAP site list***

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Quarterly

***Federal RCRA CORRACTS facilities list***

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

***Federal RCRA generators list***

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

***Federal institutional controls / engineering controls registries***

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/22/2017
Date Data Arrived at EDR: 06/13/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 94

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/09/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/13/2017
Date Data Arrived at EDR: 11/27/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 74

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/13/2017
Date Data Arrived at EDR: 11/27/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 74

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

***Federal ERNS list***

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

***State- and tribal - equivalent NPL***

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

***State- and tribal - equivalent CERCLIS***

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/12/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 48

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Quarterly

***State and tribal leaking storage tank lists***

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 31

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Semi-Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

***State and tribal registered storage tank lists***

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/09/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 15
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 134
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/23/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Semi-Annually

***State and tribal voluntary cleanup sites***

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

***State and tribal Brownfields sites***

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/22/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 01/31/2018
Number of Days to Update: 36
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

**ADDITIONAL ENVIRONMENTAL RECORDS**

***Local Brownfield lists***

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 21
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

***Local Lists of Landfill / Solid Waste Disposal Sites***

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/17/2018
Number of Days to Update: 36
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 39

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/09/2018
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/30/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 02/02/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

***Local Lists of Hazardous waste / Contaminated Sites***

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 16

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 16

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Quarterly

***Local Lists of Registered Storage Tanks***

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 27

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

***Local Land Records***

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/30/2017
Date Data Arrived at EDR: 12/01/2017
Date Made Active in Reports: 01/11/2018
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/08/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 0

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

***Records of Emergency Release Reports***

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 02/15/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 02/20/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

***Other Ascertainable Records***

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/16/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/08/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/23/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/09/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 21

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/09/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/12/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 04/09/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 03/09/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/26/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/05/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 8
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 11/10/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 63

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/09/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/19/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 10/29/2017
Date Data Arrived at EDR: 11/28/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 45

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 92

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 28

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 73

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/02/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/27/2017
Date Data Arrived at EDR: 11/21/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/13/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 30

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/08/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 0

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 12/01/2017
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 42

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/23/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 54

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/14/2018
Date Data Arrived at EDR: 02/16/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 46

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/08/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/08/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 01/09/2018
Date Made Active in Reports: 02/06/2018
Number of Days to Update: 28
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/09/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 31
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/29/2017
Date Data Arrived at EDR: 12/05/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 42
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/14/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 29
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/04/2017
Date Data Arrived at EDR: 12/05/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 42
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 03/05/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 35
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/14/2017
Date Data Arrived at EDR: 12/15/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 32
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/17/2018
Number of Days to Update: 36
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/12/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## EDR HIGH RISK HISTORICAL RECORDS

### *EDR Exclusive Records*

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

## EDR RECOVERED GOVERNMENT ARCHIVES

### *Exclusive Recovered Govt. Archives*

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

**COUNTY RECORDS**

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 01/11/2018
Date Made Active in Reports: 02/22/2018
Number of Days to Update: 42

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 63

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 10

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 01/25/2018
Date Data Arrived at EDR: 01/26/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 47

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/26/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/26/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 14

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/20/2017
Date Data Arrived at EDR: 11/29/2017
Date Made Active in Reports: 01/19/2018
Number of Days to Update: 51

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/05/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 40

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 12/04/2017
Date Data Arrived at EDR: 12/06/2017
Date Made Active in Reports: 12/27/2017
Number of Days to Update: 21

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 9

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/03/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/05/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/26/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 47

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 54

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/14/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 28

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/16/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206
Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 56
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/16/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 29
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/16/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 10/09/2017
Number of Days to Update: 171
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/10/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 01/17/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 28
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/17/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/10/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/05/2018
Date Made Active in Reports: 01/18/2018
Number of Days to Update: 13

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/22/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 40

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 01/05/2018
Date Made Active in Reports: 01/17/2018
Number of Days to Update: 12

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/12/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 27

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 15

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

MONTEREY COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 01/11/2018
Date Made Active in Reports: 01/31/2018
Number of Days to Update: 20

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 02/20/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 30

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/31/2018
Date Data Arrived at EDR: 02/01/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 41

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/05/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/05/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/05/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/05/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/07/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 12/08/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 01/31/2018
Number of Days to Update: 50

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 03/15/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 50

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/18/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 56

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/18/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 64

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 01/03/2018
Date Made Active in Reports: 02/05/2018
Number of Days to Update: 33

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 01/03/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 42

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/17/2017
Number of Days to Update: 14

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/30/2017
Date Data Arrived at EDR: 12/01/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 46

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 12/04/2017
Date Data Arrived at EDR: 12/05/2017
Date Made Active in Reports: 01/11/2018
Number of Days to Update: 37

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 42
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/02/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 02/01/2018
Number of Days to Update: 42
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/16/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 31
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 12/12/2017
Date Data Arrived at EDR: 12/14/2017
Date Made Active in Reports: 01/11/2018
Number of Days to Update: 28
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/12/2017
Date Data Arrived at EDR: 12/14/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 29
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 27
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/04/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 42

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 12/14/2017
Date Data Arrived at EDR: 12/15/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 28

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 16

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 01/31/2018
Number of Days to Update: 41

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/22/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/09/2018
Date Made Active in Reports: 02/06/2018
Number of Days to Update: 28

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/22/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 37

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 01/16/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 29

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List

Cupa facilities

Date of Government Version: 01/26/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 02/01/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 09/28/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 18

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 05/21/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 50

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2017
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 48

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/08/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2017
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 54

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/22/2018
Next Scheduled EDR Contact: 05/07/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 16
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 01/09/2018
Date Made Active in Reports: 01/19/2018
Number of Days to Update: 10
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/01/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/29/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

**OTHER DATABASE(S)**

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 01/03/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 03/22/2018
Number of Days to Update: 36
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/05/2018
Next Scheduled EDR Contact: 04/23/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/09/2018
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/31/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/16/2018
Next Scheduled EDR Contact: 04/30/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/08/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

**STREET AND ADDRESS INFORMATION**

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# GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

**TARGET PROPERTY ADDRESS**

16000 WEST SCHULTE ROAD
16000 WEST SCHULTE ROAD
TRACY, CA 95377

**TARGET PROPERTY COORDINATES**

| | |
|---|---|
| Latitude (North): | 37.718235 - 37° 43' 5.65'' |
| Longitude (West): | 121.50661 - 121° 30' 23.80'' |
| Universal Tranverse Mercator: | Zone 10 |
| UTM X (Meters): | 631622.8 |
| UTM Y (Meters): | 4175398.0 |
| Elevation: | 175 ft. above sea level |

**USGS TOPOGRAPHIC MAP**

| | |
|---|---|
| Target Property Map: | 5640068 MIDWAY, CA |
| Version Date: | 2012 |
| Southeast Map: | 5640426 TRACY, CA |
| Version Date: | 2012 |

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**GROUNDWATER FLOW DIRECTION INFORMATION**

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

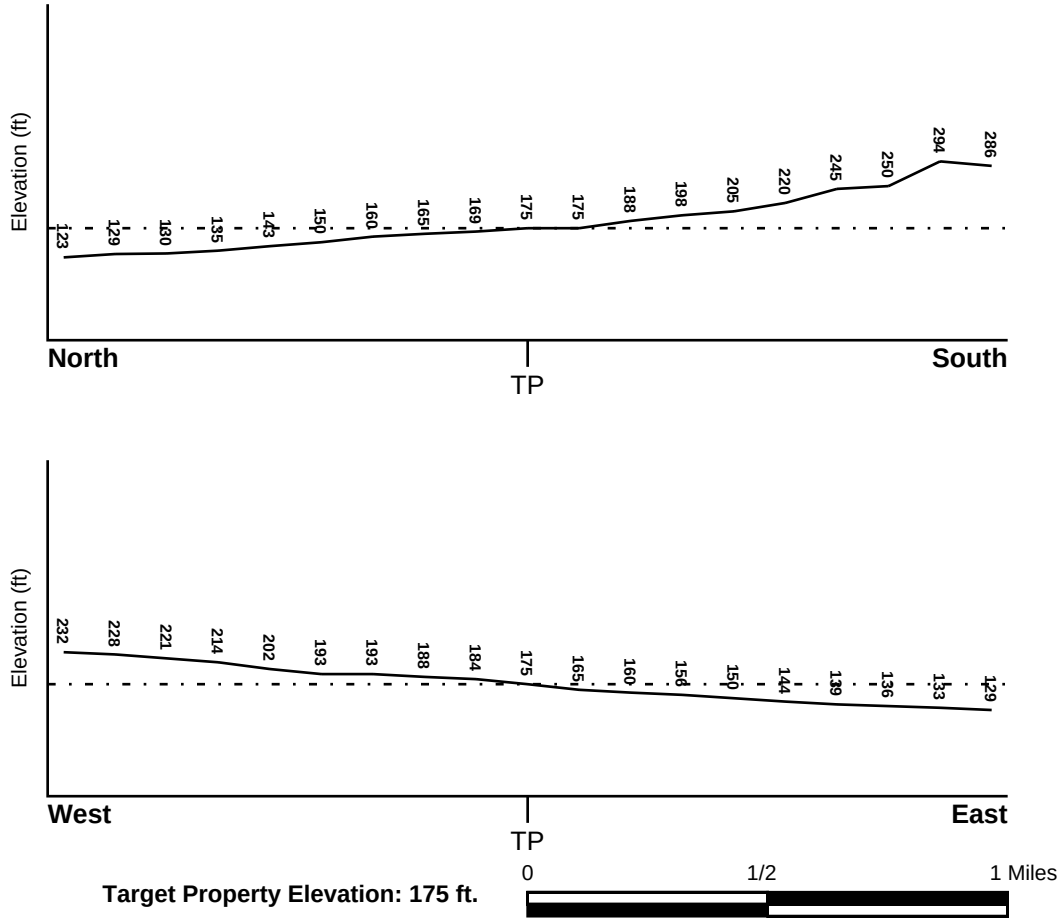
**TOPOGRAPHIC INFORMATION**

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

**TARGET PROPERTY TOPOGRAPHY**

General Topographic Gradient: General NE

**SURROUNDING TOPOGRAPHY: ELEVATION PROFILES**




Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**HYDROLOGIC INFORMATION**

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

**FEMA FLOOD ZONE**

| Flood Plain Panel at Target Property | FEMA Source Type |
|---|---|
| 06077C0725F | FEMA FIRM Flood data |

| Additional Panels in search area: | FEMA Source Type |
|---|---|
| 06001C0400G | FEMA FIRM Flood data |
| 0602990705A | FEMA Q3 Flood data |

**NATIONAL WETLAND INVENTORY**

| NWI Quad at Target Property | NWI Electronic Data Coverage |
|---|---|
| MIDWAY | YES - refer to the Overview Map and Detail Map |

**HYDROGEOLOGIC INFORMATION**

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

***Site-Specific Hydrogeological Data*:***

| | |
|---|---|
| Search Radius: | 1.25 miles |
| Status: | Not found |

**AQUIFLOW®**

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

| MAP ID | LOCATION FROM TP | GENERAL DIRECTION GROUNDWATER FLOW |
|---|---|---|
| Not Reported | | |

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

**GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY**

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

**ROCK STRATIGRAPHIC UNIT**

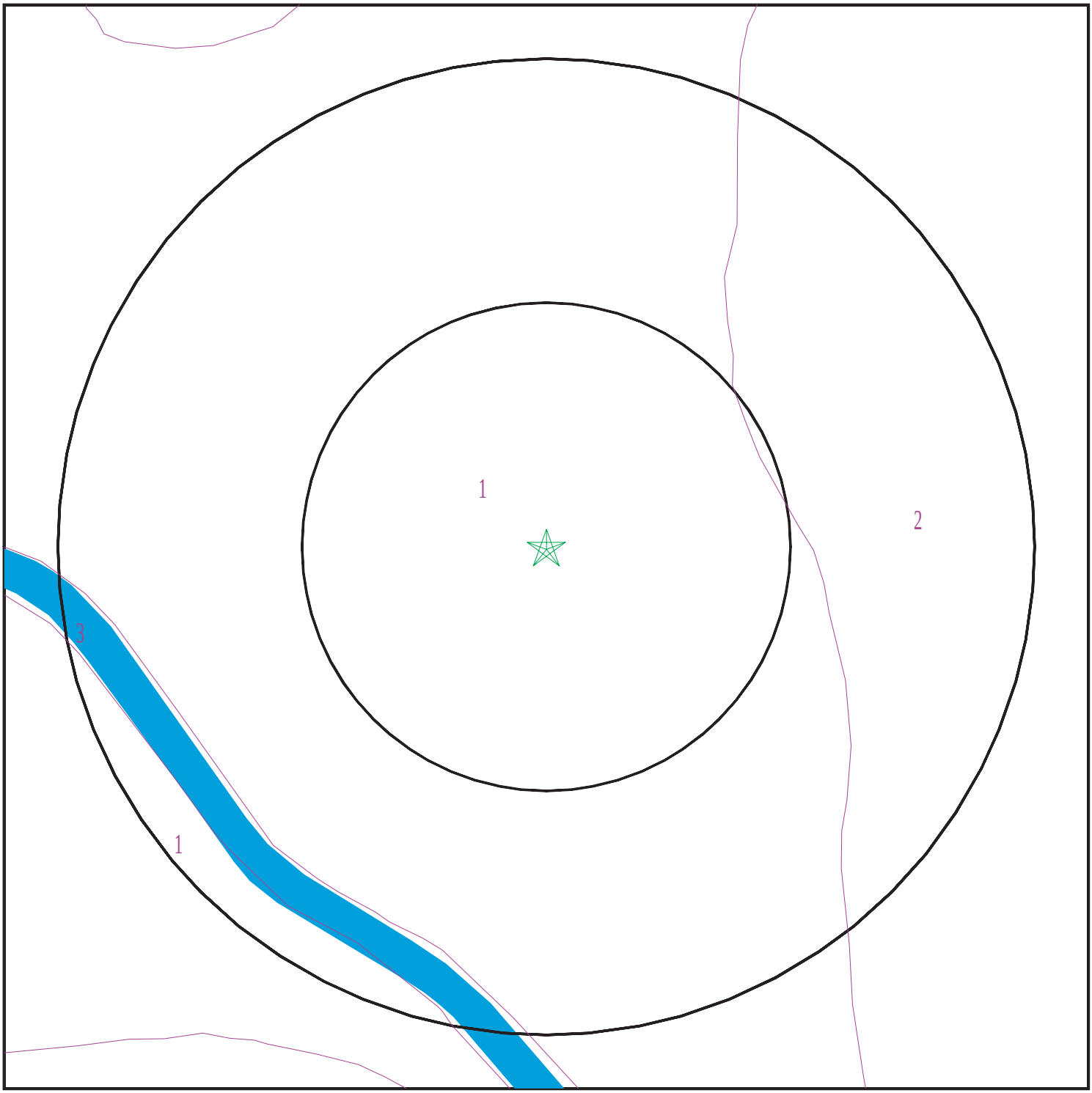
| | |
|---|---|
| Era: | Cenozoic |
| System: | Quaternary |
| Series: | Quaternary |
| Code: | Q *(decoded above as Era, System & Series)* |

**GEOLOGIC AGE IDENTIFICATION**

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

# SSURGO SOIL MAP - 5253641.2s




Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

| | | | |
|---|---|---|---|
| SITE NAME: | 16000 West Schulte Road | CLIENT: | Kleinfelder, Inc. |
| ADDRESS: | 16000 West Schulte Road<br>Tracy CA 95377 | CONTACT: | Paolo Dizon |
| LAT/LONG: | 37.718235 / 121.50661 | INQUIRY #: | 5253641.2s |
| | | DATE: | April 10, 2018 6:13 pm |

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# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY**

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

---

**Soil Map ID: 1**

Soil Component Name: Capay

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 20 inches | clay | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay. | Max: 1.4<br>Min: 0.42 | Max: 8.4<br>Min: 6.6 |
| 2 | 20 inches | 59 inches | clay | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay. | Max: 1.4<br>Min: 0.42 | Max: 8.4<br>Min: 6.6 |

---

**Soil Map ID: 2**

Soil Component Name: STOMAR

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 16 inches | clay loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay | Max: 4<br>Min: 1.4 | Max: 7.3<br>Min: 6.6 |
| 2 | 16 inches | 46 inches | clay | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay. | Max: 1.4<br>Min: 0.42 | Max: 8.4<br>Min: 6.6 |
| 3 | 46 inches | 59 inches | clay loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay | Max: 4<br>Min: 1.4 | Max: 8.4<br>Min: 7.4 |

---

**Soil Map ID: 3**

Soil Component Name: Water

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

## WELL SEARCH DISTANCE INFORMATION

| DATABASE | SEARCH DISTANCE (miles) |
|---|---|
| Federal USGS | 1.000 |
| Federal FRDS PWS | Nearest PWS within 1 mile |
| State Database | 1.000 |

### FEDERAL USGS WELL INFORMATION

| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| A2 | USGS40000185144 | 1/4 - 1/2 Mile WNW |
| 4 | USGS40000185145 | 1/4 - 1/2 Mile West |
| 6 | USGS40000185132 | 1/4 - 1/2 Mile East |
| B8 | USGS40000185120 | 1/2 - 1 Mile WSW |
| C11 | USGS40000185094 | 1/2 - 1 Mile SSW |
| D12 | USGS40000185191 | 1/2 - 1 Mile NNW |
| D13 | USGS40000185192 | 1/2 - 1 Mile NNW |

### FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| No PWS System Found | | |

Note: PWS System location is not always the same as well location.

### STATE DATABASE WELL INFORMATION

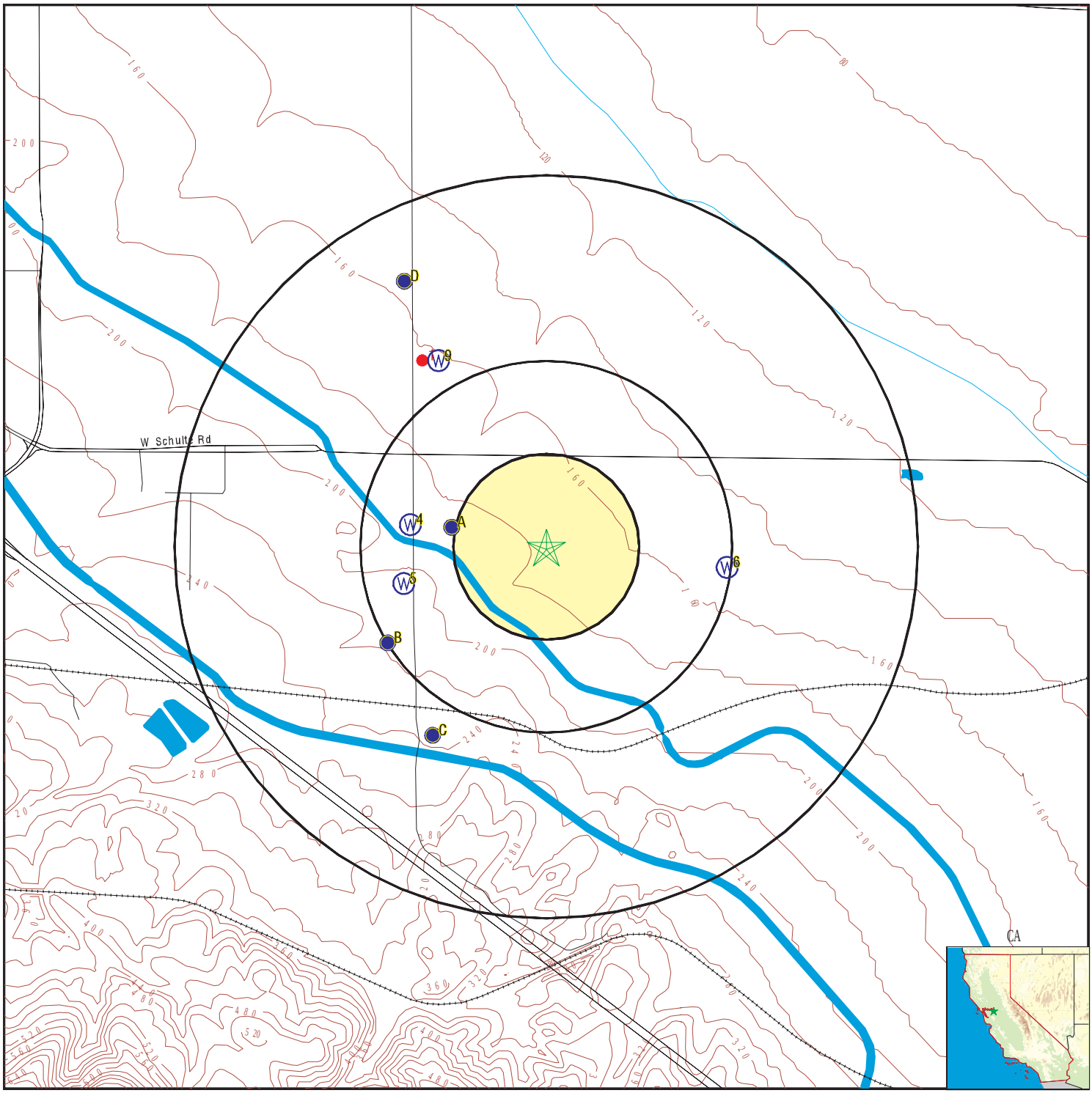
| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| A1 | CADW60000017075 | 1/8 - 1/4 Mile West |
| A3 | CADW60000031728 | 1/4 - 1/2 Mile WNW |
| 5 | CADW60000017073 | 1/4 - 1/2 Mile WSW |
| B7 | CADW60000017074 | 1/4 - 1/2 Mile WSW |
| 9 | CADW60000031723 | 1/2 - 1 Mile NNW |
| C10 | CADW60000031729 | 1/2 - 1 Mile SSW |
| D14 | CADW60000017068 | 1/2 - 1 Mile NNW |
| D15 | CADW60000017069 | 1/2 - 1 Mile NNW |

## OTHER STATE DATABASE INFORMATION

### STATE OIL/GAS WELL INFORMATION

| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| 1 | CAOG11000235800 | 1/2 - 1 Mile NNW |

# PHYSICAL SETTING SOURCE MAP - 5253641.2s




- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

| | | | |
|---|---|---|---|
| SITE NAME: | 16000 West Schulte Road | CLIENT: | Kleinfelder, Inc. |
| ADDRESS: | 16000 West Schulte Road<br>Tracy CA 95377 | CONTACT: | Paolo Dizon |
| | | INQUIRY #: | 5253641.2s |
| LAT/LONG: | 37.718235 / 121.50661 | DATE: | April 10, 2018 6:13 pm |

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# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

**A1**
**West**
**1/8 - 1/4 Mile**
**Higher** | **CA WELLS** | **CADW60000017075**

| | |
|---|---|
| Objectid: | 17075 |
| Latitude: | 37.7188 |
| Longitude: | -121.5108 |
| Site code: | 377188N1215108W001 |
| State well numbe: | 02S04E35D002M |
| Local well name: | '' |
| Well use id: | 6 |
| Well use descrip: | Unknown |
| County id: | 39 |
| County name: | San Joaquin |
| Basin code: | '5-22.15' |
| Basin desc: | Tracy |
| Dwr region id: | 80236 |
| Dwr region: | North Central Region Office |
| Site id: | CADW60000017075 |

---

**A2**
**WNW**
**1/4 - 1/2 Mile**
**Higher** | **FED USGS** | **USGS40000185144**

| | | | |
|---|---|---|---|
| Org. Identifier: | USGS-CA | | |
| Formal name: | USGS California Water Science Center | | |
| Monloc Identifier: | USGS-374309121303601 | | |
| Monloc name: | 002S004E35D002M | | |
| Monloc type: | Well | | |
| Monloc desc: | Not Reported | | |
| Huc code: | 18040003 | Drainagearea value: | Not Reported |
| Drainagearea Units: | Not Reported | Contrib drainagearea: | Not Reported |
| Contrib drainagearea units: | Not Reported | Latitude: | 37.7190963 |
| Longitude: | -121.5110575 | Sourcemap scale: | Not Reported |
| Horiz Acc measure: | 1 | Horiz Acc measure units: | seconds |
| Horiz Collection method: | Interpolated from map | | |
| Horiz coord refsys: | NAD83 | Vert measure val: | 183.00 |
| Vert measure units: | feet | Vertacc measure val: | 5. |
| Vert accmeasure units: | feet | | |
| Vertcollection method: | Interpolated from topographic map | | |
| Vert coord refsys: | NGVD29 | Countrycode: | US |
| Aquifername: | Central Valley aquifer system | | |
| Formation type: | Not Reported | | |
| Aquifer type: | Not Reported | | |
| Construction date: | 19510101 | Welldepth: | 305 |
| Welldepth units: | ft | Wellholedepth: | Not Reported |
| Wellholedepth units: | Not Reported | | |

Ground-water levels, Number of Measurements: 0

---

**A3**
**WNW**
**1/4 - 1/2 Mile**
**Higher** | **CA WELLS** | **CADW60000031728**

| | |
|---|---|
| Objectid: | 31728 |
| Latitude: | 37.7191 |
| Longitude: | -121.5119 |
| Site code: | 377191N1215119W001 |
| State well numbe: | 02S04E35D001M |
| Local well name: | '' |
| Well use id: | 6 |
| Well use descrip: | Unknown |
| County id: | 39 |
| County name: | San Joaquin |
| Basin code: | '5-22.15' |
| Basin desc: | Tracy |
| Dwr region id: | 80236 |
| Dwr region: | North Central Region Office |
| Site id: | CADW60000031728 |

---

**4**
**West** **FED USGS** **USGS40000185145**
**1/4 - 1/2 Mile**
**Higher**

| | | | |
|---|---|---|---|
| Org. Identifier: | USGS-CA | | |
| Formal name: | USGS California Water Science Center | | |
| Monloc Identifier: | USGS-374309121304401 | | |
| Monloc name: | 002S004E34A002M | | |
| Monloc type: | Well | | |
| Monloc desc: | Not Reported | | |
| Huc code: | 18040003 | Drainagearea value: | Not Reported |
| Drainagearea Units: | Not Reported | Contrib drainagearea: | Not Reported |
| Contrib drainagearea units: | Not Reported | Latitude: | 37.7190963 |
| Longitude: | -121.5132798 | Sourcemap scale: | 24000 |
| Horiz Acc measure: | 1 | Horiz Acc measure units: | seconds |
| Horiz Collection method: | Interpolated from map | | |
| Horiz coord refsys: | NAD83 | Vert measure val: | 190.00 |
| Vert measure units: | feet | Vertacc measure val: | 10 |
| Vert accmeasure units: | feet | | |
| Vertcollection method: | Interpolated from topographic map | | |
| Vert coord refsys: | NGVD29 | Countrycode: | US |
| Aquifername: | Central Valley aquifer system | | |
| Formation type: | Not Reported | | |
| Aquifer type: | Not Reported | | |
| Construction date: | 19760920 | Welldepth: | 217 |
| Welldepth units: | ft | Wellholedepth: | 265 |
| Wellholedepth units: | ft | | |

Ground-water levels, Number of Measurements: 1

| Date | Feet below Surface | Feet to Sealevel |
|---|---|---|
| 1976-09-20 | 142.00 | |

---

**5**
**WSW** **CA WELLS** **CADW60000017073**
**1/4 - 1/2 Mile**
**Higher**

| | |
|---|---|
| Objectid: | 17073 |
| Latitude: | 37.7168 |
| Longitude: | -121.5136 |
| Site code: | 377168N1215136W001 |
| State well numbe: | 02S04E34A001M |
| Local well name: | '' |
| Well use id: | 6 |
| Well use descrip: | Unknown |
| County id: | 39 |
| County name: | San Joaquin |
| Basin code: | '5-22.15' |
| Basin desc: | Tracy |
| Dwr region id: | 80236 |
| Dwr region: | North Central Region Office |
| Site id: | CADW60000017073 |

---

**6**
**East** **FED USGS** **USGS40000185132**
**1/4 - 1/2 Mile**
**Lower**

| | | | |
|---|---|---|---|
| Org. Identifier: | USGS-CA | | |
| Formal name: | USGS California Water Science Center | | |
| Monloc Identifier: | USGS-374303121294801 | | |
| Monloc name: | 002S004E35H001M | | |
| Monloc type: | Well | | |
| Monloc desc: | Not Reported | | |
| Huc code: | 18040003 | Drainagearea value: | Not Reported |
| Drainagearea Units: | Not Reported | Contrib drainagearea: | Not Reported |
| Contrib drainagearea units: | Not Reported | Latitude: | 37.7174297 |
| Longitude: | -121.4977238 | Sourcemap scale: | Not Reported |
| Horiz Acc measure: | 1 | Horiz Acc measure units: | seconds |
| Horiz Collection method: | Interpolated from map | | |
| Horiz coord refsys: | NAD83 | Vert measure val: | 150.00 |
| Vert measure units: | feet | Vertacc measure val: | 5. |
| Vert accmeasure units: | feet | | |
| Vertcollection method: | Interpolated from topographic map | | |
| Vert coord refsys: | NGVD29 | Countrycode: | US |
| Aquifername: | Central Valley aquifer system | | |
| Formation type: | Tulare Formation | | |
| Aquifer type: | Not Reported | | |
| Construction date: | 19610101 | Welldepth: | 514 |
| Welldepth units: | ft | Wellholedepth: | Not Reported |
| Wellholedepth units: | Not Reported | | |

Ground-water levels, Number of Measurements: 1

| Date | Feet below Surface | Feet to Sealevel |
|---|---|---|
| 1967-05-01 | 186.00 | |

---

**B7**
**WSW** **CA WELLS** **CADW60000017074**
**1/4 - 1/2 Mile**
**Higher**

| | |
|---|---|
| Objectid: | 17074 |
| Latitude: | 37.7146 |
| Longitude: | -121.5144 |
| Site code: | 377146N1215144W001 |
| State well numbe: | 02S04E34H001M |
| Local well name: | '' |
| Well use id: | 6 |
| Well use descrip: | Unknown |
| County id: | 39 |
| County name: | San Joaquin |
| Basin code: | '5-22.15' |
| Basin desc: | Tracy |
| Dwr region id: | 80236 |
| Dwr region: | North Central Region Office |
| Site id: | CADW60000017074 |

---

**B8**
**WSW** **FED USGS** **USGS40000185120**
**1/2 - 1 Mile**
**Higher**

| | | | |
|---|---|---|---|
| Org. Identifier: | USGS-CA | | |
| Formal name: | USGS California Water Science Center | | |
| Monloc Identifier: | USGS-374252121304801 | | |
| Monloc name: | 002S004E34H001M | | |
| Monloc type: | Well | | |
| Monloc desc: | Not Reported | | |
| Huc code: | 18040003 | Drainagearea value: | Not Reported |
| Drainagearea Units: | Not Reported | Contrib drainagearea: | Not Reported |
| Contrib drainagearea units: | Not Reported | Latitude: | 37.7143742 |
| Longitude: | -121.5143909 | Sourcemap scale: | Not Reported |
| Horiz Acc measure: | 1 | Horiz Acc measure units: | seconds |
| Horiz Collection method: | Interpolated from map | | |
| Horiz coord refsys: | NAD83 | Vert measure val: | 214.00 |
| Vert measure units: | feet | Vertacc measure val: | 5. |
| Vert accmeasure units: | feet | | |
| Vertcollection method: | Interpolated from topographic map | | |
| Vert coord refsys: | NGVD29 | Countrycode: | US |
| Aquifername: | Central Valley aquifer system | | |
| Formation type: | Alluvium of the Coast Range, Younger (Pleistocene-Holocene) | | |
| Aquifer type: | Not Reported | | |
| Construction date: | 19270101 | Welldepth: | 273 |
| Welldepth units: | ft | Wellholedepth: | Not Reported |
| Wellholedepth units: | Not Reported | | |

Ground-water levels, Number of Measurements: 0

---

**9**
**NNW** **CA WELLS** **CADW60000031723**
**1/2 - 1 Mile**
**Lower**

| | |
|---|---|
| Objectid: | 31723 |
| Latitude: | 37.7255 |
| Longitude: | -121.5119 |
| Site code: | 377255N1215119W001 |
| State well numbe: | 02S04E26M001M |
| Local well name: | '' |
| Well use id: | 6 |
| Well use descrip: | Unknown |
| County id: | 39 |
| County name: | San Joaquin |

| | |
|---|---|
| Basin code: | '5-22.15' |
| Basin desc: | Tracy |
| Dwr region id: | 80236 |
| Dwr region: | North Central Region Office |
| Site id: | CADW60000031723 |

---

**C10**
**SSW**
**1/2 - 1 Mile**
**Higher**

**CA WELLS** **CADW60000031729**

| | |
|---|---|
| Objectid: | 31729 |
| Latitude: | 37.711 |
| Longitude: | -121.5122 |
| Site code: | 377110N1215122W001 |
| State well numbe: | 02S04E35M001M |
| Local well name: | '' |
| Well use id: | 6 |
| Well use descrip: | Unknown |
| County id: | 39 |
| County name: | San Joaquin |
| Basin code: | '5-22.15' |
| Basin desc: | Tracy |
| Dwr region id: | 80236 |
| Dwr region: | North Central Region Office |
| Site id: | CADW60000031729 |

---

**C11**
**SSW**
**1/2 - 1 Mile**
**Higher**

**FED USGS** **USGS40000185094**

| | | | |
|---|---|---|---|
| Org. Identifier: | USGS-CA | | |
| Formal name: | USGS California Water Science Center | | |
| Monloc Identifier: | USGS-374239121304001 | | |
| Monloc name: | 002S004E35M001M | | |
| Monloc type: | Well | | |
| Monloc desc: | Not Reported | | |
| Huc code: | 18040003 | Drainagearea value: | Not Reported |
| Drainagearea Units: | Not Reported | Contrib drainagearea: | Not Reported |
| Contrib drainagearea units: | Not Reported | Latitude: | 37.7107631 |
| Longitude: | -121.5121685 | Sourcemap scale: | Not Reported |
| Horiz Acc measure: | 1 | Horiz Acc measure units: | seconds |
| Horiz Collection method: | Interpolated from map | | |
| Horiz coord refsys: | NAD83 | Vert measure val: | 230.00 |
| Vert measure units: | feet | Vertacc measure val: | 5. |
| Vert accmeasure units: | feet | | |
| Vertcollection method: | Interpolated from topographic map | | |
| Vert coord refsys: | NGVD29 | Countrycode: | US |
| Aquifername: | Central Valley aquifer system | | |
| Formation type: | Alluvium of the Coast Range, Younger (Pleistocene-Holocene) | | |
| Aquifer type: | Not Reported | | |
| Construction date: | 19490101 | Welldepth: | 304 |
| Welldepth units: | ft | Wellholedepth: | Not Reported |
| Wellholedepth units: | Not Reported | | |

Ground-water levels, Number of Measurements: 1

| Date | Feet below Surface | Feet to Sealevel |
|---|---|---|
| 1967-05-01 | 234.00 | |

---

**D12**
**NNW** **FED USGS** **USGS40000185191**
**1/2 - 1 Mile**
**Lower**

| | | | |
|---|---|---|---|
| Org. Identifier: | USGS-CA | | |
| Formal name: | USGS California Water Science Center | | |
| Monloc Identifier: | USGS-374342121304401 | | |
| Monloc name: | 002S004E27J002M | | |
| Monloc type: | Well | | |
| Monloc desc: | Not Reported | | |
| Huc code: | 18040003 | Drainagearea value: | Not Reported |
| Drainagearea Units: | Not Reported | Contrib drainagearea: | Not Reported |
| Contrib drainagearea units: | Not Reported | Latitude: | 37.7282628 |
| Longitude: | -121.51328 | Sourcemap scale: | Not Reported |
| Horiz Acc measure: | 1 | Horiz Acc measure units: | seconds |
| Horiz Collection method: | Interpolated from map | | |
| Horiz coord refsys: | NAD83 | Vert measure val: | 154.00 |
| Vert measure units: | feet | Vertacc measure val: | 5. |
| Vert accmeasure units: | feet | | |
| Vertcollection method: | Interpolated from topographic map | | |
| Vert coord refsys: | NGVD29 | Countrycode: | US |
| Aquifername: | Central Valley aquifer system | | |
| Formation type: | Alluvium of the Coast Range, Younger (Pleistocene-Holocene) | | |
| Aquifer type: | Not Reported | | |
| Construction date: | 19590101 | Welldepth: | 289 |
| Welldepth units: | ft | Wellholedepth: | Not Reported |
| Wellholedepth units: | Not Reported | | |

Ground-water levels, Number of Measurements: 1

| Date | Feet below Surface | Feet to Sealevel |
|---|---|---|
| 1967-04-01 | 172.00 | |

---

**D13**
**NNW** **FED USGS** **USGS40000185192**
**1/2 - 1 Mile**
**Lower**

| | | | |
|---|---|---|---|
| Org. Identifier: | USGS-CA | | |
| Formal name: | USGS California Water Science Center | | |
| Monloc Identifier: | USGS-374343121304601 | | |
| Monloc name: | 002S004E27J001M | | |
| Monloc type: | Well | | |
| Monloc desc: | Not Reported | | |
| Huc code: | 18040003 | Drainagearea value: | Not Reported |
| Drainagearea Units: | Not Reported | Contrib drainagearea: | Not Reported |
| Contrib drainagearea units: | Not Reported | Latitude: | 37.7285406 |
| Longitude: | -121.5138356 | Sourcemap scale: | Not Reported |

| | | | |
|---|---|---|---|
| Horiz Acc measure: | 1 | Horiz Acc measure units: | seconds |
| Horiz Collection method: | Interpolated from map | | |
| Horiz coord refsys: | NAD83 | Vert measure val: | 154.00 |
| Vert measure units: | feet | Vertacc measure val: | 5. |
| Vert accmeasure units: | feet | | |
| Vertcollection method: | Interpolated from topographic map | | |
| Vert coord refsys: | NGVD29 | Countrycode: | US |
| Aquifername: | Central Valley aquifer system | | |
| Formation type: | Not Reported | | |
| Aquifer type: | Not Reported | | |
| Construction date: | Not Reported | Welldepth: | 315 |
| Welldepth units: | ft | Wellholedepth: | Not Reported |
| Wellholedepth units: | Not Reported | | |

Ground-water levels, Number of Measurements: 1

| Date | Feet below Surface | Feet to Sealevel |
|---|---|---|
| 1967-04-01 | 180.00 | |

---

**D14**
**NNW**
**1/2 - 1 Mile**
**Lower**

**CA WELLS** **CADW60000017068**

| | |
|---|---|
| Objectid: | 17068 |
| Latitude: | 37.7288 |
| Longitude: | -121.5136 |
| Site code: | 377288N1215136W001 |
| State well numbe: | 02S04E27J001M |
| Local well name: | ’’ |
| Well use id: | 6 |
| Well use descrip: | Unknown |
| County id: | 39 |
| County name: | San Joaquin |
| Basin code: | '5-22.15’ |
| Basin desc: | Tracy |
| Dwr region id: | 80236 |
| Dwr region: | North Central Region Office |
| Site id: | CADW60000017068 |

---

**D15**
**NNW**
**1/2 - 1 Mile**
**Lower**

**CA WELLS** **CADW60000017069**

| | |
|---|---|
| Objectid: | 17069 |
| Latitude: | 37.7288 |
| Longitude: | -121.5136 |
| Site code: | 377288N1215136W002 |
| State well numbe: | 02S04E27J002M |
| Local well name: | ’’ |
| Well use id: | 6 |
| Well use descrip: | Unknown |
| County id: | 39 |
| County name: | San Joaquin |

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

| | |
|---|---|
| Basin code: | '5-22.15' |
| Basin desc: | Tracy |
| Dwr region id: | 80236 |
| Dwr region: | North Central Region Office |
| Site id: | CADW60000017069 |

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

**1**
**NNW** **OIL_GAS** **CAOG11000235800**
**1/2 - 1 Mile**

| | | | |
|---|---|---|---|
| District nun: | 6 | Api number: | 07700337 |
| Blm well: | N | Redrill can: | Not Reported |
| Dryhole: | Y | Well status: | P |
| Operator name: | Richard S. Rheem, Operator | | |
| County name: | San Joaquin | Fieldname: | Any Field |
| Area name: | Any Area | Section: | 26 |
| Township: | 02S | Range: | 04E |
| Base meridian: | MD | Elevation: | Not Reported |
| Gissourcec: | hud | | |
| Comments: | Status Code 006 | | |
| Leasename: | Weaver-Cordes | Wellnumber: | 1 |
| Epawell: | N | Hydraulica: | N |
| Confidenti: | N | Spuddate: | 05-AUG-59 |
| Welldeptha: | 8222 | | |
| Redrillfoo: | 0 | | |
| Abandonedd: | 21-SEP-59 | Completion: | Not Reported |
| Directiona: | Unknown | Gissymbol: | PDH |
| Site id: | CAOG11000235800 | | |

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
# RADON

**AREA RADON INFORMATION**

State Database: CA Radon

Radon Test Results

| Zipcode | Num Tests | > 4 pCi/L |
|---|---|---|
| 95377 | 4 | 0 |

Federal EPA Radon Zone for SAN JOAQUIN County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

---

Federal Area Radon Information for SAN JOAQUIN COUNTY, CA

Number of sites tested: 20

| Area | Average Activity | % <4 pCi/L | % 4-20 pCi/L | % >20 pCi/L |
|---|---|---|---|---|
| Living Area - 1st Floor | 2.530 pCi/L | 90% | 10% | 0% |
| Living Area - 2nd Floor | Not Reported | Not Reported | Not Reported | Not Reported |
| Basement | 2.050 pCi/L | 100% | 0% | 0% |

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

## HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

## HYDROGEOLOGIC INFORMATION

AQUIFLOW$^{R}$ Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

## GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

## OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

**STREET AND ADDRESS INFORMATION**

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# APPENDIX C
# USER PROVIDED AND REGULATORY AGENCY DOCUMENTATION

DRAFT


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# ASSESSOR’S PARCEL MAP

**16000 West Schulte Road**
16000 West Schulte Road
Tracy, CA 95377

Inquiry Number: 5253641.6
April 10, 2018

# The EDR Property Tax Map Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

# EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

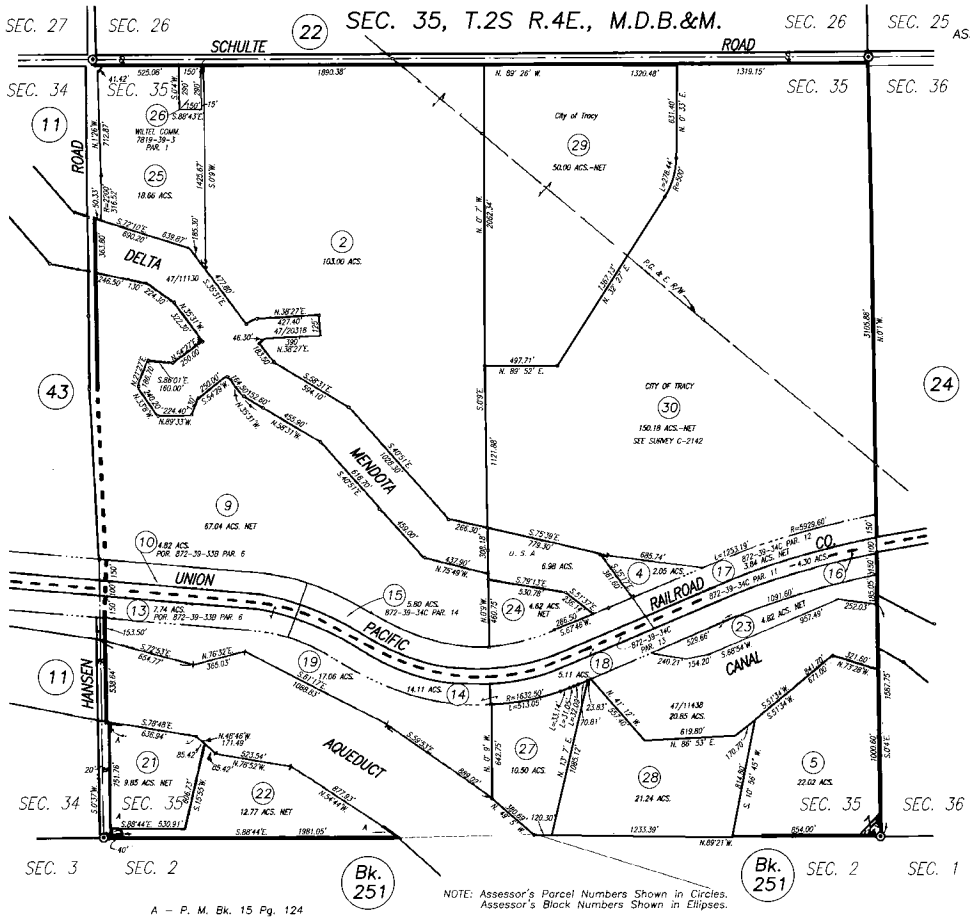
***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.

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THIS MAP IS FOR ASSESSMENT USE ONLY

209–23

1" = 600'

| HIGHEST A.P.N. USED | | | | |
|---|---|---|---|---|
| YEAR | PAR. # | | PAR. # | |
| 87-88 | 20 | | | |
| 88-89 | 22 | | | |
| 90-91 | 24 | | | |
| 01-02 | 26 | | | |
| 05-06 | 28 | | | |
| 08-09 | 30 | | | |

Assessor's Map Bk.209 Pg.23
County of San Joaquin, Calif.

A – P. M. Bk. 15 Pg. 124

NOTE: Assessor's Parcel Numbers Shown in Circles.
Assessor's Block Numbers Shown in Ellipses.

# INTERVIEW QUESTIONNAIRES

KLEINFELDER
Bright People. Right Solutions.

## USER QUESTIONNAIRE

TRACY Herm PROPERTY 4/11/18


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KLEINFELDER
Bright People. Right Solutions.

**ASTM E1527-13**
**Phase I Environmental Site Assessment**
**User Questionnaire**

TRACY - [illegible] PROPERTY PMK 4/11/18

## INTRODUCTION

In order to qualify for one of the *Landowner Liability Protections (LLPs)*[1] offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"),[2] the *user* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "*all appropriate inquiries*" is not complete.

### (1.) Environmental liens that are filed or recorded against the *property* (40 CFR 312.25).

Did a search of *recorded land title records* (or judicial records where appropriate, see *Note 1* below) identify any environmental liens filed or recorded against the *property* under federal, tribal, state or local law? YES

*Note 1—In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records must be searched for environmental liens and AULs.*

### (2.) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property* (40 CFR 312.26(a)(1)(v) and vi)).

Did a search of *recorded land title records* (or judicial records where appropriate, see *Note 1* above) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the *property* and/or have been filed or recorded against the *property* under federal, tribal, state or local law? NO

### (3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

NO

[1] *Landowner Liability Protections*, or *LLPs*, is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability* ("*Common Elements*" Guide) issued on March 6, 2003.
[2] P.L. 107-118.

**(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).**

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

YES, YES

**(5.) Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).**

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? NO

*For example,*

(a.) Do you know the past uses of the *property*? Agricultural ?

(b.) Do you know of specific chemicals that are present or once were present at the *property*? NO

(c.) Do you know of spills or other chemical releases that have taken place at the *property*? NO

(d.) Do you know of any environmental cleanups that have taken place at the *property*? NO

**(6.) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).**

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*? NO

**In addition, certain information should be collected, if available, and provided to the *environmental professional* conducting the *Phase I Environmental Site Assessment.* This information is intended to assist the *environmental professional*, but is not necessarily required to qualify for one of the *LLPs*. The information includes:**

*(a)* the reason why the Phase I is being performed,

*(b)* the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc.,

*(c)* the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful),

*(d)* the scope of services desired for the Phase I ESA (including whether any parties to the *property* transaction may have a required standard scope of services or whether any considerations beyond the requirements of Practice E1527 are to be considered),

*(e)* identification of all parties who will rely on the Phase I *report* ,

*(f)* identification of the site contact and how the contact can be reached,

*(g)* any special terms and conditions which must be agreed upon by the *environmental professional*, and

*(h)* any other knowledge or experience with the *property* that may be pertinent to the *environmental professional* (for example, copies of any available prior *environmental site assessment reports*, documents, correspondence, etc., concerning the *property* and its environmental condition).

The *USER* QUESTIONNAIRE was completed by:

Name PETER KAHN

Title AVP REAL ESTATE

Firm COSTCO WHOLESALE CORPORATION

Address 999 LAKE DRIVE
ISSAQUAH, WA 98027

Phone Number (office) (425) 313-6052
(cell) (206) 465-1732

*User* represents that to the best of the *user's* knowledge the above statements and facts are true and correct, and, to the best of the *user's* knowledge, no material facts have been suppressed or misstated.

*User's* Signature

4/11/18
Date

# EDR ENVIRONMENTAL LIEN AND AUL SEARCH REPORT

**16000 West Schulte Road**
16000 West Schulte Road
Tracy, CA 95377

Inquiry Number: 5253641.7
April 11, 2018

# EDR Environmental Lien and AUL Search

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

# EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.

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# EDR Environmental Lien and AUL Search

## TARGET PROPERTY INFORMATION

### ADDRESS

16000 West Schulte Road
16000 West Schulte Road
Tracy, CA 95377

### RESEARCH SOURCE

**Source 1:**

San JOquin Recorder
San Joaquin, CA

### PROPERTY INFORMATION

**Deed 1:**

| | |
|---|---|
| Type of Deed: | deed |
| Title is vested in: | Allen E Hom Trustee |
| Title received from: | Allen E Hom |
| Deed Dated | 8/19/1992 |
| Deed Recorded: | 9/22/1992 |
| Book: | NA |
| Page: | na |
| Volume: | na |
| Instrument: | na |
| Docket: | NA |
| Land Record Comments: | |
| Miscellaneous Comments: | |
| **Legal Description:** | See Exhibit |
| **Legal Current Owner:** | Allen E Hom Trustee |
| **Parcel # / Property Identifier:** | 209-230-02 |
| **Comments:** | See Exhibit |

## ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

## OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

# Deed Exhibit 1

RECORDING REQUESTED BY AND WHEN RECORDED RETURN TO

ALLEN ERNEST HOM
17221 LIDO LANE
HUNTINGTON BEACH, CA 92647

92110918

SAN JOAQUIN COUNTY
RECORDER'S OFFICE
JAMES M. JOHNSTONE

92 SEP 22 AM 10: 11

RECORDED AT REQUEST OF
Allen Hom
FEE 4-

MAIL TAX STATEMENT TO ABOVE — SPACE ABOVE FOR RECORDER'S USE ONLY

# GRANT DEED

APN: 209-230-02-11
AKA: 16000 WEST SHULTE ROAD
TRACY, CA

THE UNDERSIGNED GRANTOR(S) AFFIRM(S) THAT THERE IS NO TRANSFER TAX BASED ON THE FULL VALUE OF THE PROPERTY BECAUSE THERE IS NO ($0) CONSIDERATION.

FOR VALUABLE CONSIDERATION, RECEIPT OF WHICH IS ACKNOWLEDGED, I (WE),

ALLEN E. HOM

**HEREBY QUITCLAIMS ALL RIGHT, TITLE AND INTEREST TO:** ALLEN ERNEST HOM, AS TRUSTEE, AND THE SUBSEQUENT TRUSTEE, OF THE ALLEN ERNEST HOM TRUST DATED AUGUST 19, 1992,

THAT REAL PROPERTY SITUATED IN THE CITY OF TRACY
COUNTY OF SAN JOAQUIN, STATE OF CALIFORNIA, DESCRIBED AS:

**BEGINNING** AT A POINT ON THE NORTH LINE OF SECTION 35, TOWNSHIP 2 SOUTH, RANGE 4 EAST, MOUNT DIABLO BASE AND MERIDIAN AND THE CENTER LINE OF SCHULTE ROAD, SAID POINT BEARS SOUTH 88° 36' 08" EAST A DISTANCE OF 752.61 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 35;

**THENCE** DESCRIBING THE TRACT FROM SAID POINT OF BEGINNING SOUTH 0 09' 50" WEST A DISTANCE OF 1425.67 FEET TO A POINT ON THE NORTHEASTERLY LINE OF THE DELTA MENDOTA CANAL;

**THENCE** ALONG THE NORTHEASTERLY LINE OF SAID DELTA MENDOTA CANAL THE FOLLOWING TEN (10) COURSES;

1) SOUTH 34 52' 38" EAST A DISTANCE OF 477.80 FEET;
2) NORTH 55 07' 22" EAST A DISTANCE OF 83.70 FEET;
3) NORTH 88 27' 22" EAST A DISTANCE OF 427.40 FEET;
4) SOUTH 1 32' 38" EAST A DISTANCE OF 125.00 FEET;
5) SOUTH 88 27' 22" WEST A DISTANCE OF 390.00 FEET;
6) SOUTH 55 07' 22" WEST A DISTANCE OF 46.30 FEET;
7) SOUTH 34 52' 38" EAST A DISTANCE OF 171.00 FEET;
8) SOUTH 57 52' 38" EAST A DISTANCE OF 594.10 FEET;
9) SOUTH 40 12' 38" EAST A DISTANCE OF 1028.30 FEET;
10) SOUTH 75 00' 38" EAST A DISTANCE OF 266.30 FEET TO A POINT OF THE NORTH AND SOUTH MID-SECTION LINE OF SAID SECTION 35;

**THENCE** NORTH 0 29' 22" EAST ALONG SAID MID-SECTION LINE A DISTANCE OF 3184.56 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 35 AND THE CENTER LINE OF SAID SCHULTE ROAD;

**THENCE** NORTH 88 36' 08" WEST ALONG THE NORTH LINE OF SAID SECTION 35 AND THE CENTER LINE OF SAID SCHULTE ROAD A DISTANCE OF 1890.38 FEET TO THE POINT OF BEGINNING.

THIS IS A TRANSFER TO A REVOCABLE TRUST FOR THE BENEFIT OF THE GRANTOR(S)

EXECUTED ON 19th DAY OF August, 1992, AT ORANGE, CALIFORNIA.

STATE OF CALIFORNIA
COUNTY OF ORANGE )ss

On August 19, 1992 before me
personally appeared
ALLEN E. HOM

AND

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS MY HAND AND OFFICIAL SEAL:

Daniel Clark Hales
Notary's Signature

Allen E. Hom
ALLEN E. HOM

OFFICIAL SEAL
Daniel Clark Hales
NOTARY PUBLIC-CALIFORNIA
ORANGE COUNTY
My Comm. Exp. NOV. 19, 1993

25 x

# SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

## Margaret Carroll

**From:** Domenique Martorella [EH] <dmartorella@sjcehd.com>
**Sent:** Tuesday, April 17, 2018 9:14 AM
**To:** Margaret Carroll
**Subject:** RE: Data from San Joaquin County EHD Request Form.pdf

External Email.

---

We have received your application. A search of our database shows no records on file for the requested address. We do not have records for you to review.

Thank you,
Dom Martorella, Office Assistant Specialist San Joaquin County Environmental Health Department
1868 East Hazelton Avenue, Stockton, CA 95205
Ph#: (209) 468-3450 Fax: (209) 464-0138

-----Original Message-----
From: Margaret Carroll [mailto:MCarroll@kleinfelder.com]
Sent: Monday, April 16, 2018 5:19 PM
To: EH-Directors <EH-Directors@sjcehd.com>
Subject: Data from San Joaquin County EHD Request Form.pdf

Good afternoon,

See attached for a records review request for the property located at:

16000 West Schulte Road
Tracy, California
(APN: 209-230-020-000)

Please contact me at the earliest available time if records exist. If possible, I would like to pay for records and have them emailed? Let me know if this can be arranged.

Thank you.

Sincerely,

Margaret R. Carroll
Senior Professional
707 Wilshire Boulevard, Suite 1450
Los Angeles, CA 90017
o| 213.622.3706
d| 213.596.6178
c| 562.458.0531

The attached file contains data that was entered into a form.

The recipient of this data file should save it locally with a unique name. Bluebeam Revu x64 can process this data by importing it back into the blank form.

SAN JOAQUIN COUNTY
Greatness grows here.

# Environmental Health Department

PUBLIC RECORDS RELEASE APPLICATION

SUBMIT BY EMAIL

**EHD LOG NUMBER:**

**APPLICANT:** Margaret Carroll **BUSINESS/AGENCY:** Kleinfelder

**ADDRESS:** 707 Wilshire Boulevard, Suite 1450 **CITY/STATE/ZIP:** Los Angeles, CA 90017

**PHONE (1):** 213-598-6178 **PHONE (2):** _____ **FAX OR E-MAIL:** mcarroll@kleinfelder.com

Please allow 10 business days from date of application submittal for the records to be available.
Staff will contact you to arrange an appointment date and time to review the requested records.

**SIGNATURE OF APPLICANT** _____ **DATE** April 16, 2018

1. **List up to ten addresses in the space below. Address ranges WILL NOT be accepted. Select the type(s) of files from the list below by checking the appropriate box(es). At least one file type MUST be selected. Fax to (209) 464-0138, mail to the address indicated below, or email to info@sjcehd.com. Applications received after 3:00 pm will be processed the next business day.**
2. **For assistance in identifying the nature and content of EHD records, please contact EHD at the number noted below.**
3. **The EHD will notify the applicant if any EHD files exist. An appointment for review will be confirmed approximately ten (10) days after receipt of application. The files will be held for a maximum of five business days for review. Appointments should be scheduled accordingly.**
4. **Any file not returned in the same condition as released will be reorganized by EHD staff at the expense of the applicant. Future file reviews by the same applicant may require a $152 deposit prior to review.**

WELL AND SEPTIC PERMIT RECORDS ARE AVAILABLE FOR REVIEW: MONDAY-FRIDAY 8:00 AM-5:00PM (EXCLUDING HOLIDAYS)

**Electronic Information:** ☐ **List** ☐ **Map – Description:** _____

Specific Date Range of Information Requested: From _____ to _____

| ENVIRONMENTAL HEALTH DEPARTMENT FILES | | FILE ADDRESS (Specific addresses only, address ranges **will not** be accepted) | | | EHD USE ONLY |
|---|---|---|---|---|---|
| | | Street # | Street Name | City | |
| ☒ Underground Tank (UST) Cleanup Site (LOP) | 1 | 16000 | West Schulte Road | Tracy | ☐ CONSUMER |
| ☒ Other Cleanup Site (Non-LOP) | | | | | |
| ☒ Hazardous Waste | 2 | | | | ☐ DAIRY |
| ☒ Tiered Permitted Facility | | | | | |
| ☒ Aboveground Tank | 3 | | | | ☐ PWS |
| ☒ UST (Monitoring / Removal) | | | | | |
| ☒ Hazardous Materials | 4 | | | | ☐ WATER QUALITY |
| ☒ Spill / Release Response | | | | | |
| ☐ Solid Waste Facility / Vehicle | 5 | | | | ☐ SITE MITIGATION |
| ☐ Food Facility | | | | | |
| ☐ Pool / Spa | 6 | | | | ☐ HOUSING |
| ☒ Dairy | | | | | |
| ☒ Land Use Application Sites | 7 | | | | ☐ CUPA AST / HM / HW |
| ☐ Septic Pumper Truck / Yard / Chemical Toilets | | | | | |
| ☐ Wastewater Treatment Plant | 8 | | | | ☐ CUPA UST |
| ☐ Housing Abatement | | | | | |
| ☐ Motel/Hotel | 9 | | | | ☐ SOLID WASTE |
| ☐ Chicken Ranch / Dog Kennel | | | | | |
| ☐ Medical Waste Facility | 10 | | | | ☐ ACCOUNTING |
| ☐ Tattoo/Body Piercing | | | | | |
| ☐ Waste Tire | | | | | |
| ☐ Complaint | | | | | |
| ☐ Other (Please Specify): | | | | | |

***BOXED AREA - EHD USE ONLY***

☐ **Records provided by Staff-PPR Complete.** **Staff Name:** **EHD 48-06**

# EDR BUILDING PERMIT REPORT

**16000 West Schulte Road**
16000 West Schulte Road
Tracy, CA 95377

Inquiry Number: 5253641.8
April 10, 2018

# EDR Building Permit Report

## Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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## SECTION

**About This Report**

**Executive Summary**

**Findings**

**Glossary**

***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.

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# EDR BUILDING PERMIT REPORT

## About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

## ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

## Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX PROPERTY HISTORY

# EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of Kleinfelder, Inc. on Apr 10, 2018.

**TARGET PROPERTY**

16000 West Schulte Road
Tracy, CA 95377

**SEARCH METHODS**

EDR searches available lists for both the Target Property and Surrounding Properties.

**RESEARCH SUMMARY**

Building permits identified: **NO PERMITS IDENTIFIED**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

**BUILDING DEPARTMENT RECORDS SEARCHED**

Name: Livermore
Years: 2011-2018
Source: City of Livermore, Community Devlopment, Building Department, LIVERMORE, CA
Phone: (925) 960-4410

Name: Redding
Years: 1987-2018
Source: City of Redding, Development Services, Building Division, REDDING, CA
Phone: 530-225-4014

Name: San Joaquin County
Years: 1991-2018
Source: San Joaquin County, Permits and Licenses, STOCKTON, CA
Phone: (209) 468-3124

Name: Tracy
Years: 1990-2018
Source: City of Tracy, Building Division, TRACY, CA
Phone: (209) 831-6400

# TARGET PROPERTY FINDINGS

## TARGET PROPERTY DETAIL

**16000 West Schulte Road**
**Tracy, CA 95377**

No Permits Found

# ADJOINING PROPERTY FINDINGS

## ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Permits Found

# GLOSSARY

**General Building Department concepts**

- **ICC:** The International Code Council. The governing body for the building/development codes used by all jurisdictions who've adopted the ICC guidelines. MOST of the US has done this. Canada, Mexico, and other countries use ICC codes books and guides as well. There are a few states who have added guidelines to the ICC codes to better fit their needs. For example, California has added seismic retrofit requirements for most commercial structures.
- **Building Department (Permitting Authority, Building Codes, Inspections Department, Building and Inspections):** This is the department in a jurisdiction where an owner or contractor goes to obtain permits and inspections for building, tearing down, remodeling, adding to, re-roofing, moving or otherwise making changes to any structure, Residential or Commercial.
- **Jurisdiction:** This is the geographic area representing the properties over which a Permitting Authority has responsibility.
- **GC:** General Contractor. Usually the primary contractor hired for any Residential or Commercial construction work.
- **Sub:** Subordinate contracting companies or subcontractors. Usually a "trades" contractor working for the GC. These contractors generally have an area of expertise in which they are licensed like Plumbing, Electrical, Heating and Air systems, Gas Systems, Pools etc. (called "trades").
- **Journeymen:** Sub contractors who have their own personal licenses in one or more trades and work for different contracting companies, wherever they are needed or there is work.
- **HVAC (Mechanical, Heating & Air companies):** HVAC = Heating, Ventilation, and Air Conditioning.
- **ELEC (Electrical, TempPole, TPole, TPower, Temporary Power, Panel, AMP Change, Power Release):** Electrical permits can be pulled for many reasons. The most common reason is to increase the AMPs of power in an electrical power panel. This requires a permit in almost every jurisdiction. Other commons reason for Electrical permits is to insert a temporary power pole at a new construction site. Construction requires electricity, and in a new development, power has yet to be run to the lot. The temporary power pole is usually the very first permit pulled for new development. The power is released to the home owner when construction is complete and this sometimes takes the form of a Power Release permit or inspection.
- **"Pull" a permit:** To obtain and pay for a building permit.
- **CBO:** Chief Building Official
- **Planning Department:** The department in the development process where the building /structural plans are reviewed for their completeness and compliance with building codes
- **Zoning Department:** The department in the development process where the site plans are reviewed for their compliance with the regulations associated with the zoning district in which they are situated.
- **Zoning District:** A pre-determined geographic boundary within a jurisdiction where certain types of structures are permitted / prohibited. Examples are Residential structure, Commercial/Retail structures, Industrial/Manufacturing structures etc. Each zoning district has regulations associated with it like the sizes of the lots, the density of the structures on the lots, the number of parking spaces required for certain types of structures on the lots etc.
- **PIN (TMS, GIS ID, Parcel#):** Property Identification Number and Tax Map System number.
- **State Card (Business license):** A license card issued to a contractor to conduct business.
- **Building Inspector (Inspector):** The inspector is a building department employee that inspects building construction for compliance to codes.
- **C.O.:** Certificate of Occupancy. This is the end of the construction process and designates that the owners now have permission to occupy a structure after its building is complete. Sometimes also referred to as a Certificate of Compliance.

# GLOSSARY

**Permit Content Definitions**

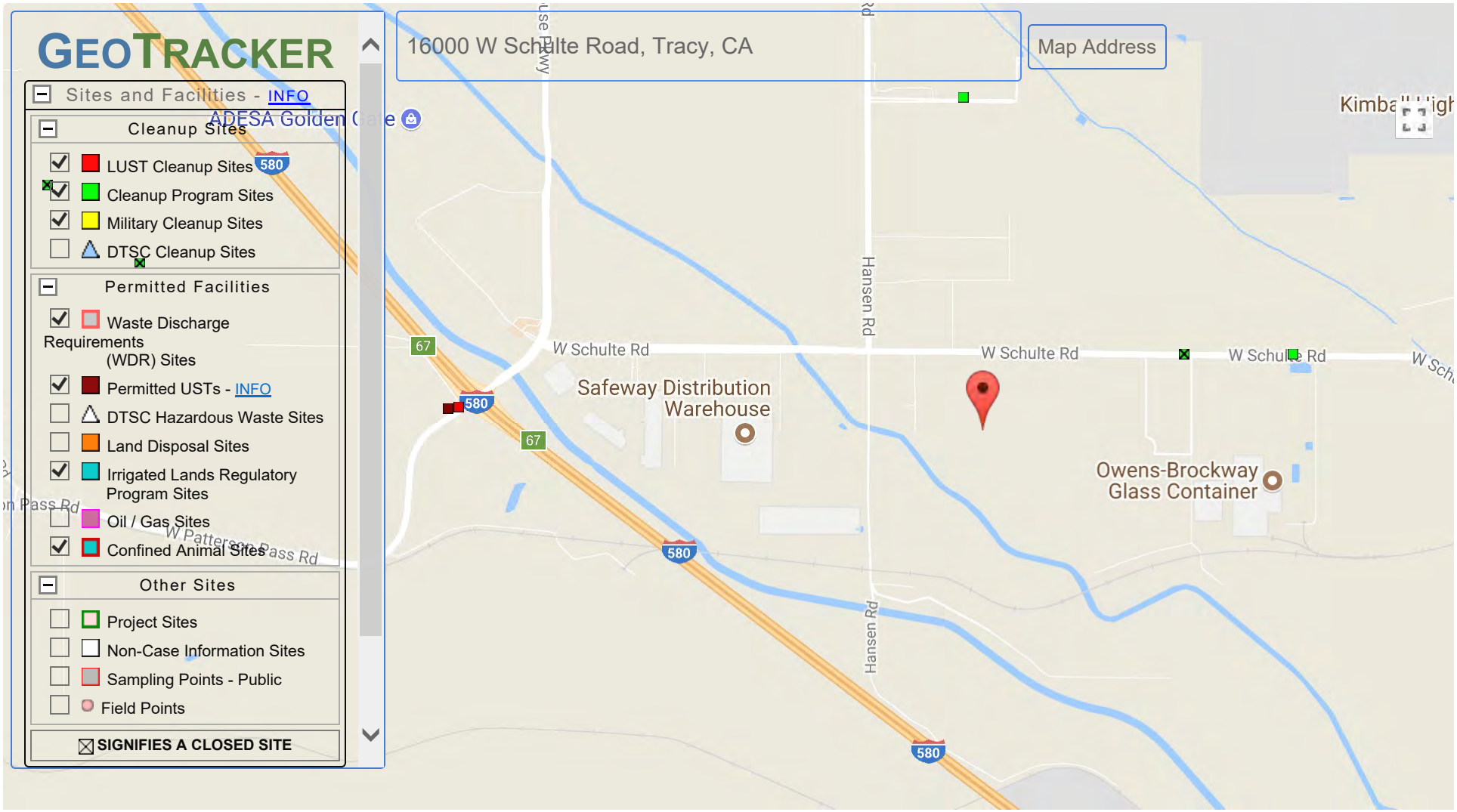
- Permit Number: The alphanumerical designation assigned to a permit for tracking within the building department system. Sometimes the permit number gives clues to its role, e.g. a "PL" prefix may designate a plumbing permit.
- Description: A field on the permit form that allows the building department to give a brief description of the work being done. More often than not, this is the most important field for EP's to find clues to the prior use(s) of the property.
- Permit Type: Generally a brief designation of the type of job being done. For example BLDG-RES, BLDG-COM, ELEC, MECH etc.

**Sample Building Permit Data**

Date: Nov 09, 2000
Permit Type: Bldg -
New Permit Number: 101000000405
Status: Valuation: $1,000,000.00
Contractor Company: OWNER-BUILDER
Contractor Name:

Description: New one store retail (SAV-ON) with drive-thru pharmacy. Certificate of Occupancy.

# STATE WATER RESOURCES CONTROL BOARD / GEOTRACKER™ DATABASE




SITES CURRENTLY VISIBLE ON MAP

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER

# CASE SUMMARY

REPORT DATE
9/1/2007

HAZARDOUS MATERIAL INCIDENT REPORT FILED WITH OES?

**I. REPORTED BY** -
UNKNOWN

**CREATED BY**
UNKNOWN

**III. SITE LOCATION**

FACILITY NAME
TRACY YOUTH SPORTS PARK

FACILITY ID

FACILITY ADDRESS
15178 SCHULTE ROAD
TRACY, CA
SAN JOAQUIN COUNTY

ORIENTATION OF SITE TO STREET

CROSS STREET

**V. SUBSTANCES RELEASED / CONTAMINANT(S) OF CONCERN**

,

**VI. DISCOVERY/ABATEMENT**

DATE DISCHARGE BEGAN

DATE DISCOVERED
9/1/2006

HOW DISCOVERED

DESCRIPTION

DATE STOPPED

STOP METHOD

DESCRIPTION

**VII. SOURCE/CAUSE**

SOURCE OF DISCHARGE

CAUSE OF DISCHARGE

DISCHARGE DESCRIPTION

**VIII. CASE TYPE**

CASE TYPE
Soil

**IX. REMEDIAL ACTION**

NO REMEDIAL ACTIONS ENTERED

**X. GENERAL COMMENTS**

**XI. CERTIFICATION**

**I HEREBY CERTIFY THAT THE INFORMATION REPORTED HEREIN IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.**

**XII. REGULATORY USE ONLY**

| LOCAL AGENCY CASE NUMBER | REGIONAL BOARD CASE NUMBER |
|---|---|

**LOCAL AGENCY**

UNKNOWN

**REGIONAL BOARD**

| CONTACT NAME | INITIALS | ORGANIZATION NAME | EMAIL ADDRESS |
|---|---|---|---|
| zzz | ZZZ | CENTRAL VALLEY RWQCB (REGION 5S) | info5@waterboards.ca.gov |

ADDRESS

11020 SUN CENTER DRIVE #200
RANCHO CORDOVA, CA 95670-6114

CONTACT DESCRIPTION

| PHONE TYPE | PHONE NUMBER | EXTENSION |
|---|---|---|
| Front Office | (916)-464-3291 | |

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**Central Valley Regional Water Quality Control Board**

**TO:** Case File
Joseph Mello, CHG 545

**FROM:** Kristi Shelton, P.E.
Water Resources Control Engineer
**SITE CLEANUP SECTION**

**DATE:** 24 July 2013

**SUBJECT:** ***NO FURTHER ACTION REQUIRED, TRACY YOUTH SPORTS PARK, 15178 SCHULTE ROAD, TRACY, SAN JOAQUIN COUNTY***

Central Valley Water Board staff reviewed the case file for the Tracy Youth Sports Park facility at 15178 Schulte Road in Tracy (Site). The Site is listed in GeoTracker as Global ID SL0607797298. There are no files at the Central Valley Water Board associated with this case. In addition, the San Joaquin County Environmental Health Department does not have any information on the Site. The information on the Site was obtained during an internet search of the address.

In June 2006, the City of Tracy (City) conducted an Environmental Impact Report (EIR) to evaluate the potential environmental impacts from the development of a youth sports park at the Site. The City proposed constructing four football fields, 23 baseball/softball fields, 15 soccer fields, a sports/football stadium, and a recreation area at the 200 acre Site. The EIR identified environmental impacts associated with increased traffic and regional air quality impacts from the construction of the project. In addition, the EIR noted there are two Pacific Gas & Electric (PG&E) transmission pipelines and one Chevron crude oil pipeline beneath the Site. There is no record of any soil and/or groundwater data collected during the assessment.

In December 2007, the City voted to reject all construction bids on the proposed project and decided not to pursue construction of a sports park at the Site. City Council members cited the concern over safety of placing the youth sports park above existing pipelines as the reason to cancel the project. The council went on to say that the industrial nature of the area and the potential for industrial accidents made the Site a poor choice for youth sports.

The Site was opened in GeoTracker on 1 September 2007 presumably following receipt of the EIR. Board staff will not be activating the case and consider it closed.

STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER

# CASE SUMMARY

REPORT DATE
1/2/1965

HAZARDOUS MATERIAL INCIDENT REPORT FILED WITH OES?

**I. REPORTED BY** -
UNKNOWN

**CREATED BY**
UNKNOWN

**III. SITE LOCATION**

FACILITY NAME
SHELL OIL COMPANY- HANSEN RD (Cordes Ranch)

FACILITY ID

FACILITY ADDRESS
HANSEN ROAD
TRACY, CA
SAN JOAQUIN COUNTY

ORIENTATION OF SITE TO STREET

CROSS STREET
SCHULTE ROAD

**V. SUBSTANCES RELEASED / CONTAMINANT(S) OF CONCERN**

* PETROLEUM - OTHER

**VI. DISCOVERY/ABATEMENT**

DATE DISCHARGE BEGAN

DATE DISCOVERED | HOW DISCOVERED | DESCRIPTION

DATE STOPPED | STOP METHOD | DESCRIPTION

**VII. SOURCE/CAUSE**

SOURCE OF DISCHARGE

CAUSE OF DISCHARGE

DISCHARGE DESCRIPTION

**VIII. CASE TYPE**

CASE TYPE
Aquifer used for drinking water supply
Other Groundwater (uses other than drinking water)

**IX. REMEDIAL ACTION**

| REMEDIAL ACTION | BEGIN DATE | END DATE | DESCRIPTION |
|---|---|---|---|
| Excavation | 5/24/2001 | 8/1/2001 | In 2001, Shell removed a 3,000-foot section of 8-inch crude oil pipeline from 4 feet bgs, from the Cordes Ranch property in anticipation of development. During the removal, six areas referred to as Trenches 1 through 6 were observed to be impacted by petroleum hydrocarbons. Shell over excavated two trenches to depths ranging from 6 to 20 feet bgs and excavated to 4 feet at 4 additional trenches. Groundwater is 30 to 35 feet bgs. Subsequent investigations established the presence of residual hydrocarbons in soil and in deep groundwater. Our 5 November 2009 letter concurred with Shell's 15 October 2009 Monitoring Well Installation Work Plan (Work Plan) to install nine monitoring wells in the vicinity of Trench 2, Trench 3, and boring B-69. The RA Work |

Plan proposes to collect soil and groundwater data from the borings for the proposed wells. The proposed wells include two deep wells which are identified as a sentinel well about 500 feet northwest of Trench 1 and the Trench 3 well located about 20 feet southwest of Trench 3. However, Shell is claiming that TPHc observed below 171 feet bgs is naturally occurring.

## X. GENERAL COMMENTS

In 2001, Shell removed a 3,000-foot section of 8-inch crude oil pipeline from 4 feet bgs, from the Cordes Ranch property in anticipation of development. During the removal, six areas referred to as Trenches 1 through 6 were observed to be impacted by petroleum hydrocarbons. Our 5 November 2009 letter concurred with Shell's 15 October 2009 Monitoring Well Installation Work Plan to install nine monitoring wells in the vicinity of Trench 2, Trench 3, and boring B-69. The RA Work Plan proposes to collect soil and groundwater data from the borings for the proposed wells. The proposed wells include two deep wells which are identified as a sentinel well about 500 feet northwest of Trench 1 and the Trench 3 well located about 20 feet southwest of Trench 3. However, Shell is claiming that TPHc observed below 171 feet bgs is naturally occurring.

## XI. CERTIFICATION

**I HEREBY CERTIFY THAT THE INFORMATION REPORTED HEREIN IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.**

## XII. REGULATORY USE ONLY

LOCAL AGENCY CASE NUMBER

REGIONAL BOARD CASE NUMBER

**LOCAL AGENCY**

UNKNOWN

**REGIONAL BOARD**

| CONTACT NAME | INITIALS | ORGANIZATION NAME | EMAIL ADDRESS |
|---|---|---|---|
| KRISTIN SHELTON | KAS | CENTRAL VALLEY RWQCB (REGION 5S) | kshelton@waterboards.ca.gov |

ADDRESS

11020 SUN CENTER DRIVE #200
RANCHO CORDOVA, CA 95670-6114

CONTACT DESCRIPTION

| PHONE TYPE | PHONE NUMBER | EXTENSION |
|---|---|---|
| Direct | (916)-464-4819 | |



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7 December 2017

Andrea Wing
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810

***GROUNDWATER MONITORING REPORT THIRD QUARTER 2017, FORMER SHELL OIL PIPELINES, CORDES RANCH, HANSEN ROAD, SAN JOAQUIN COUNTY***

Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff reviewed the 6 October 2017 *Groundwater Monitoring Report Third Quarter 2017* (QMR) submitted by GHD Services, Inc. on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) for the Former Shell Central Valley Crude Oil Pipelines on Hansen Road in the Cordes Ranch pipeline area (Site). Shell operated two crude oil pipelines at the Site until they removed the pipelines in the 1960s. One section of pipeline remains under Hansen Road. FedEx Tracy Hub and Medline warehouse facilities now occupy the Site. Central Valley Water Board staff previously approved an *Amended Soil Management and Excavation Work Plan (Work Plan)* dated 11 September 2014, which describes procedures for managing soil impacted with total petroleum hydrocarbons as crude (TPHc) from former pipelines during the redevelopment project at Cordes Ranch in Tracy.

The QMR summarizes the July/August groundwater monitoring and sampling event. Depth to water ranged from about 35 feet below ground surface (bgs) to about 52 feet bgs. Total petroleum hydrocarbons as crude oil (TPHc) was detected in one monitoring well (MW-16) at a concentration of 400 micrograms per liter (µg/L). Other petroleum hydrocarbons were not detected above laboratory detection limits in any other monitoring wells.

Our comments are:

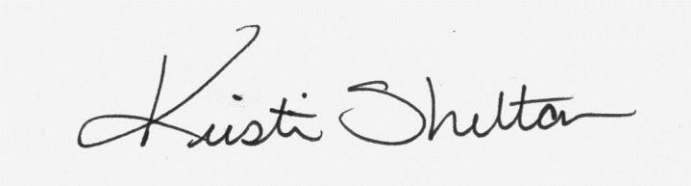
1. Central Valley Water Board staff concurs with the request to discontinue sampling of Site monitoring wells. Shell sampled monitoring wells MW-17 and MW-24 for one hydrologic cycle; these wells have contained sporadic detections of TPHc (maximum of 830 µg/L). MW-16 has contained a maximum concentration of 400 µg/L. Shell may stop monitoring Site groundwater wells.

2. Shell needs to continue to monitor and collect water samples annually from the nearby domestic wells.

3. Central Valley Water Board staff concurs the Site may be eligible for closure. Shell should prepare a closure report that includes a summary of the Site history, remaining mass of contamination, mass removed, remaining risks to human health and the environment, and an evaluation with respect to the California State Water Resources Control Board's Low Threat Closure Policy (LTCP). The closure request needs to be signed and stamped by a

registered professional and should include the LTCP checklist. If Shell identifies any data gaps during the closure evaluation, you should include a work plan that proposes methods to close the data gaps with the closure request.

In summary, Shell may discontinue sampling Site groundwater monitoring wells and prepare a closure request. Shell should continue to collect samples annually from nearby residential domestic wells. If you have questions please contact me by phone at (916) 464-4819 or by email at kristin.shelton@waterboards.ca.gov.



KRISTI SHELTON, P.E.
Water Resources Control Engineer

cc: Ms. Adrienne Ellsaesser, San Joaquin County Environmental Health Department, Stockton
Mr. Jeff Gaarder, GHD, 2300 Clayton Road, Suite 920, Concord, CA 94520
Ms. Gaylyn Frosini, FedEx Ground, 1000 FedEx Drive, Moon Township, PA 15108



# Subsurface Investigation and Third and Fourth Quarter 2016 Groundwater Monitoring Report

Former Shell Central Valley Crude Oil Pipelines
Cordes Ranch
Tracy California
Planet Site ID USF06329
Planet Project ID 25753

**GHD |** 2300 Clayton Road, Suite 920 Concord California 94520

060223 16.04 | Report No 49 | December 13 2016

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# 1. Introduction

GHD Services Inc (GHD; formerly Conestoga-Rovers & Associates [CRA]) is submitting this *Site Investigation and Third and Fourth Quarter 2016 Groundwater Monitoring Report* on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to document the recent assessment conducted on the Former Shell Central Valley Crude Oil Pipelines located at Cordes Ranch in Tracy, California (Figure 1). GHD followed the scope of work presented in our August 31, 2016 *Site Investigation Work Plan*, which was conditionally approved in Central Valley – Regional Water Quality Control Board's (CV-RWQCB's) September 8, 2016 letter. The CV-RWQCB work plan approval letter is provided as Appendix A. The investigation consisted of installing groundwater monitoring wells on and around the new FedEx and Medline warehouses to replace wells which were destroyed prior to redevelopment.

## 1.1. Site Background

The site is located near the eastern slope of the Altamont Pass in the City of Tracy, California. The Former Shell Central Valley Crude Oil Pipelines carried crude oil from the Central Valley to the Bay Area. Shell operated two pipelines (8-inch and 10-inch diameter) that traverse the site, oriented in a northwest-to-southeast direction through agricultural land. The pipelines were reportedly removed from operation in the late 1960's. The current site boundaries encompass approximately 2 miles of former crude oil pipeline right-of-way located south of Highway 205 northwest of Hansen Road and north of Schulte Road (Figure 1). Based on available information, the pipelines were removed within the site boundaries except for a section that remains under Hansen Road. The former pipeline locations are shown on Figure 2. Based on historical records, these pipelines carried crude oil from the Central Valley to the Bay Area; they did not carry refined product. The pipelines were idled in the late 1960s and early 1970s and, along the length of the pipeline, certain portions were reportedly removed while others were abandoned in place. An existing Chevron-Texaco pipeline is located west of the investigation area.

The project area is now occupied by new FedEx Ground Tracy Hub and Medline warehouse facilities. There is an approved development plan and agreement between the property owner and the City of Tracy for development of the remainder of the Cordes Ranch property.

## 1.2. Previous Work Activities

***2001 Pipeline Removal:*** In 2001, Shell removed the pipelines in the Cordes Rach area, with the exception of a short section under Hansen Road and on the residential property at 24322 Hansen Road. During the removal, impacted soils were observed in six areas along the pipeline. Two of the areas were over-excavate to between 15 and 20 feet below grade (fbg) and the other four areas were over-excavated to 4 fbg, corresponding with the approximate depth of the former pipelines.

***2002 Subsurface Investigations:*** In January and February 2002, Clayton Group Services (Clayton) drilled 41 soil borings (B-1 through B-40 and B-42) along the pipeline alignment to generally define the extent of hydrocarbons in soil and groundwater. Soil samples collected from the borings contained up to 31,780 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as

crude oil (TPHc) and 3.7 mg/kg benzene. Grab groundwater samples collected from the borings contained up 523,100 micrograms per liter (μg/L) TPHc and 670 μg/L benzene. Clayton's June 26, 2002 *Investigation Report* details this investigation.

In October 2002, Clayton drilled 14 additional soil borings (B-43 through B-56) to further delineate lateral extent of hydrocarbons in soil and groundwater. Soil samples collected from the borings contained up to 22 mg/kg TPHc. No benzene was detected in the soil samples. No TPHc or benzene was detected in grab groundwater samples collected from the borings. Clayton's December 26, 2002 *Investigation Report* presents investigation details.

***2003 Subsurface Investigations:*** In March 2003, Clayton drilled four soil borings (B-57 through B-60) to further define the vertical extent of soil and groundwater impacts. Soil samples collected from the borings contained up to 16,000 mg/kg TPHc and 150 mg/kg benzene. Grab groundwater samples collected from the borings contained up 16,000 μg/L TPHc and 150 μg/L benzene. Clayton's May 5, 2003 *Investigation Report* provides investigation results.

In June 2003, Clayton drilled three soil borings (B-61 through B-63) to further define the vertical extent of groundwater impacts. Grab groundwater samples collected from the borings contained up 2,400 μg/L TPHc and 15 μg/L benzene. Clayton's July 22, 2003 *Additional Delineation Report* details investigation results.

In September 2003, Clayton drilled two additional soil borings (B-64 and B-65) to further define the vertical extent of groundwater impacts. Grab groundwater samples collected from the borings contained up 2,600 μg/L TPHc and 1.2 μg/L benzene. Clayton's December 2, 2003 *Additional Groundwater Delineation Report* provides investigation details.

***2004 Subsurface Investigation:*** In February and March 2004, Clayton drilled of 2 additional soil borings (B-66 and B-67) to further define the vertical extent of groundwater impacts. No TPHc or benzene was detected in the soil sample collected from 237.5 fbg in boring B-67. Grab groundwater samples collected from the borings contained up 74,000 μg/L TPHc. No benzene was detected in the grab groundwater samples. Clayton's April 26, 2004 *Additional Groundwater Delineation Report* presents investigation results.

***2005 Forensic Analysis:*** Clayton's April 22, 2005 *Status Report* documents a forensic hydrocarbon analysis performed by Shell. Shell concluded that TPHc detected in the grab groundwater sample from boring B-66 at 171.5 feet is most likely the result of a naturally occurring erosional deposit or an oil seep not related to the pipeline.

Clayton's September 28, 2005 *Status Report* provides additional discussion on Shell's forensic analysis and concludes the hydrocarbons detected at 171.5 feet are not related to the pipeline and appear to be naturally occurring. Shell's analysis further suggests that that shallow hydrocarbons attenuate at depths of approximately 40 feet and that the hydrocarbons detected below approximately 50 feet are different in nature than the shallower hydrocarbons.

***2005 Subsurface Investigation:*** In June 2005, Clayton drilled two soil borings (B-68 and B-69) to further assess the extent of soil and groundwater impacts. Soil samples collected from the borings contained up to 11,000 mg/kg TPHc and 0.87 mg/kg benzene. Grab groundwater samples

contained up to 730,000 μg/L TPHc and 180 μg/L benzene. Clayton's September 28, 2005 *Status Report* presents investigation details.

***2007 Subsurface Investigation:*** In April 2007, Science Applications Incorporated (SAIC) drilled four borings (B-70, B-71, B-72 and B-74) to assess soil vapor conditions and two borings (B-75 and B-76) to further evaluate the lateral extent of hydrocarbon groundwater impacts in the interval between 40 and 150 fbg. Soil vapor samples collected from the borings contained up to 390,000 micrograms per cubic meter ($\mu g/m^3$) benzene. Grab groundwater samples contained up to 14,000 μg/L TPHc. No benzene was detected in the grab groundwater samples. SAIC's August 6, 2007 *Site Investigation Report* details this investigation.

***2009 Subsurface Investigation:*** In October 2008, Conestoga-Rovers & Associates (CRA) drilled two borings (B-77 and B-78) to further define the horizontal extent of groundwater impacts northeast of B-75. Grab groundwater samples contained up to 2,500 mg/kg TPHc. No benzene was detected in the grab groundwater samples. CRA's January 8, 2009 *Site Investigation Report* presents investigation and survey findings.

***2009 Site Conceptual Model (SCM):*** CRA's September 1, 2009 SCM describes the relationship between the source area, transport pathways, and potential receptors. CRA developed the SCM based on review of available geological and analytical data.

***2010 to 2016 Residential Well Monitoring:*** In June 2010, CRA sampled five domestic water wells located northwest of the site to determine if petroleum hydrocarbons are present in the wells. No petroleum hydrocarbons were detected in the samples collected from the domestic water wells. The two wells closest to the former pipelines have been sampled annually since the initial event. No petroleum hydrocarbons were detected in the wells CRA's annual **r**esidential well monitoring reports detail sampling results.

***2010 Subsurface Investigation:*** From July to September 2010, CRA installed thirteen groundwater monitoring wells (MW-1 through MW-4, MW-5A, MW-5B, MW-5C, and MW-6 through MW-11) to assess groundwater quality, gradient, and flow direction in the vicinity of the former crude oil pipeline. The wells monitored three groundwater zones; 30 to 50 fbg (Zone A), 105 to 125 fbg (Zone B), and 160 to 177 fbg (Zone C). Soil samples collected from the well borings contained up to 79,000 mg/kg TPHc and 7.4 mg/kg benzene. CRA's October 15, 2010 *Site Investigation Report* presents well installation details.

***2011 Subsurface Investigations:*** From May to July 2011, CRA drilled twenty soil borings (B-79, B-79A, B-80 through B-92, B-93, B-93A, B-93B, B-94, and B-95) to assess soil conditions beneath areas 7, 8, and 9; installed six groundwater monitoring wells (MW-12, MW-13B, MW-13C, MW-14B, MW-14C, and MW-15 were installed to assess groundwater quality, gradient, and flow direction; and installed three nested soil vapor wells (VW-1, VW-2, and VW-3) to assess soil vapor impacts. Soil samples collected from the soil and well borings contained up to 68,000 mg/kg TPHc and 5.3 mg/kg benzene. Soil vapor samples contained a limited number of volatile organic compounds and semivolatile organic compounds at varying concentrations. CRA's January 4, 2012 *Subsurface Investigation and Third Quarter 2011 Groundwater Monitoring Report* details the investigation.

In November 2011, CRA drilled 29 exploratory borings (B-96 through B-104, B-104A, B-104B, B-105 through B-109, B-109A, B-110 through B-113, B-113A, B-113B, B-114, B-115, B-115A,

B-115B, and B-116) along the pipeline alignment. Soil samples collected from the borings contained up to 57,000 mg/kg TPHc and 2.2 mg/kg benzene. CRA's May 13, 2013 *Subsurface Investigation Report and Updated Site Conceptual Model* provides investigation details. This report also presents a human health risk assessment (HHRA) and ecological risk assessment (ERA).

***2014 Subsurface Investigations and Well Destructions:*** In May 2014, ENGEO, Inc. (ENGEO) drilled 48 soil borings for a geotechnical investigation prior to site redevelopment. CRA collected various soil samples from 14 borings (1-B05 through 1-B07, 1-B09, 1-B10, 1-B12, 1-B13, 1-B27 through 1-B29, and 1-B35 through 1-B38) located in the area of the former pipeline alignment at depths from 5 to 15 fbg. TPHc was detected in a single soil sample from boring 1-B07 at 15 fbg at a concentration of 28 mg/kg. Benzene was not detected in these soil samples.

In May and June 2014, CRA drilled three soil borings (B-117 through B-119) and installed one groundwater monitoring well (MW-16) to delineate soil and groundwater impacts in the area of well MW-15. Soil samples collected from the soil borings and well boring contained up to 42,000 mg/kg TPHc and 8.3 mg/kg benzene.

In July 2014, CRA properly destroyed all site wells and vapor probes, with the exception of well MW-16. CRA's September 30, 2014 *Subsurface Investigation and Well Destruction Report* presents details for both investigations and the well destructions.

***2014 and 2015 Soil Management Plans and Reports:***

- May 23, 2014: CRA, *Soil Management Plan and Excavation Work Plan*
- September 11, 2014: CRA, *Amended Soil Management Plan and Excavation Work Plan*
- December 5, 2014: CRA, *Amended Soil Management Plan*
- February 26, 2015: CRA, *Amended Soil Management Plan*
- October 19, 2015: GHD, *Soil Management Report FedEx Site*
- November 6, 2015: GHD, *Soil Management Report Medline Site*

***2014 Excavation:*** In September and October 2014, CRA excavated the areas around boring locations B-9 and B-93 to 5 fbg, dug and two exploratory trenches between former well MW-15 and boring location B-80, and dug a trench along the removed pipeline. CRA collected 49 confirmation soil samples from the excavations that contained up to 47,000 mg/kg TPHc. Benzene was not detected in the soil samples. GHD's April 15, 2015 *Remedial Action Report* provides excavation details.

***Groundwater Monitoring:*** 20 groundwater monitoring wells were installed and sampled periodically prior to site redevelopment. 19 of these wells were destroyed in 2014. Groundwater samples are analyzed for TPHc and benzene, toluene, ethylbenzene, and total xylenes (BTEX). The remaining well (MW-16) is currently sampled semiannually. The historical data indicate the following:

- Zone A – The average depth to groundwater was 34.5 fbg and the groundwater flow direction ranges from southwest to northeast at gradients ranging from 0.001 to 0.05. Dissolved phase

petroleum detections were limited well MW-2. Well MW-5A and well MW-15 contain minimal LNAPL. The remaining wells generally did not contain petroleum constituents.

- Zone B - The average depth to groundwater was 33.8 fbg and the groundwater flow direction is northwesterly at an approximately hydraulic gradient of 0.01.
- Zone C - The average depth to groundwater was 54.5 fbg and the groundwater flow direction is easterly at an approximately hydraulic gradient of 0.004. Dissolved phase petroleum detections were infrequent and no benzene was detected.
- TPHc detections in Zones B and C were infrequent and random, ranging from non-detect to 2,800 µg/L. Furthermore, the random detections of TPHc are relatively low concentration and are typically flagged by the laboratory as "hydrocarbon result partly due to individual peak(s) in quantitation range." Particularly random were the TPHc detections at well MW-14B, which was located over 320 feet laterally (northwest) from the pipeline, and cross-gradient to the groundwater flow direction. TPHc concentrations at this depth (125 fbg) and lateral distance (320 feet) from the pipeline is not consistent with the behavior of weathered crude oil particularly in the low permeability soils encountered at the Site.

# 2. Investigation Results

## 2.1. Permits

GHD obtained drilling permits for the wells from the San Joaquin County Environmental Health Department. Copies of the permits are presented in Appendix B.

## 2.2. Drilling Dates

October 10 through 14, 21 and 22, 2016.

## 2.3. Drilling Company

Cascade Drilling, L.P. of Sacramento, California

## 2.4. GHD Personnel

Geologist Jessica Hudnall directed the drilling activities under the supervision of California Professional Geologist Peter Schaefer.

## 2.5. Drilling Method

The soil borings were advanced using hollow stem augers.

## 2.6. Number of Borings

GHD drilled eight soil borings (MW-17 though MW-24), which were completed as groundwater monitoring wells. The well locations are shown on Figure 2 and 3. The borings and soil types encountered are described on the boring logs, presented in Appendix C.

## 2.7. Boring Depths

Soil borings were drilled to 45.5 to 65.5 fbg.

## 2.8. Soil Sampling

GHD collected soil samples at 5 foot intervals in the borings for soil description, screening in the field for organic vapors using a flame ionization detector (FID), and laboratory analyses. GHD shipped the soil samples to CalScience Environmental Laboratories, Inc. (CalScience) in Garden Grove, CA for analysis. The samples were analyzed for TPHc (C6–C44) with and without silica gel cleanup by EPA Method 8015B (M) and BTEX by EPA Method 8260B.

## 2.9. Soil Boring/Well Location Survey

Mid Coast Engineers (MCE) of Watsonville, California conducted a survey on October 31, 2016 to obtain latitude, longitude, and elevation data. MCE's survey report is included as Appendix D.

## 2.10. Monitoring Well Installation

Wells MW-17. MW-19 through MW-22 were completed to approximately 50 fbg and screened from 30 to 50 fbg. Well MW-18 was completed to approximately 45 fbg and screened from 25 to 45 fbg. Well MW-23 was completed to approximately 65 fbg and screened from 45 to 65 fbg. The wells were constructed using 2-inch-diameter Schedule 40 PVC casing. The filter pack was placed from the bottom of the well screen up to 2 ft above the top of the well screen, followed by a 2-foot-thick bentonite seal, and cement grout to grade. The wells are secured with a locking cap and a traffic-rated cristy box.

## 2.11. Well Development and Sampling

Blaine Tech Services, Inc. (Blaine) developed wells MW-17 through MW-24 on October 25 and 26, 2016 and collected initial groundwater samples from the wells on October 31, 2016. Blaine's field notes, presenting the well development and sampling data, are included in Appendix E.

## 2.12. Waste Disposal

Residual soil and equipment decontamination (decon) water from the well borings were stored on site in a 10-cubic-yard soil bin and 55-gallon drums. On October 14, 2016, the soil bin was transported by American Integrated Services, Inc. (AIS) of Wilmington, California to Keller Canyon Landfill in Pittsburg, California. On November 8, 2016, the soil drums were transported by AIS to Keller Canyon Landfill in Pittsburg, California and AIS transported the decon water drums to Crosby & Overton, Inc. in Long Beach, California for recycling. Appendix F presents the disposal manifests.

# 3. Findings

## 3.1. Soil

The soil chemical analytical data are summarized in Table 1. Figure 3 presents soil chemical concentration data for each soil boring. The laboratory analytical report is presented in Appendix G. GHD's independent data validation of the laboratory analytical results is provided as Appendix H.

BTEX was not detected in soil samples collected from the well borings. TPHc was not detected in the soil samples with the following exceptions:

- MW-18 at 5, 10, and 25 fbg contained 7,000, 600, and 45 mg/kg TPHc, respectively.
- MW-19 at 35 and 45 fbg contained 92, and 260 mg/kg TPHc, respectively.
- MW-21 at 15 fbg contained 58 mg/kg TPHc.

The chromatograms from the samples the detections in MW-18 and MW-21 did not match the chromatogram for the TPHc standard.

## 3.2. Groundwater

The groundwater data are presented in Table 2. The laboratory analytical report is presented in Appendix G. GHD's independent data validation of the laboratory analytical results is provided as Appendix H. A groundwater contour and chemical concentration map showing TPHc and benzene analytical results is presented on Figure 4. Note that groundwater analytical data for well MW-16 is from third quarter 2016 (July 29, 2016).

No TPHc or BTEX was detected in groundwater samples collected during the third and fourth quarter 2016 groundwater monitoring events.

The depth to groundwater ranged from 34.75 (MW-19) to 49.78 (MW-23) fbg. Groundwater elevation ranged from 81.82 (MW-20) to 82.56 (MW-23) feet above mean sea level.

# 4. Conclusions

Crude oil impacts to soil detected during this investigation are limited in extent. The highest concentrations (MW-18) are beneath the Medline parking lot and are below the on-site soil reuse concentrations approved by CV-RWQCB[1].

The groundwater analytical data demonstrate that the dissolved-phase TPHc in groundwater is now delineated down-gradient from the residual impacts along the pipeline alignment. Historically, BTEX in groundwater has not been detected or detected at low concentrations as a result of degradation over the years since the pipelines were taken out of service.

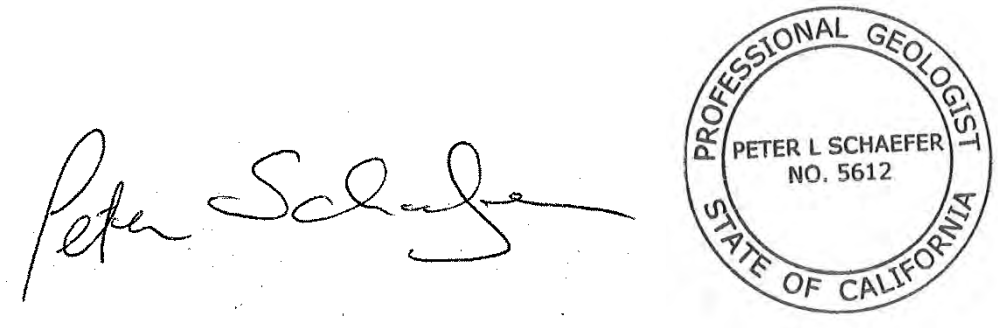
[1] CRA, *Amended Soil Management Plan*, December 5, 2014 approved in CV-RWQCB's January 6, 2015 letter.

# 5. Recommendations

GHD recommends monitoring groundwater in the new wells (MW-17 through MW-24) on a quarterly basis for one hydrologic cycle to confirm the TPHc plume extent and behavior, and determine the appropriate path forward.

GHD's *Groundwater Monitoring Report – First Quarter 2016* requested that the semi-annual monitoring of well MW-16 be discontinued. Petroleum hydrocarbons have not been detected in MW-16 during all six sampling events starting in June 2014. If approved by the CV-RWQCB, GHD will properly destroy MW-16 following the procedures detailed in our August 31, 2016 *Site Investigation Work Plan*. GHD will continue monitoring the residential wells on an annual basis.

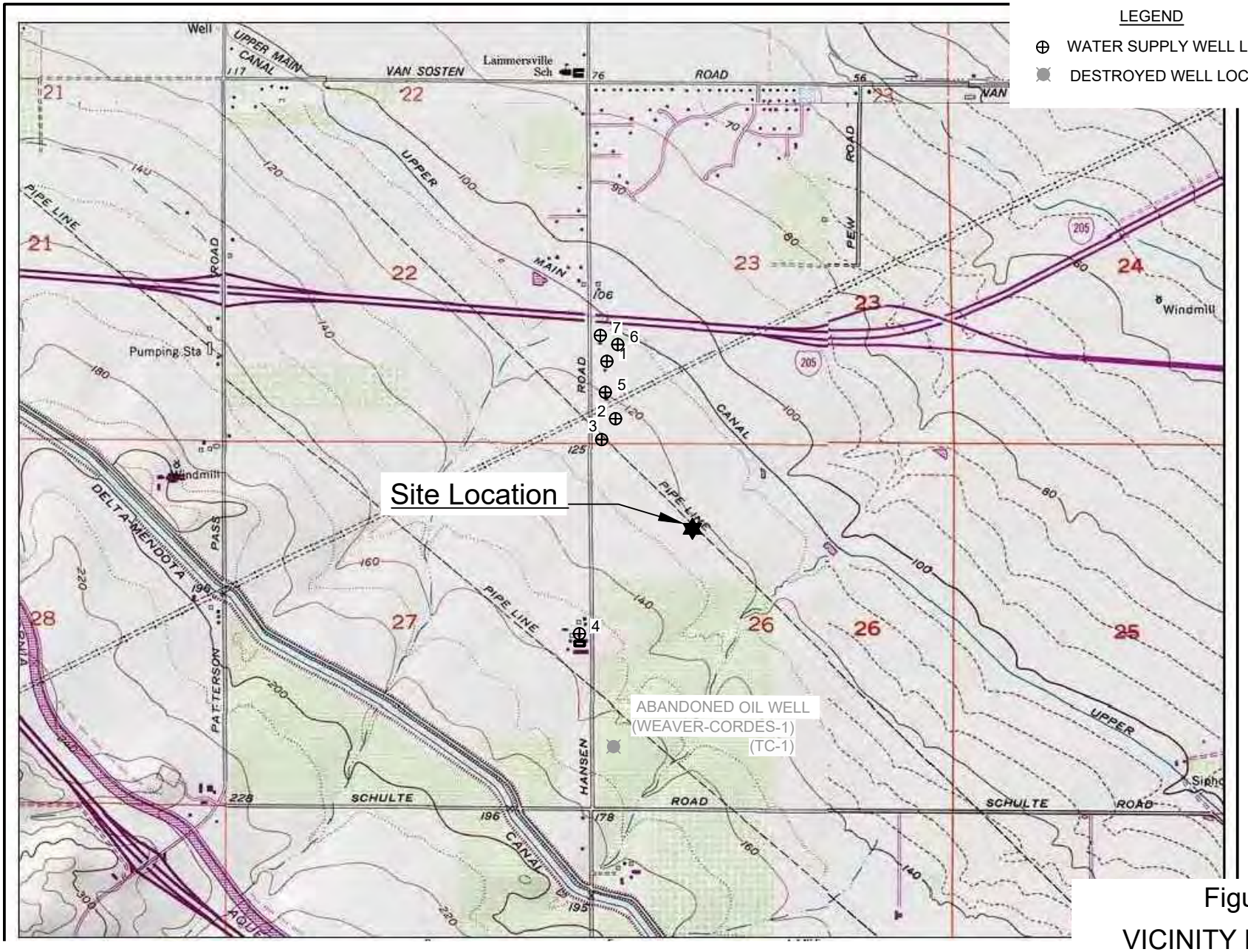
All of Which is Respectfully Submitted,
GHD

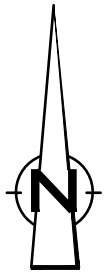



Peter Schaefer, CEG, CHG

Jeff Gaarder

# Figures



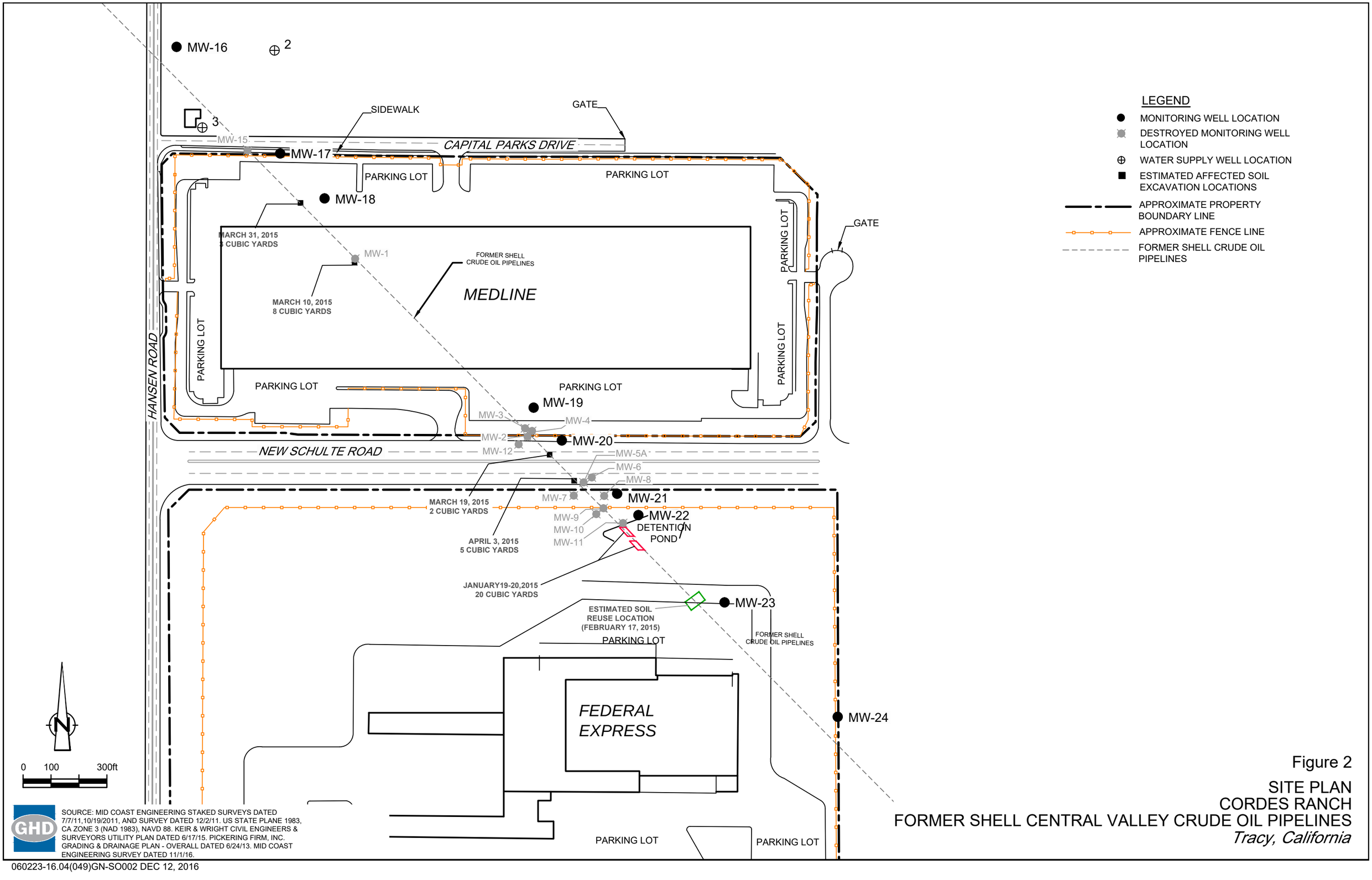




0 1000 2000ft

SOURCE: TOPOGRAPHICAL MAP FROM CA TOPO WILDFLOWER PRODUCTIONS copy right 2000 www.topo.com.

Figure 1

VICINITY MAP
CORDES RANCH
HANSEN ROAD NEAR SCHULTE ROAD
*Tracy, California*




SOURCE: MID COAST ENGINEERING STAKED SURVEYS DATED 7/7/11,10/19/2011, AND SURVEY DATED 12/2/11. US STATE PLANE 1983, CA ZONE 3 (NAD 1983), NAVD 88. KEIR & WRIGHT CIVIL ENGINEERS & SURVEYORS UTILITY PLAN DATED 6/17/15. PICKERING FIRM, INC. GRADING & DRAINAGE PLAN - OVERALL DATED 6/24/13. MID COAST ENGINEERING SURVEY DATED 11/1/16.

Figure 2

SITE PLAN
CORDES RANCH
FORMER SHELL CENTRAL VALLEY CRUDE OIL PIPELINES
*Tracy, California*

| Sample Location - MW-17 | |
|---|---|
| Depth | TPHc |
| 5 | <25/<25 |
| 15 | <25/<25 |
| 20 | <25/<25 |
| 25 | <25/<25 |
| 30 | <25/<25 |
| 35 | <25/<25 |
| 40 | <25/<25 |
| 45 | <25/<25 |
| 50 | <25/<25 |

| Sample Location - MW-18 | |
|---|---|
| Depth | TPHc |
| 5 | **7,300/7,000** |
| 10 | **650/600** |
| 15 | <25/<25 |
| 20 | <25/<25 |
| 25 | **47/45** |
| 30 | <25/<25 |
| 35 | <25/<25 |
| 40 | <25/<25 |
| 45 | <25/<25 |

| Sample Location - MW-19 | |
|---|---|
| Depth | TPHc |
| 5 | <25/<25 |
| 10 | <25/<25 |
| 15 | <25/<25 |
| 20 | <25/<25 |
| 25 | <25/<25 |
| 30 | <25/<25 |
| 35 | **96/92** |
| 40 | <25/<25 |
| 45 | **580/260** |
| 50 | <25/<25 |

| Sample Location - MW-20 | |
|---|---|
| Depth | TPHc |
| 15.5 | <25/<25 |
| 20.5 | <25/<25 |
| 25.5 | <25/<25 |
| 31 | <25/<25 |
| 35.5 | <25/<25 |
| 40.5 | <25/<25 |
| 45 | <25/<25 |
| 51 | <25/<25 |

| Sample Location - MW-21 | |
|---|---|
| Depth | TPHc |
| 5 | <25/<25 |
| 10 | <25/<25 |
| 15 | **73/58** |
| 20 | <25/<25 |
| 25 | <25/<25 |
| 30 | <25/<25 |
| 35 | <25/<25 |
| 40 | <25/<25 |
| 45 | <25/<25 |
| 50 | <25/<25 |

| Sample Location - MW-22 | |
|---|---|
| Depth | TPHc |
| 5.5 | <25/<25 |
| 10.5 | <25/<25 |
| 15.5 | <25/<25 |
| 20.5 | <25/<25 |
| 25.5 | <25/<25 |
| 30.5 | <25/<25 |
| 35.5 | <25/<25 |
| 40.5 | <25/<25 |
| 45.5 | <25/<25 |
| 50.5 | <25/<25 |

| Sample Location - MW-23 | |
|---|---|
| Depth | TPHc |
| 5 | <25/<25 |
| 10 | <25/<25 |
| 15 | <25/<25 |
| 20 | <25/<25 |
| 25 | <25/<25 |
| 30 | <25/<25 |
| 35 | <25/<25 |
| 40 | <25/<25 |
| 45 | <25/<25 |
| 50 | <25/<25 |
| 55 | <25/<25 |
| 60 | <25/<25 |
| 65 | <25/<25 |

| Sample Location - MW-24 | |
|---|---|
| Depth | TPHc |
| 5 | <25/<25 |
| 10 | <25/<25 |
| 15 | <25/<25 |
| 20 | <25/<25 |
| 25 | <25/<25 |
| 30 | <25/<25 |
| 35 | <25/<25 |
| 40 | <25/<25 |
| 45 | <25/<25 |
| 50 | <25/<25 |

MW-16
2
3
MW-15
MW-17
MW-18
SIDE
DRIVE
PARKI
MARCH 31, 2015
3 CUBIC YARDS
MW-1
MARCH 10, 2015
8 CUBIC YARDS
FORMER SHELL
CRUDE OIL PIPELINES
MEDLINE
PARKING LOT
HANSEN ROAD
PARKING LOT
PARKING LOT
MW-19
MW-3
MW-4
MW-2
MW-20
NEW SCHULTE ROAD
MW-12
MW-5A
MW-6
MW-8
MW-7
MW-21
MW-9
MW-22
DETENTION
POND
MW-10
MW-11
MARCH 19, 2015
2 CUBIC YARDS
APRIL 3, 2015
5 CUBIC YARDS
JANUARY19-20,2015
20 CUBIC YARDS
ESTIMATED SOIL
REUSE LOCATION
MW-23
FORMER SHELL
CRUDE OIL PIPELINES
MW-24
PARKING LOT
PARKING LOT
PARKING LOT
GATE

N

0 100 300ft

LEGEND

- MONITORING WELL LOCATION
- DESTROYED MONITORING WELL LOCATION
- WATER SUPPLY WELL LOCATION
- ESTIMATED AFFECTED SOIL EXCAVATION LOCATIONS
- APPROXIMATE PROPERTY BOUNDARY LINE
- APPROXIMATE FENCE LINE
- FORMER SHELL CRUDE OIL PIPELINES

TPHc TOTAL PETROLEUM HYDROCARBONS AS CRUDE OIL

<X NOT DETECTED AT REPORTING LIMIT X

**7,300/7,000** TPHc/TPHc (WITH SILICA GEL CLEAN-UP) IN MILLGRAMS PER KILOGRAM (mg/kg)

SOIL SAMPLE DATES:

MW-17 SAMPLED ON OCTOBER 11, 2016.

MW-18 AND MW-19 SAMPLED ON OCTOBER 12, 2016.

MW-24 SAMPLED ON OCTOBER 13, 2016.

MW-23 SAMPLED ON OCTOBER 14, 2016.

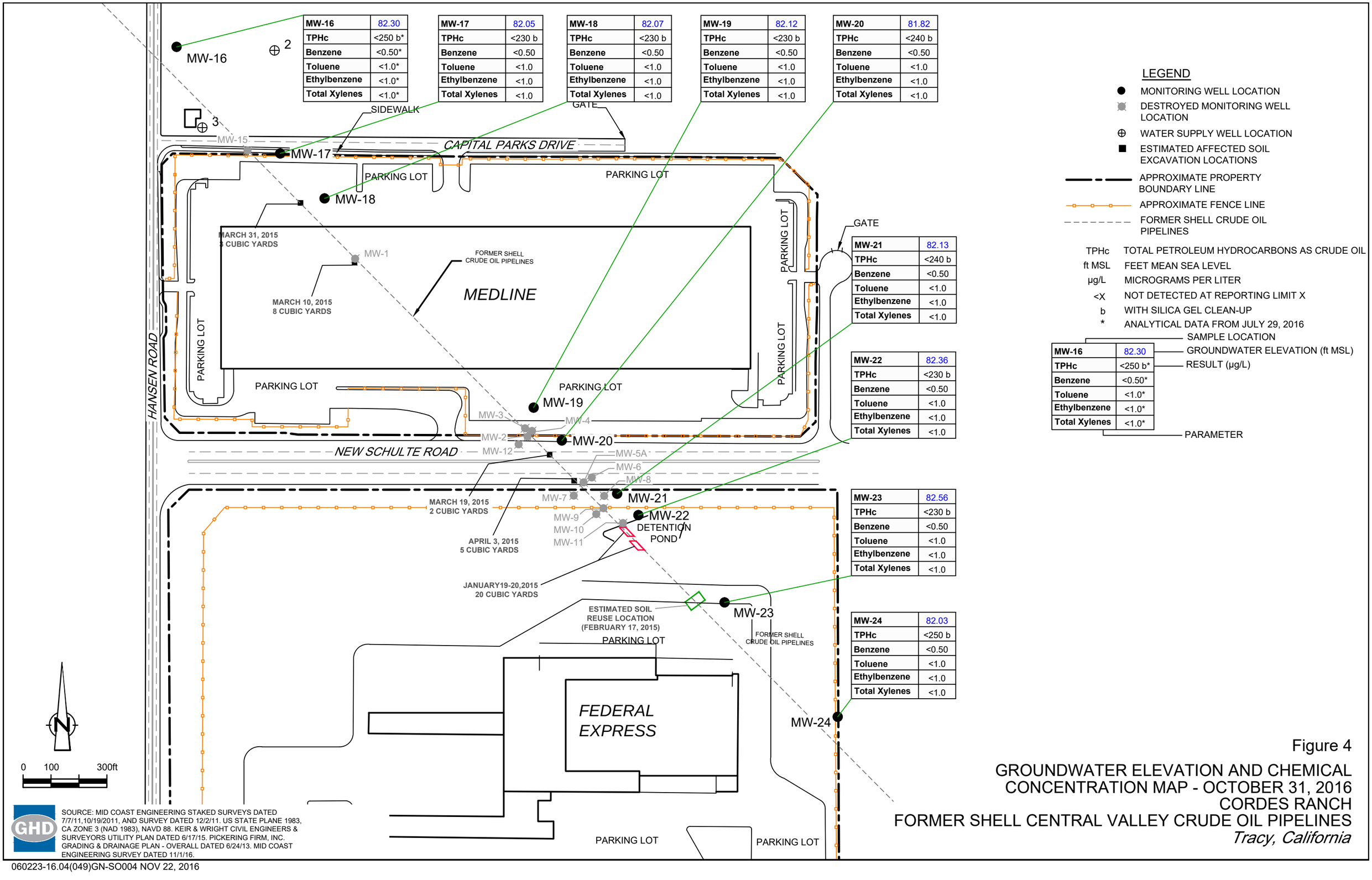
MW-20 SAMPLED ON OCTOBER 21, 2016.

MW-22 SAMPLED ON OCTOBER 22, 2016.

SOURCE: MID COAST ENGINEERING STAKED SURVEYS DATED 7/7/11,10/19/2011, AND SURVEY DATED 12/2/11. US STATE PLANE 1983, CA ZONE 3 (NAD 1983), NAVD 88. KEIR & WRIGHT CIVIL ENGINEERS & SURVEYORS UTILITY PLAN DATED 6/17/15. PICKERING FIRM, INC. GRADING & DRAINAGE PLAN - OVERALL DATED 6/24/13. MID COAST ENGINEERING SURVEY DATED 11/1/16.

Figure 3

SOIL CHEMICAL CONCENTRATION MAP
CORDES RANCH
FORMER SHELL CENTRAL VALLEY CRUDE OIL PIPELINES
*Tracy, California*




| MW-16 | 82.30 |
|---|---|
| TPHc | <250 b* |
| Benzene | <0.50* |
| Toluene | <1.0* |
| Ethylbenzene | <1.0* |
| Total Xylenes | <1.0* |

| MW-17 | 82.05 |
|---|---|
| TPHc | <230 b |
| Benzene | <0.50 |
| Toluene | <1.0 |
| Ethylbenzene | <1.0 |
| Total Xylenes | <1.0 |

| MW-18 | 82.07 |
|---|---|
| TPHc | <230 b |
| Benzene | <0.50 |
| Toluene | <1.0 |
| Ethylbenzene | <1.0 |
| Total Xylenes | <1.0 |

| MW-19 | 82.12 |
|---|---|
| TPHc | <230 b |
| Benzene | <0.50 |
| Toluene | <1.0 |
| Ethylbenzene | <1.0 |
| Total Xylenes | <1.0 |

| MW-20 | 81.82 |
|---|---|
| TPHc | <240 b |
| Benzene | <0.50 |
| Toluene | <1.0 |
| Ethylbenzene | <1.0 |
| Total Xylenes | <1.0 |

| MW-21 | 82.13 |
|---|---|
| TPHc | <240 b |
| Benzene | <0.50 |
| Toluene | <1.0 |
| Ethylbenzene | <1.0 |
| Total Xylenes | <1.0 |

| MW-22 | 82.36 |
|---|---|
| TPHc | <230 b |
| Benzene | <0.50 |
| Toluene | <1.0 |
| Ethylbenzene | <1.0 |
| Total Xylenes | <1.0 |

| MW-23 | 82.56 |
|---|---|
| TPHc | <230 b |
| Benzene | <0.50 |
| Toluene | <1.0 |
| Ethylbenzene | <1.0 |
| Total Xylenes | <1.0 |

| MW-24 | 82.03 |
|---|---|
| TPHc | <250 b |
| Benzene | <0.50 |
| Toluene | <1.0 |
| Ethylbenzene | <1.0 |
| Total Xylenes | <1.0 |

## LEGEND

- MONITORING WELL LOCATION
- DESTROYED MONITORING WELL LOCATION
- WATER SUPPLY WELL LOCATION
- ESTIMATED AFFECTED SOIL EXCAVATION LOCATIONS
- APPROXIMATE PROPERTY BOUNDARY LINE
- APPROXIMATE FENCE LINE
- FORMER SHELL CRUDE OIL PIPELINES

| | |
|---|---|
| TPHc | TOTAL PETROLEUM HYDROCARBONS AS CRUDE OIL |
| ft MSL | FEET MEAN SEA LEVEL |
| µg/L | MICROGRAMS PER LITER |
| <X | NOT DETECTED AT REPORTING LIMIT X |
| b | WITH SILICA GEL CLEAN-UP |
| * | ANALYTICAL DATA FROM JULY 29, 2016 |

| MW-16 | 82.30 | ← SAMPLE LOCATION; GROUNDWATER ELEVATION (ft MSL) |
|---|---|---|
| TPHc | <250 b* | ← RESULT (µg/L) |
| Benzene | <0.50* | |
| Toluene | <1.0* | |
| Ethylbenzene | <1.0* | |
| Total Xylenes | <1.0* | ← PARAMETER |

SOURCE: MID COAST ENGINEERING STAKED SURVEYS DATED 7/7/11,10/19/2011, AND SURVEY DATED 12/2/11. US STATE PLANE 1983, CA ZONE 3 (NAD 1983), NAVD 88. KEIR & WRIGHT CIVIL ENGINEERS & SURVEYORS UTILITY PLAN DATED 6/17/15. PICKERING FIRM, INC. GRADING & DRAINAGE PLAN - OVERALL DATED 6/24/13. MID COAST ENGINEERING SURVEY DATED 11/1/16.

Figure 4

GROUNDWATER ELEVATION AND CHEMICAL CONCENTRATION MAP - OCTOBER 31, 2016
CORDES RANCH
FORMER SHELL CENTRAL VALLEY CRUDE OIL PIPELINES
*Tracy, California*

# PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION, NATIONAL PIPELINE MAPPING SYSTEM




## Legend

- Accidents (Liquid)
- Incidents (Gas)
- Gas Transmission Pipelines
- Hazardous Liquid Pipelines

500 m
1000 ft

Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

This map should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.

Questions regarding this map or its contents can be directed to npms@dot.gov.

Projection: Geographic

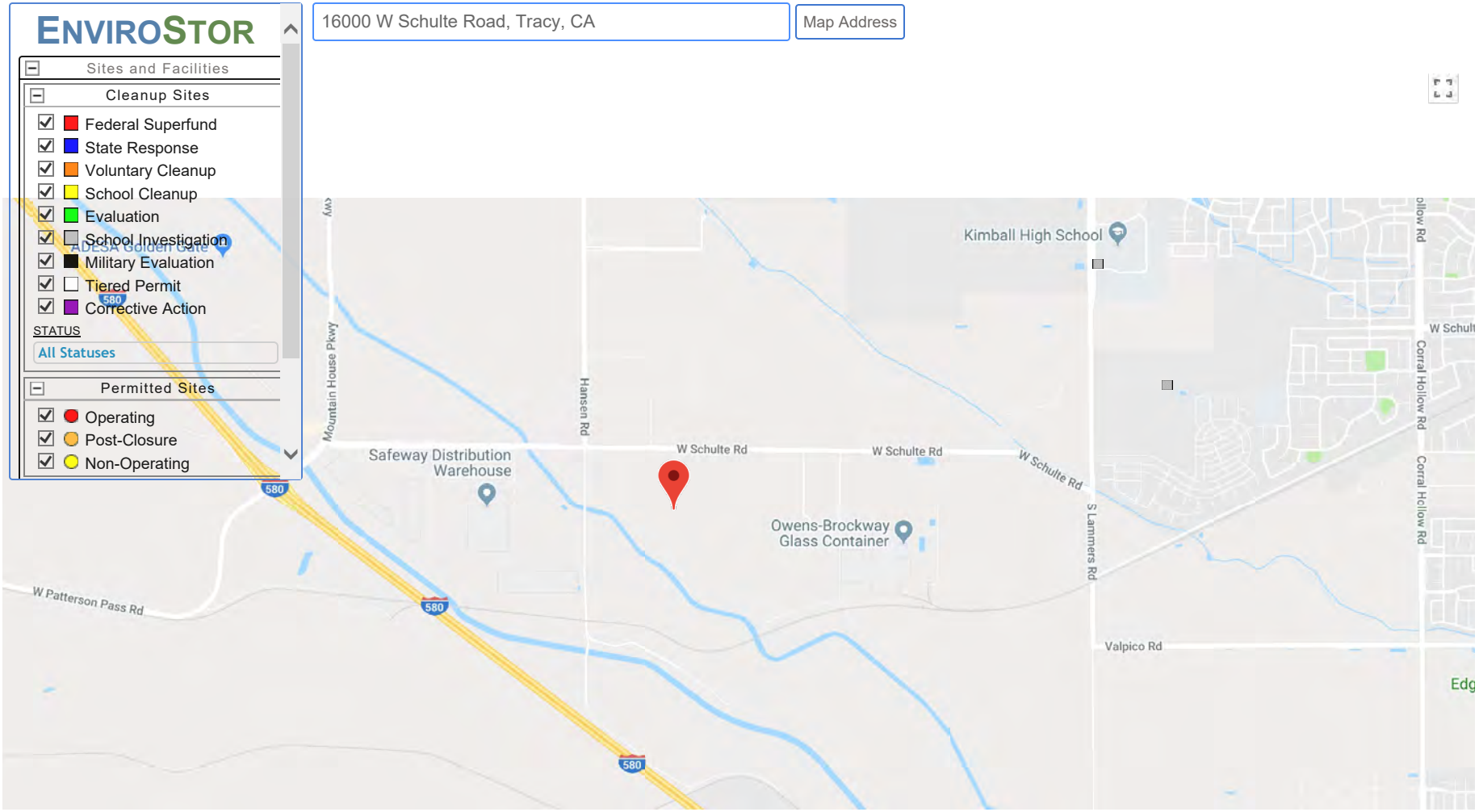
Datum: NAD83

Map produced by the Public Viewer application at www.npms.phmsa.dot.gov

Date Printed: Apr 16, 2018

811 Know what's below. Call before you dig.

# STATE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, ENVIROSTOR DATABASE




SITES CURRENTLY VISIBLE ON MAP — 3 SITES LISTED — EXPORT THIS LIST TO EXCEL

| PROJECT NAME | STATUS | PROJECT TYPE | ADDRESS | CITY |
|---|---|---|---|---|
| ADDITION TO KIMBALL HS (PARCEL 4) | NO ACTION REQUIRED | SCHOOL INVESTIGATION | 24606 S. LAMMERS ROAD | TRACY |
| GEORGE KELLY SCHOOL | NO FURTHER ACTION | SCHOOL INVESTIGATION | VENETO DRIVE/MABEL JOSEPHINE DRIVE | TRACY |
| KIMBALL HIGH SCHOOL | NO FURTHER ACTION | SCHOOL INVESTIGATION | 24606 SOUTH LAMMERS ROAD | TRACY |

**SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT**

## Margaret Carroll

**From:** Theresa Haywood <Theresa.Haywood@valleyair.org>
**Sent:** Tuesday, April 17, 2018 12:08 PM
**To:** Margaret Carroll
**Subject:** Public Records Request C-2018-4-74 @ 16000 W Schulte Rd, Tracy

External Email.

---

April 17, 2018

Margaret Carroll
Kleinfelder
620 W 16th Street #F
Long Beach, CA 90813

SUBJECT: Public Records Request
LOCATION: 16000 W Schulte Rd, Tracy

Dear Margaret Carroll:

The District has processed your request for information regarding the above mentioned site address/location. A search of the District's databases has returned no records on file for this location.

If you have any questions, or need additional information, please contact me at the number below.

Respectfully,

Theresa Haywood
Senior Office Assistant
San Joaquin Valley
Air Pollution Control District
4800 Enterprise Way
Modesto, CA 95356.8718
Phone: (209) 557.6406
Fax: (209) 557.6475
Theresa.Haywood@valleyair.org
Service * Teamwork * Attitude * Respect

Thank you for using our Online Public Records Request System. We will be working to process your request as quickly as possible.

The Control Number for this request is C-2018-4-74

Please use this number when referencing your request. You will also be receiving a comfirmation email with the Control Number included.

To contact the Air District, call a regional office in Fresno (559-230-6000), Modesto (209-557-6400) or Bakersfield (661-392-5500).

# APPENDIX D
# HISTORICAL RESEARCH DOCUMENTATION

DRAFT


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16000 West Schulte Road

16000 West Schulte Road

Tracy, CA 95377

Inquiry Number: 5253641.3

April 10, 2018

# Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# Certified Sanborn® Map Report

04/10/18

**Site Name:**

16000 West Schulte Road
16000 West Schulte Road
Tracy, CA 95377
EDR Inquiry # 5253641.3

**Client Name:**

Kleinfelder, Inc.
2 Ada, Suite 250
Irvine, CA 92618-0000
Contact: Paolo Dizon

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Kleinfelder, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

## *Certified Sanborn Results:*

**Certification #** 196A-4F49-A00E

**PO #** NA

**Project** 20190071.001A

### UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 196A-4F49-A00E

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

*The Sanborn Library LLC Since 1866™*

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**16000 West Schulte Road**

16000 West Schulte Road

Tracy, CA 95377

Inquiry Number: 5253641.12

April 11, 2018

# The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# EDR Aerial Photo Decade Package

04/11/18

**Site Name:**

16000 West Schulte Road
16000 West Schulte Road
Tracy, CA 95377
EDR Inquiry # 5253641.12

**Client Name:**

Kleinfelder, Inc.
2 Ada, Suite 250
Irvine, CA 92618-0000
Contact: Paolo Dizon

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

***Search Results:***

| Year | Scale | Details | Source |
|---|---|---|---|
| 2014 | 1"=500' | Flight Year: 2014 | USDA/NAIP |
| 2010 | 1"=500' | Flight Year: 2010 | USDA/NAIP |
| 2006 | 1"=500' | Flight Year: 2006 | USDA/NAIP |
| 1993 | 1"=500' | Acquisition Date: June 15, 1993 | USGS/DOQQ |
| 1982 | 1"=500' | Flight Date: July 10, 1982 | USDA |
| 1975 | 1"=500' | Flight Date: November 11, 1975 | Cartwright |
| 1968 | 1"=500' | Flight Date: May 02, 1968 | USGS |
| 1963 | 1"=500' | Flight Date: June 01, 1963 | USDA |
| 1957 | 1"=500' | Flight Date: July 15, 1957 | USDA |
| 1949 | 1"=500' | Flight Date: October 13, 1949 | USGS |
| 1940 | 1"=500' | Flight Date: June 03, 1940 | USDA |
| 1937 | 1"=500' | Flight Date: August 12, 1937 | USDA |

**When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.**


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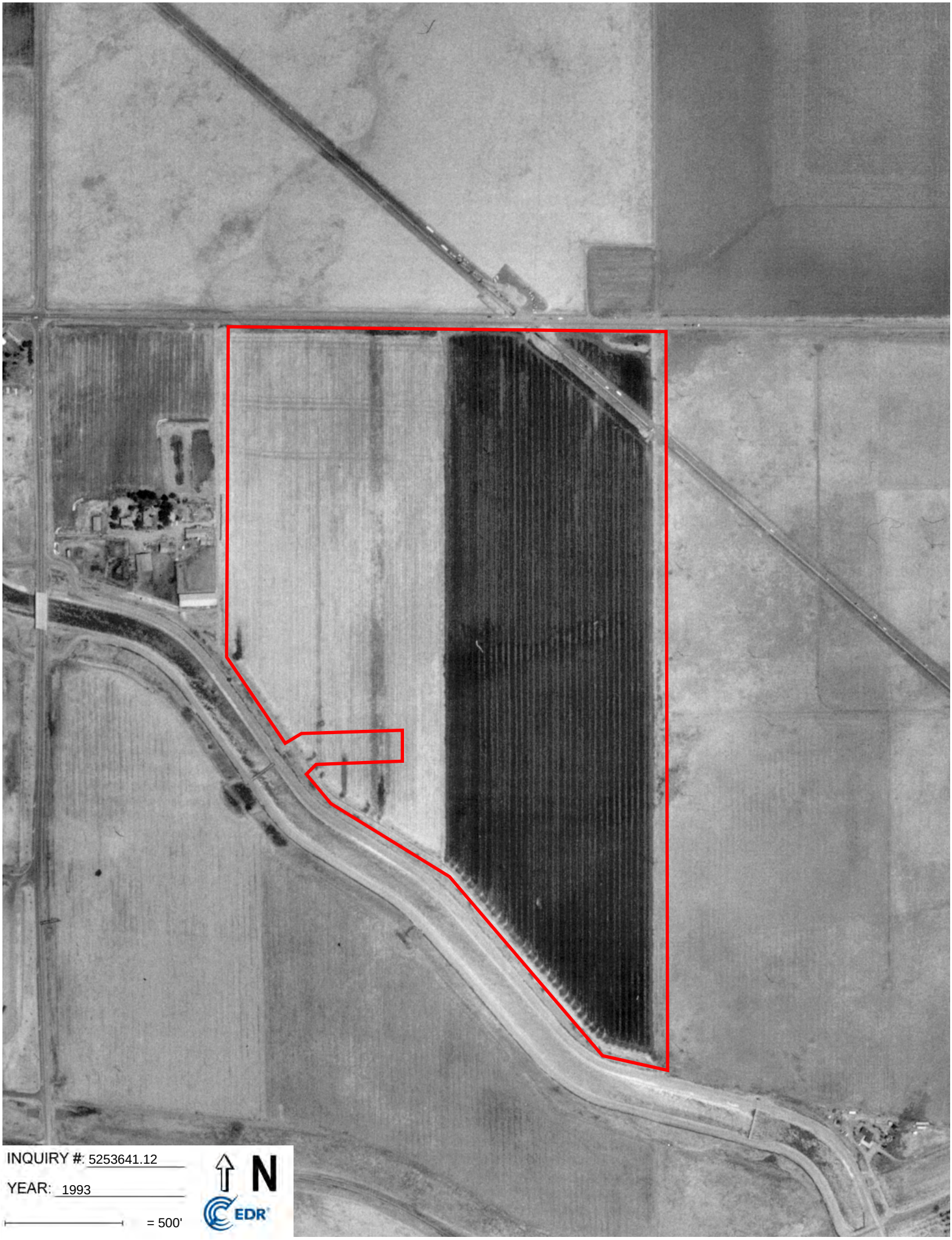
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INQUIRY #: 5253641.12
YEAR: 2014
= 500'
N
EDR

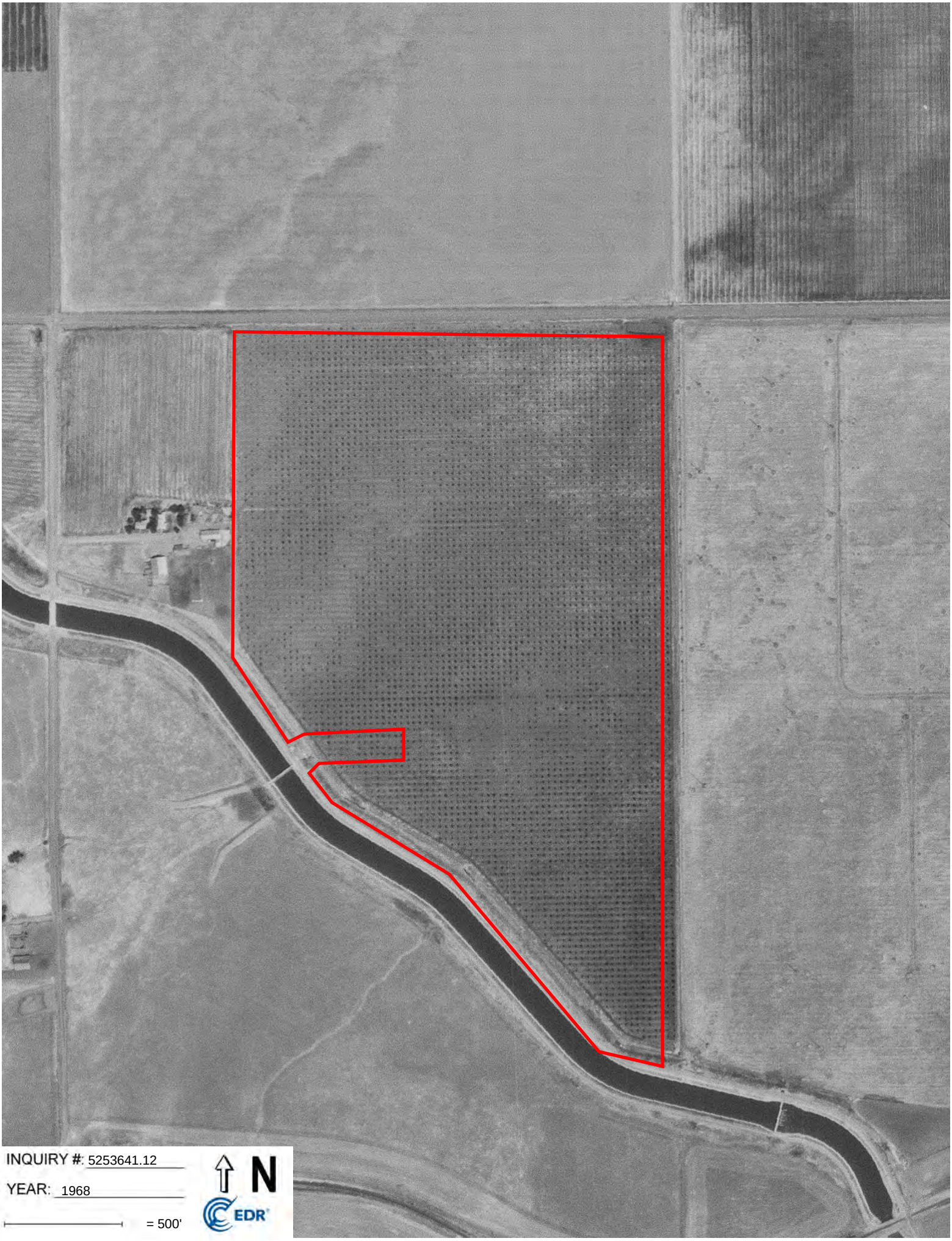

INQUIRY #: 5253641.12
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 5253641.12
YEAR: 2006
= 500'
N
EDR

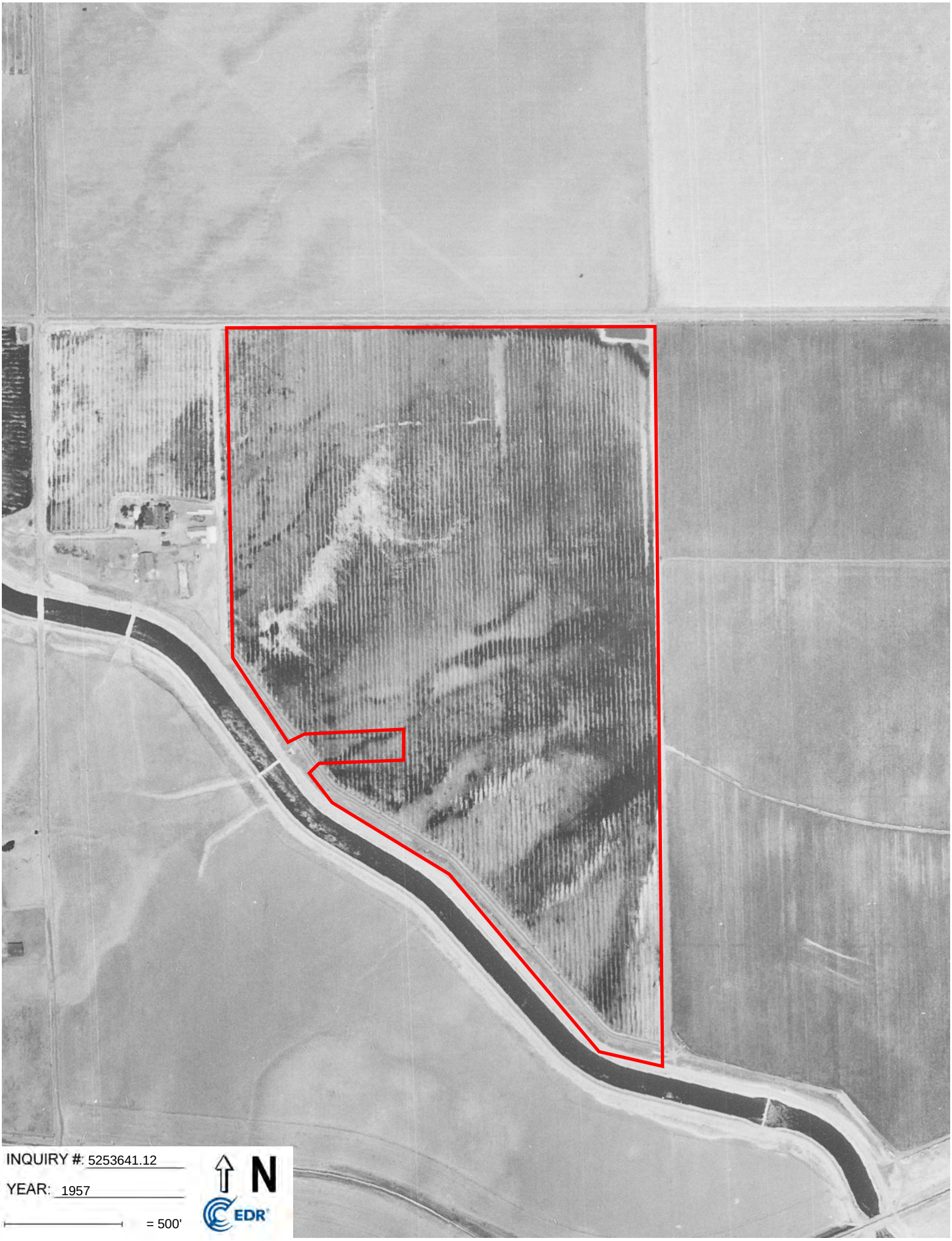

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= 500'
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EDR

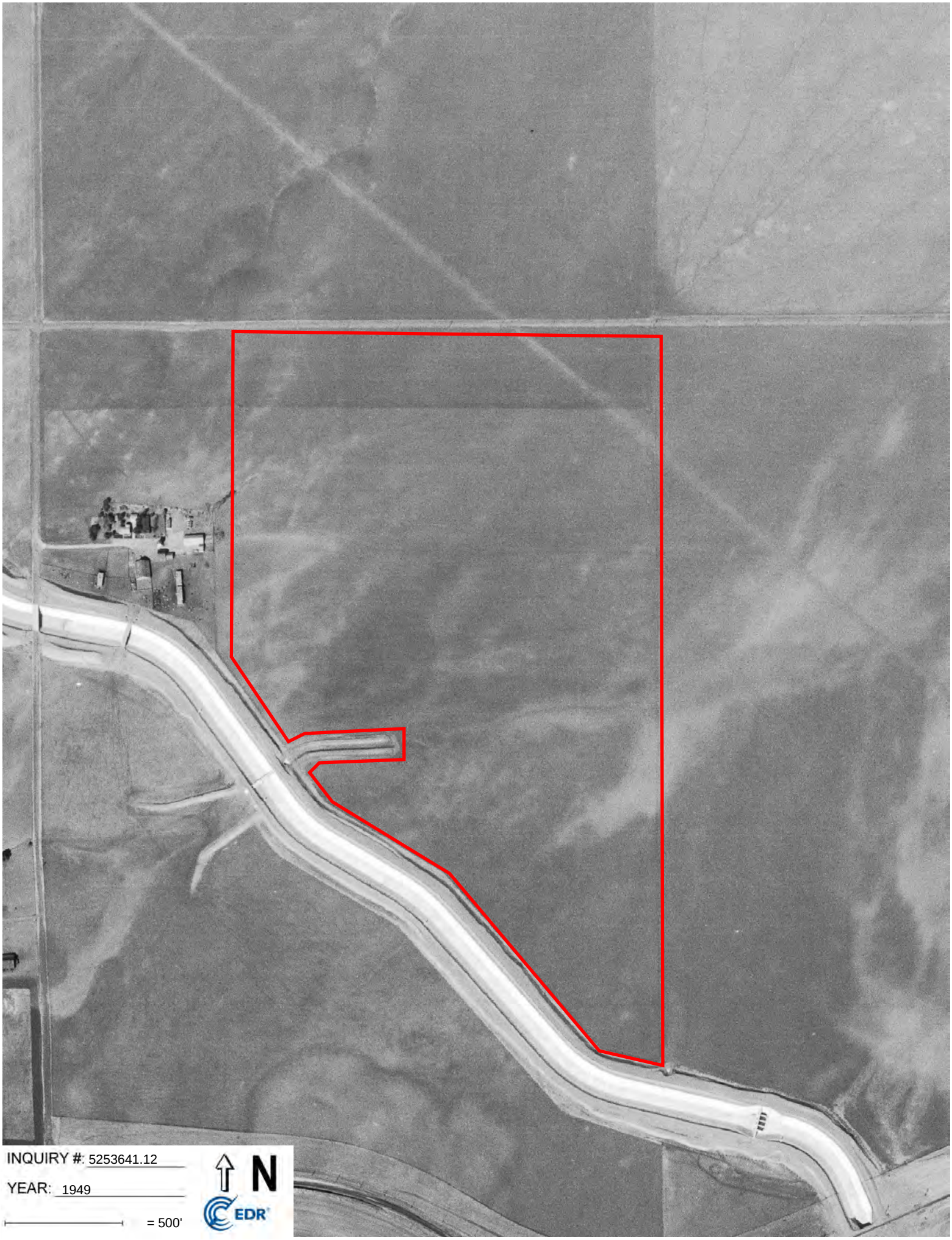

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= 500'
N
EDR

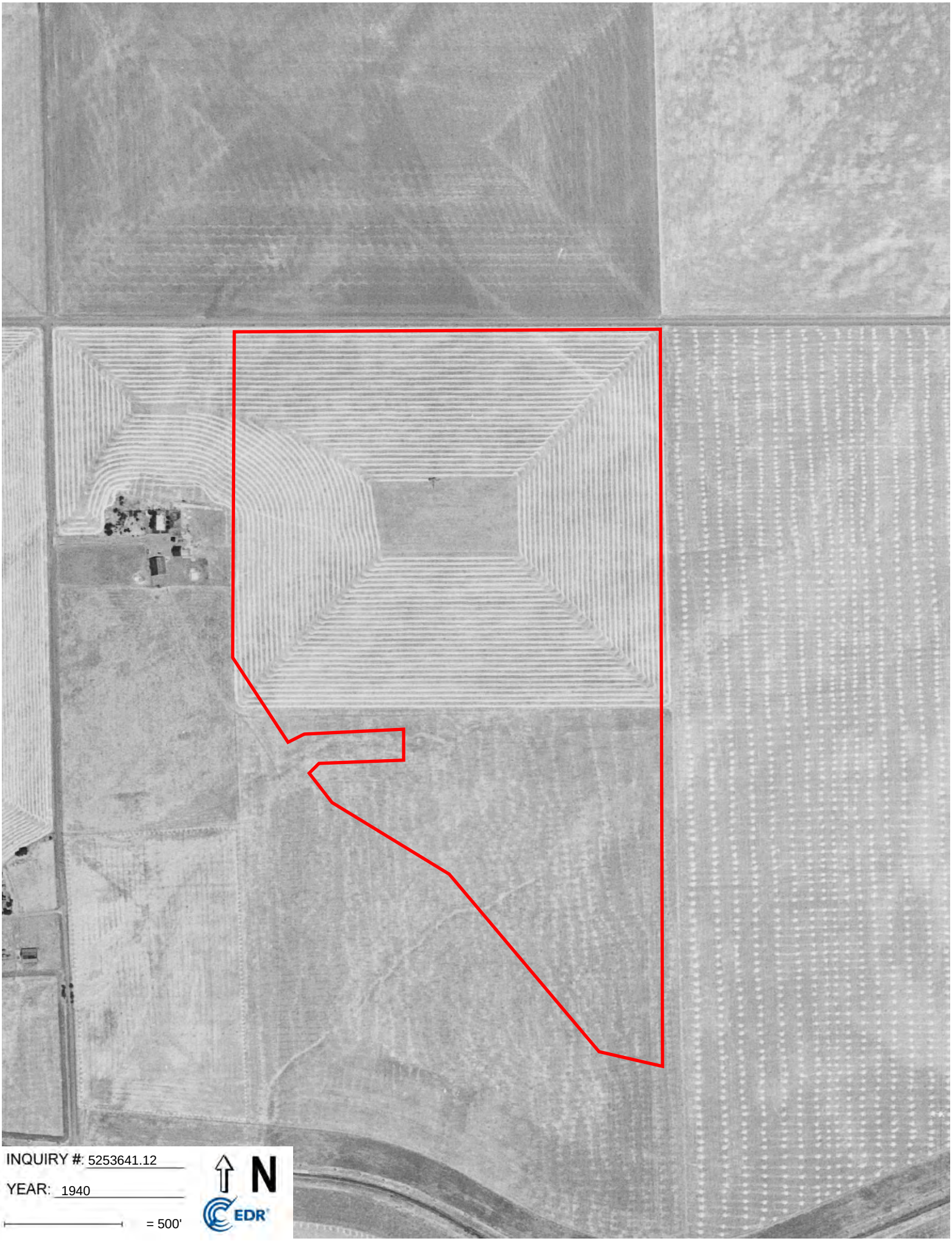

INQUIRY #: 5253641.12
YEAR: 1975
= 500'
N
EDR

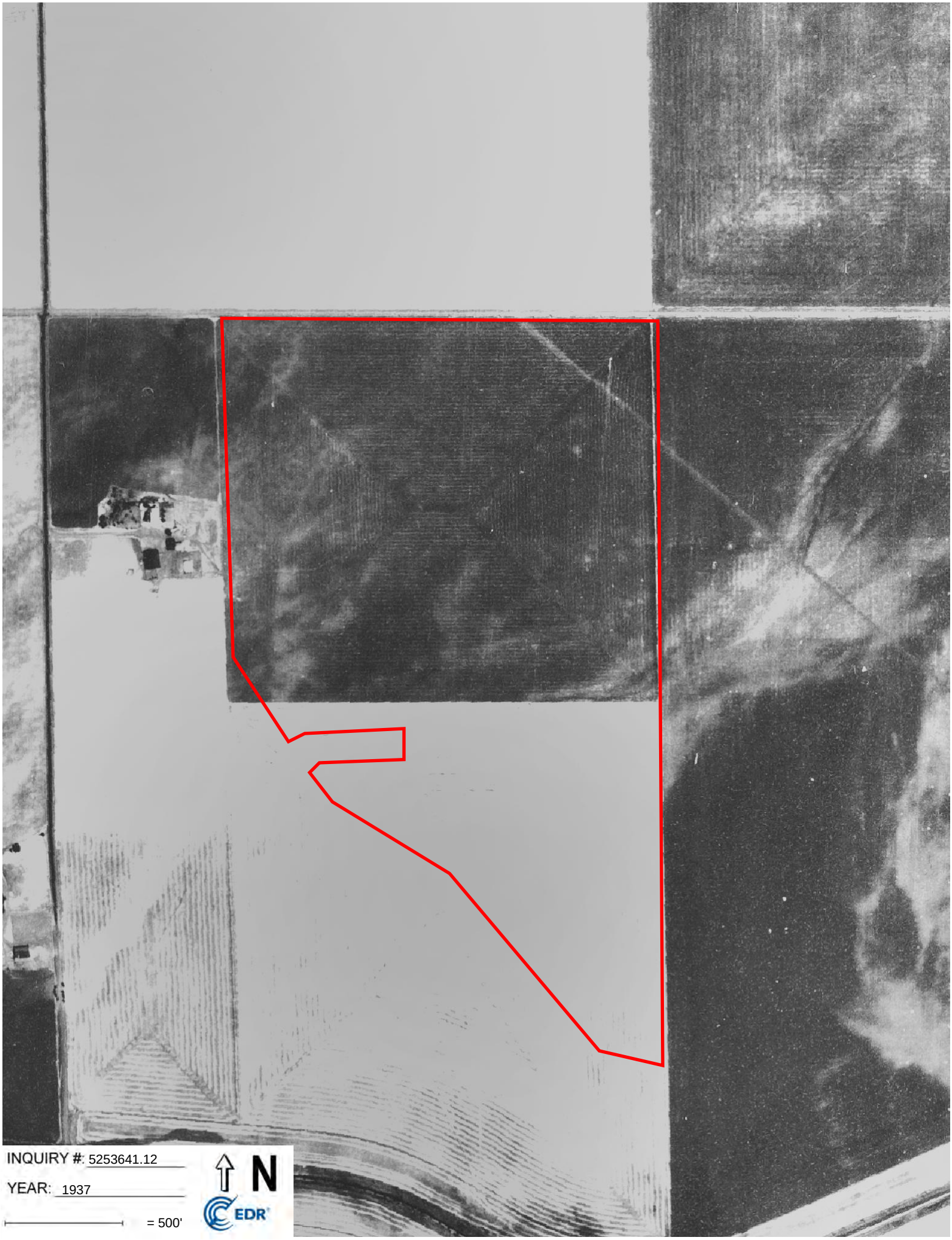

INQUIRY #: 5253641.12
YEAR: 1968
= 500'
N
EDR


INQUIRY #: 5253641.12
YEAR: 1963
= 500'
N
EDR


INQUIRY #: 5253641.12
YEAR: 1957
= 500'
N
EDR


INQUIRY #: 5253641.12
YEAR: 1949
= 500'
N
EDR


INQUIRY #: 5253641.12
YEAR: 1940
= 500'
N
EDR


INQUIRY #: 5253641.12
YEAR: 1937
= 500'
N
EDR

**16000 West Schulte Road**
16000 West Schulte Road
Tracy, CA 95377

Inquiry Number: 5253641.5
April 11, 2018

# The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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## SECTION

**Executive Summary**

**Findings**

**City Directory Images**

***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.

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# EXECUTIVE SUMMARY

## DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

## RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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infoUSA®
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## RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

| Year | Target Street | Cross Street | Source |
|---|---|---|---|
| 2014 | ☑ | ☐ | EDR Digital Archive |
| 2010 | ☑ | ☐ | EDR Digital Archive |
| 2005 | ☑ | ☐ | EDR Digital Archive |
| 2000 | ☑ | ☐ | EDR Digital Archive |
| 1995 | ☑ | ☐ | EDR Digital Archive |
| 1992 | ☑ | ☐ | EDR Digital Archive |
| 1985 | ☑ | ☐ | Haines Criss-Cross Directory |
| 1980 | ☑ | ☐ | Haines Criss-Cross Directory |
| 1975 | ☑ | ☐ | Haines Criss-Cross Directory |
| 1971 | ☐ | ☐ | Polk's City Directory |
| 1966 | ☐ | ☐ | Polk's City Directory |
| 1959 | ☐ | ☐ | Polk's City Directory |

# FINDINGS

## TARGET PROPERTY STREET

16000 West Schulte Road
Tracy, CA 95377

| *Year* | *CD Image* | *Source* | |
|---|---|---|---|
| **W SCHULTE RD** | | | |
| 2014 | pg A1 | EDR Digital Archive | |
| 2010 | pg A2 | EDR Digital Archive | |
| 2005 | pg A3 | EDR Digital Archive | |
| 2000 | pg A4 | EDR Digital Archive | |
| 1995 | pg A5 | EDR Digital Archive | |
| 1992 | pg A6 | EDR Digital Archive | |
| 1985 | pg A7 | Haines Criss-Cross Directory | |
| 1980 | pg A8 | Haines Criss-Cross Directory | |
| 1975 | pg A9 | Haines Criss-Cross Directory | |
| 1971 | - | Polk's City Directory | Street not listed in Source |
| 1966 | - | Polk's City Directory | Street not listed in Source |
| 1959 | - | Polk's City Directory | Street not listed in Source |

# FINDINGS

## CROSS STREETS

No Cross Streets Identified

# City Directory Images

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

## W SCHULTE RD 2014

14590 GWF ENERGY LLC
14700 OWENS-BROCKWAY GLASS CONT INC
OWENS-ILLINOIS INC
14800 THERMAL ENERGY DEV PARTNR LP
14950 GWF POWER SYSTEMS
STAR WEST GENERATION LLC
15400 DEMOULIN, WILLIAM
16502 FORESTRY AND FIRE PROTECTION
16900 FEDEX SUPPLYCHAIN SYSTEMS INC
SAFE AMERICA CREDIT UNION
SAFEWAY INC
17880 COSTCO WHOLESALE CORPORATION
STAFFMARK

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

## W SCHULTE RD 2010

| | |
|---|---|
| 14700 | LILJA CORP |
| | OI CANADA |
| | OWENS-BROCKWAY GLASS CONT INC |
| | OWENS-ILLINOIS INC |
| | TRACEY GLASS PLANT |
| 14800 | THERMAL ENERGY DEV PARTNR LP |
| 15400 | LOPEZ, JOSE D |
| | STERLING AUTO BODY |
| 16502 | CALIFORNIA STATE OF |
| | FORESTRY AND FIRE PROTECTION |
| 16900 | SAFEAMERICA CREDIT UNION |
| | SAFEWAY INC |
| 17880 | COSTCO WHOLESALE CORPORATION |
| | STAFFMARK |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

## W SCHULTE RD 2005

14700 OWENS-BROCKWAY GLASS CONTAINER
OWENS-ILLINOIS INC
TRACEY GLASS PLANT
14800 TRACY OPERATORS
15400 LOPEZ, JOSE D
16900 SAFEAMERICA CREDIT UNION
17880 COSTCO WHOLESALE DEPOT

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

## W SCHULTE RD 2000

14700 OWENS-BROCKWAY GLASS CONTAINER
OWENS-ILLINOIS INC
14800 TRACY OPERATORS
16900 MONUMENT SECURITY INC
SAFEAMERICA FEDERAL CREDIT UN
SAFEWAY INC
SUMMIT LOGISTICS INC

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

## W SCHULTE RD 1995

14700 OWENS-BROCKWAY GLASS CONTAINER
OWENS-ILLINOIS INC
14800 TRACY OPERATORS
16900 PHOENIX OPERATIONS INC
SAFEAMERICA FEDERAL CREDIT UN
SAFEWAY DISTRIBUTION
SPECIALIZED DISTRIBUTION MGT

| Target Street | Cross Street | Source |
| --- | --- | --- |
| ✓ | - | EDR Digital Archive |

## W SCHULTE RD 1992

14700 OWENS-ILLINOIS INC
14800 TRACY OPERATORS
16900 KALMAN FLOOR COMPANY INC
SPECIALIZED DISTRIBUTION MGT

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

## W SCHULTE RD 1985

# SCHULTE RD W 95376
# TRACY

### RURAL ROUTE 1

| | | | |
|---|---|---|---|
| 275 | LATORRE BOB | 836-5429 | 1 |
| 415B | MIDKIFF MIKE | 836-5979 | +5 |
| 500 | SULLIVAN DEAN | 836-4785 | 2 |
| 150 | FILIPPINI C L | 835-4043 | 2 |
| 7750 | POTTER ERIC | 835-5192 | 9 |
| 7818 | ALVAREZ PETER | 835-1411 | |
| 8235 | CARDOZA LYNN | 835-8677 | 9 |
| 8567 | MATTOS B R | 835-0306 | 3 |
| | MATTOS EQUIP TRANS | 835-6609 | 6 |
| | MATTOS RICHARD N | 835-0385 | |
| 8606 | ALVAREZ JOE JR | 835-3082 | |
| 8842 | BARNARD GARDENS | 835-7358 | |
| | BERNARD GARDENS | 835-7358 | 2 |
| 8898 | XXXX | 00 | |
| 8966 | GRAHAM JAS | 836-4289 | 2 |
| 10091 | XXXX | 00 | |
| 10151 | XXXX | 00 | |
| 10255 | XXXX | 00 | |
| 10268 | XXXX | 00 | |
| 12355 | BEZIO RAYMOND | 835-1937 | 0 |
| | MOITOSO G P | 835-0271 | |
| 12359 | XXXX | 00 | |
| 12763 | SCOTT BYFORD | 835-9348 | 8 |
| 12770 | MONIZ R L | 835-4761 | |
| 12775 | XXXX | 00 | |
| 12780 | MONIZ MARK | 835-5838 | 7 |
| 14700 | OWENS IL GLSS CNTNR | 835-5701 | 7 |
| 16502 | INGHAM R JAMES | 836-1028 | 9 |
| NO # | US TRANSP FAA | 835-4379 | 2 |

★ 5 BUS 24 RES 1 NEW

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

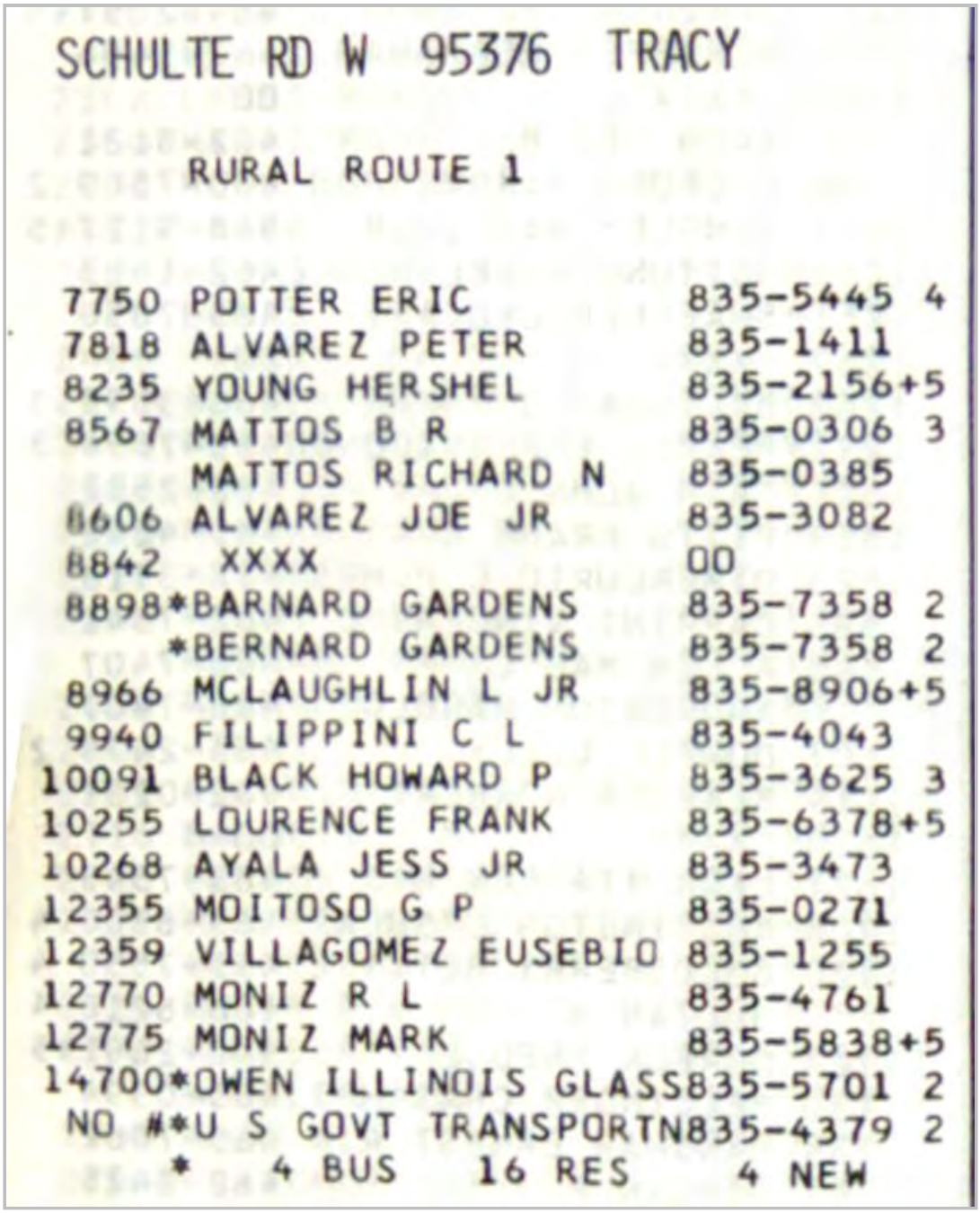
## W SCHULTE RD 1980



| | | |
|---|---|---|
| ..SCHULTE RD W | | 95376 CONT.. |
| 10255 | XXXX | 00 |
| 10268 | AYALA JESS JR | 835-3473 |
| 12355 | BEZIO RAYMOND | 835-1937 +0 |
| | MOITOSO G P | 835-0271 |
| 12359 | XXXX | 00 |
| 12763 | SCOTT BYFORD | 835-9348 8 |
| 12770 | MONIZ R L | 835-4761 |
| 12775 | XXXX | 00 |
| 12780 | MONIZ MARK | 835-5838 7 |
| 14700 | OWENS ILLINOIS GLSS | 835-5701 7 |
| 16502 | INGHAM R JAMES | 836-1028 9 |
| NO # | UNITED ST TRNSP FAA | 835-4379 2 |
| ★ | 5 BUS 21 RES | 3 NEW |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

## W SCHULTE RD 1975



SCHULTE RD W 95376 TRACY

RURAL ROUTE 1

| | | |
|---|---|---|
| 7750 | POTTER ERIC | 835-5445 4 |
| 7818 | ALVAREZ PETER | 835-1411 |
| 8235 | YOUNG HERSHEL | 835-2156+5 |
| 8567 | MATTOS B R | 835-0306 3 |
| | MATTOS RICHARD N | 835-0385 |
| 8606 | ALVAREZ JOE JR | 835-3082 |
| 8842 | XXXX | OO |
| 8898 | *BARNARD GARDENS | 835-7358 2 |
| | *BERNARD GARDENS | 835-7358 2 |
| 8966 | MCLAUGHLIN L JR | 835-8906+5 |
| 9940 | FILIPPINI C L | 835-4043 |
| 10091 | BLACK HOWARD P | 835-3625 3 |
| 10255 | LOURENCE FRANK | 835-6378+5 |
| 10268 | AYALA JESS JR | 835-3473 |
| 12355 | MOITOSO G P | 835-0271 |
| 12359 | VILLAGOMEZ EUSEBIO | 835-1255 |
| 12770 | MONIZ R L | 835-4761 |
| 12775 | MONIZ MARK | 835-5838+5 |
| 14700 | *OWEN ILLINOIS GLASS | 835-5701 2 |
| NO # | *U S GOVT TRANSPORTN | 835-4379 2 |

* 4 BUS 16 RES 4 NEW

16000 West Schulte Road

16000 West Schulte Road

Tracy, CA 95377

Inquiry Number: 5253641.4

April 10, 2018

# EDR Historical Topo Map Report

## with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# EDR Historical Topo Map Report

04/10/18

**Site Name:**

16000 West Schulte Road
16000 West Schulte Road
Tracy, CA 95377
EDR Inquiry # 5253641.4

**Client Name:**

Kleinfelder, Inc.
2 Ada, Suite 250
Irvine, CA 92618-0000
Contact: Paolo Dizon

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Kleinfelder, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

***Search Results:***

**P.O.#** NA
**Project:** 20190071.001A

***Coordinates:***

| | |
|---|---|
| **Latitude:** | 37.718235 37° 43' 6" North |
| **Longitude:** | -121.50661 -121° 30' 24" West |
| **UTM Zone:** | Zone 10 North |
| **UTM X Meters:** | 631619.51 |
| **UTM Y Meters:** | 4175602.88 |
| **Elevation:** | 175.00' above sea level |

**Maps Provided:**

2012
1980, 1981
1968
1953, 1954
1947
1943
1942
1922
1916
1907

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## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 2012 Source Sheets



Midway
2012
7.5-minute, 24000



Tracy
2012
7.5-minute, 24000

### 1980, 1981 Source Sheets



Midway
1980
7.5-minute, 24000
Aerial Photo Revised 1978

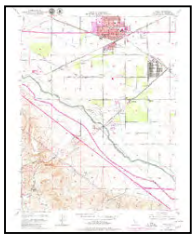


Tracy
1981
7.5-minute, 24000
Aerial Photo Revised 1978

### 1968 Source Sheets



Midway
1968
7.5-minute, 24000
Aerial Photo Revised 1968

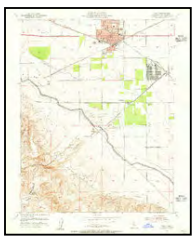


Tracy
1968
7.5-minute, 24000
Aerial Photo Revised 1968

### 1953, 1954 Source Sheets



Midway
1953
7.5-minute, 24000
Aerial Photo Revised 1950



Tracy
1954
7.5-minute, 24000
Aerial Photo Revised 1949

## *Topo Sheet Key*

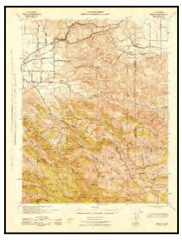
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1947 Source Sheets



CARBONA
1947
15-minute, 50000

### 1943 Source Sheets



Tesla
1943
15-minute, 62500
Aerial Photo Revised 1937

### 1942 Source Sheets



Altamont
1942
15-minute, 62500
Aerial Photo Revised 1937



Carbona
1942
15-minute, 62500
Aerial Photo Revised 1937

### 1922 Source Sheets



Carbona
1922
15-minute, 62500

## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1916 Source Sheets

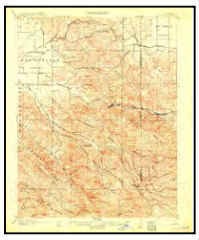


Tracy
1916
7.5-minute, 31680



Midway
1916
7.5-minute, 31680

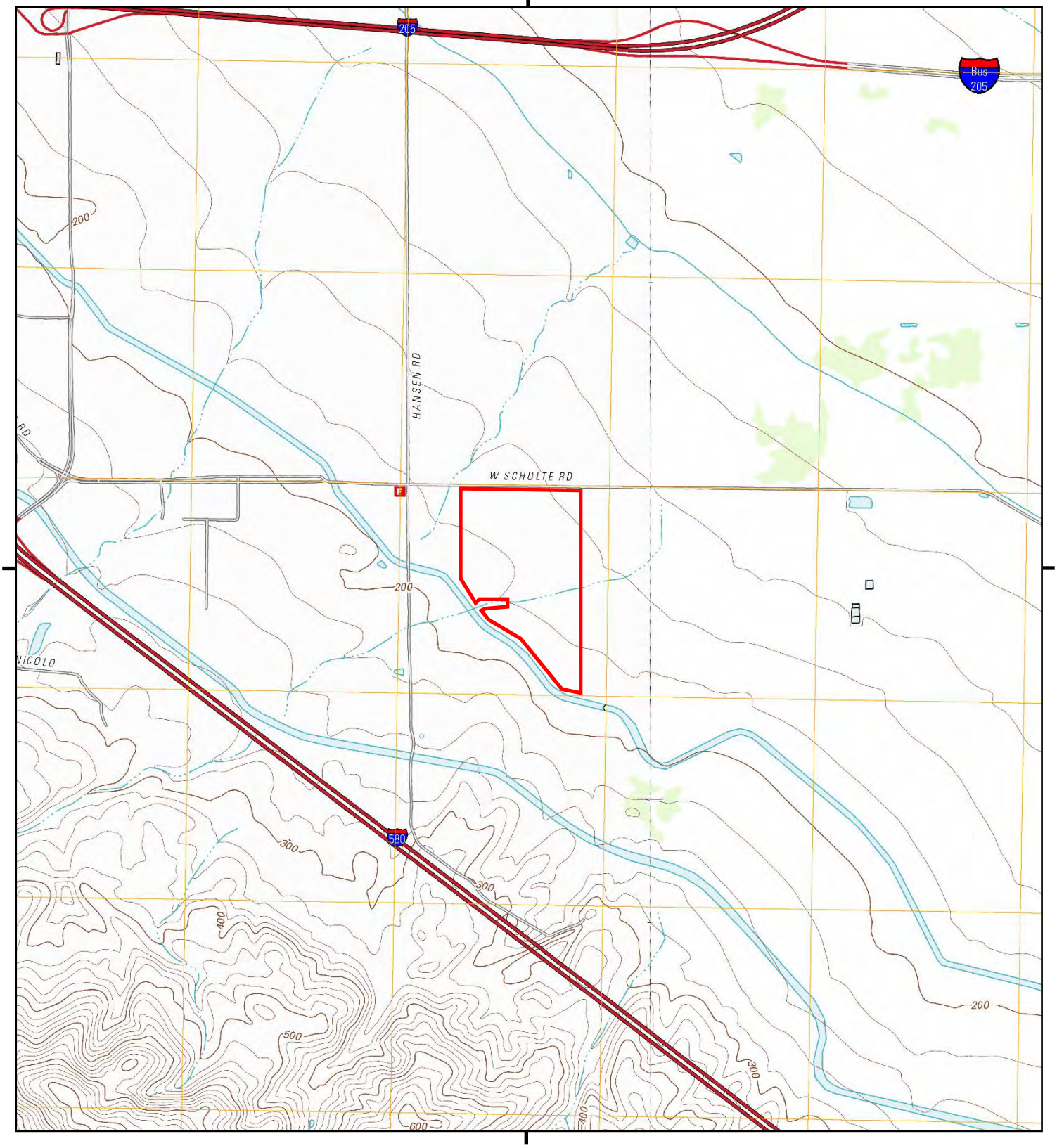
### 1907 Source Sheets



Tesla
1907
15-minute, 62500

# Historical Topo Map

2012




This report includes information from the following map sheet(s).

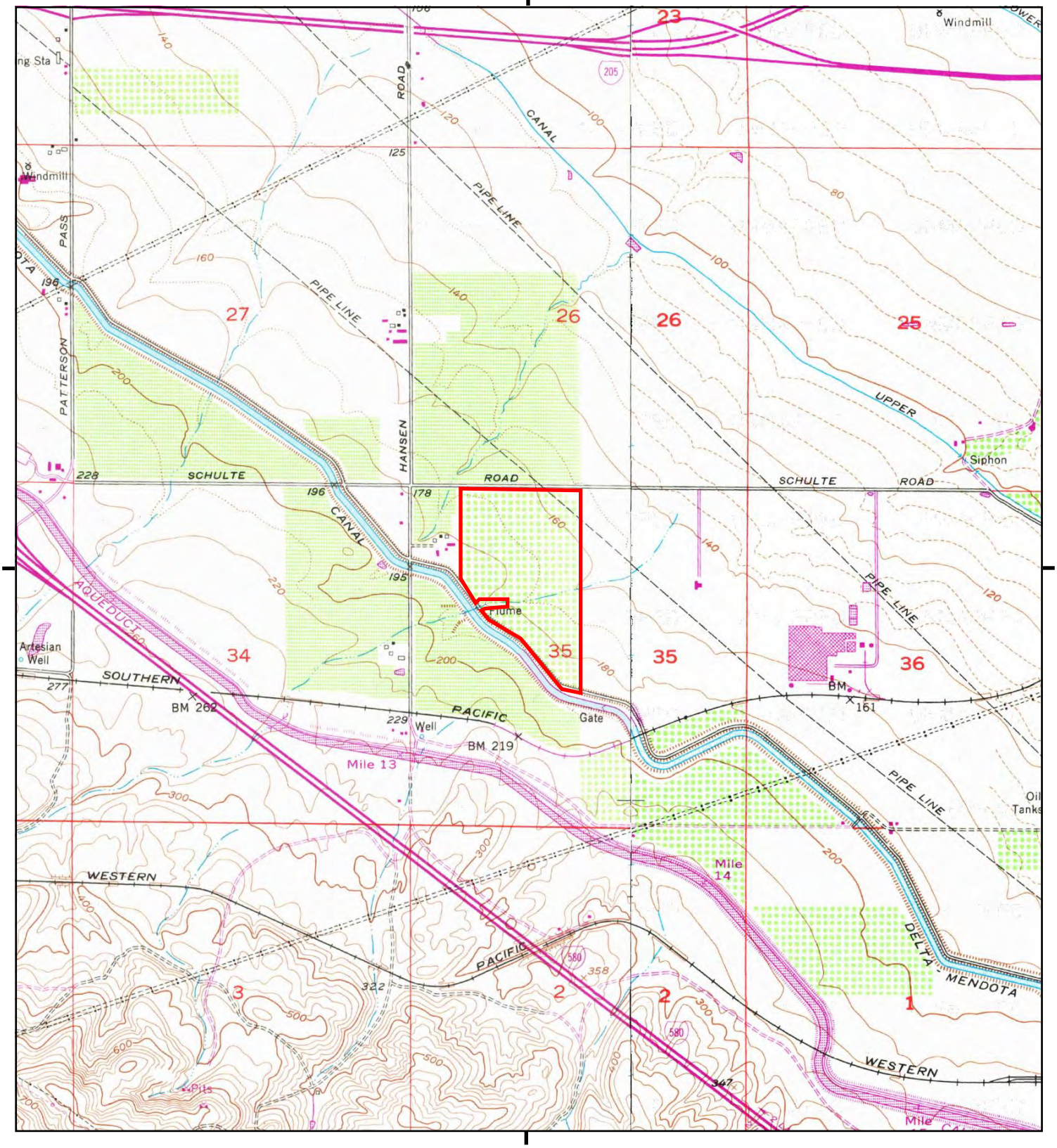
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Midway, 2012, 7.5-minute
SE, Tracy, 2012, 7.5-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

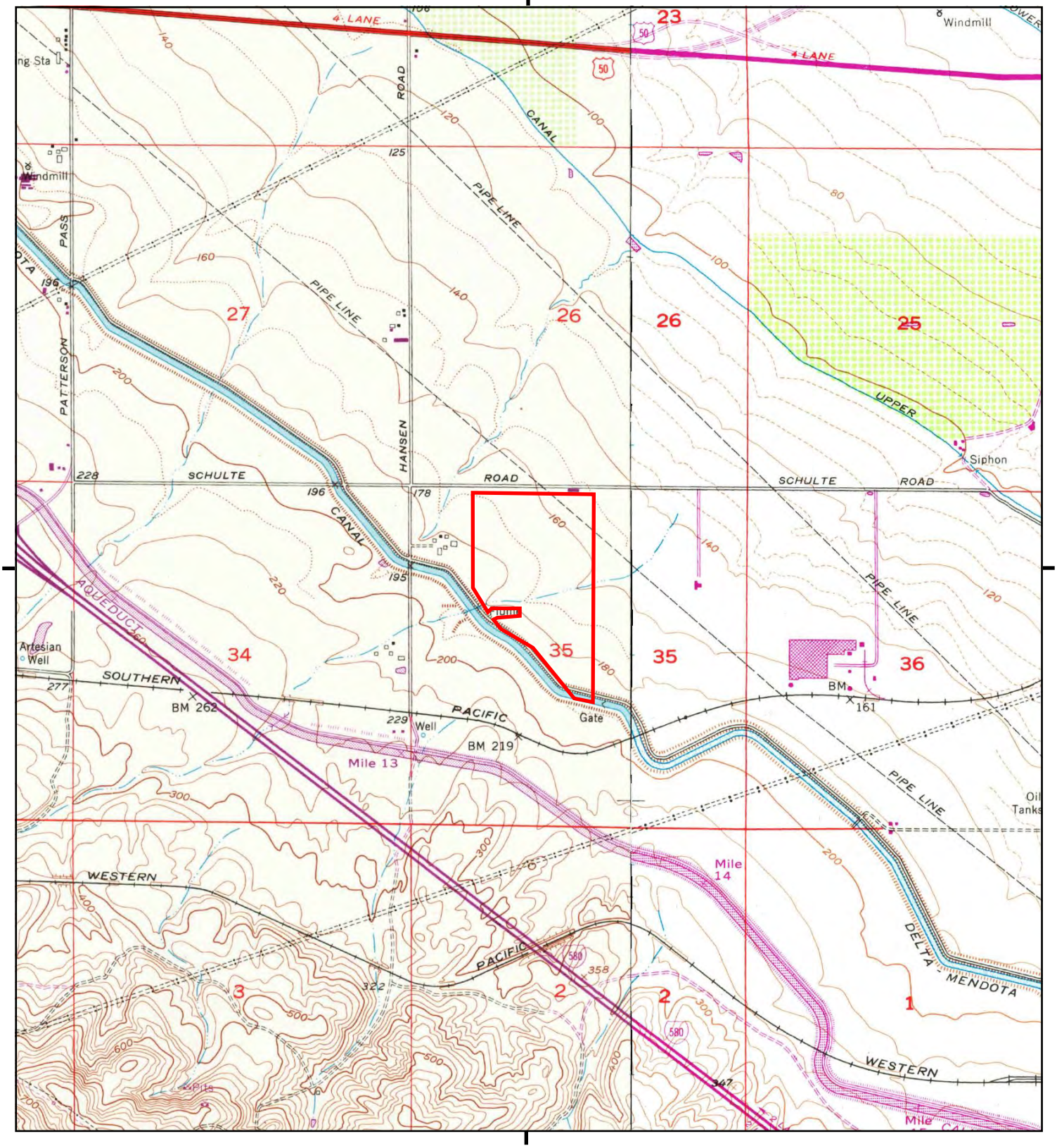
TP, Midway, 1980, 7.5-minute
SE, Tracy, 1981, 7.5-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N

# Historical Topo Map

1968




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

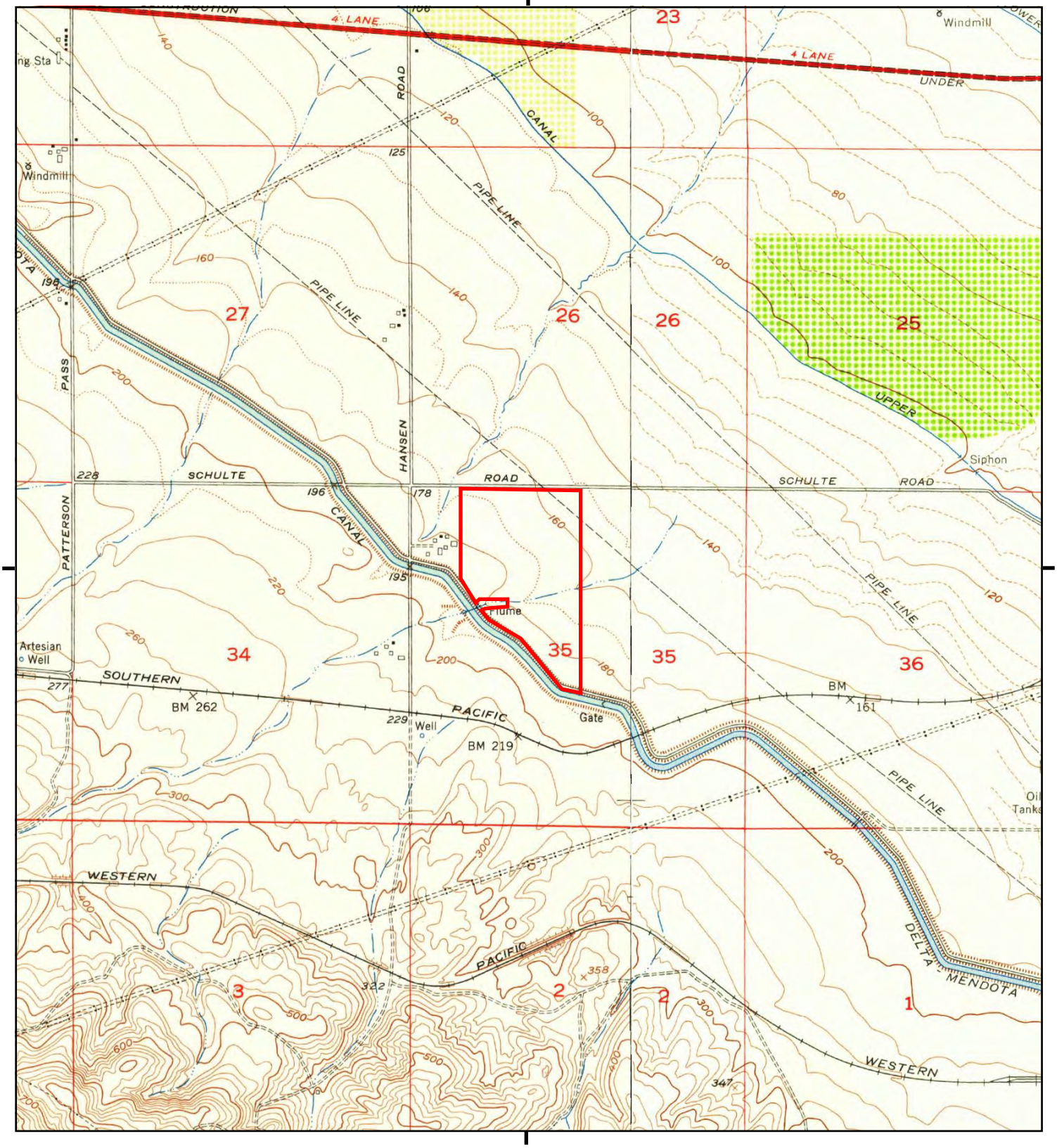
TP, Midway, 1968, 7.5-minute
SE, Tracy, 1968, 7.5-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N

# Historical Topo Map

1953, 1954




This report includes information from the following map sheet(s).

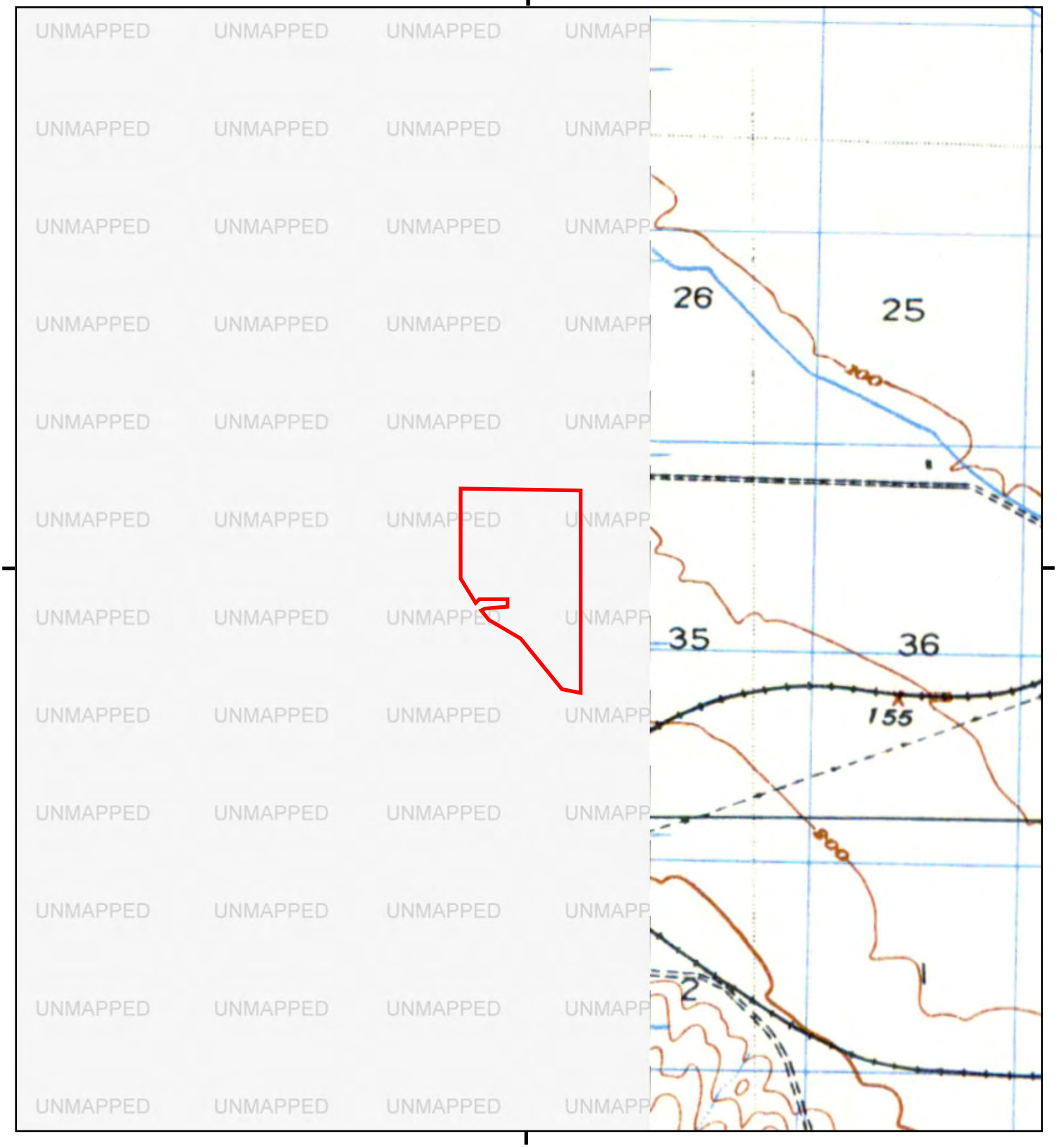
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Midway, 1953, 7.5-minute
SE, Tracy, 1954, 7.5-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N




This report includes information from the following map sheet(s).

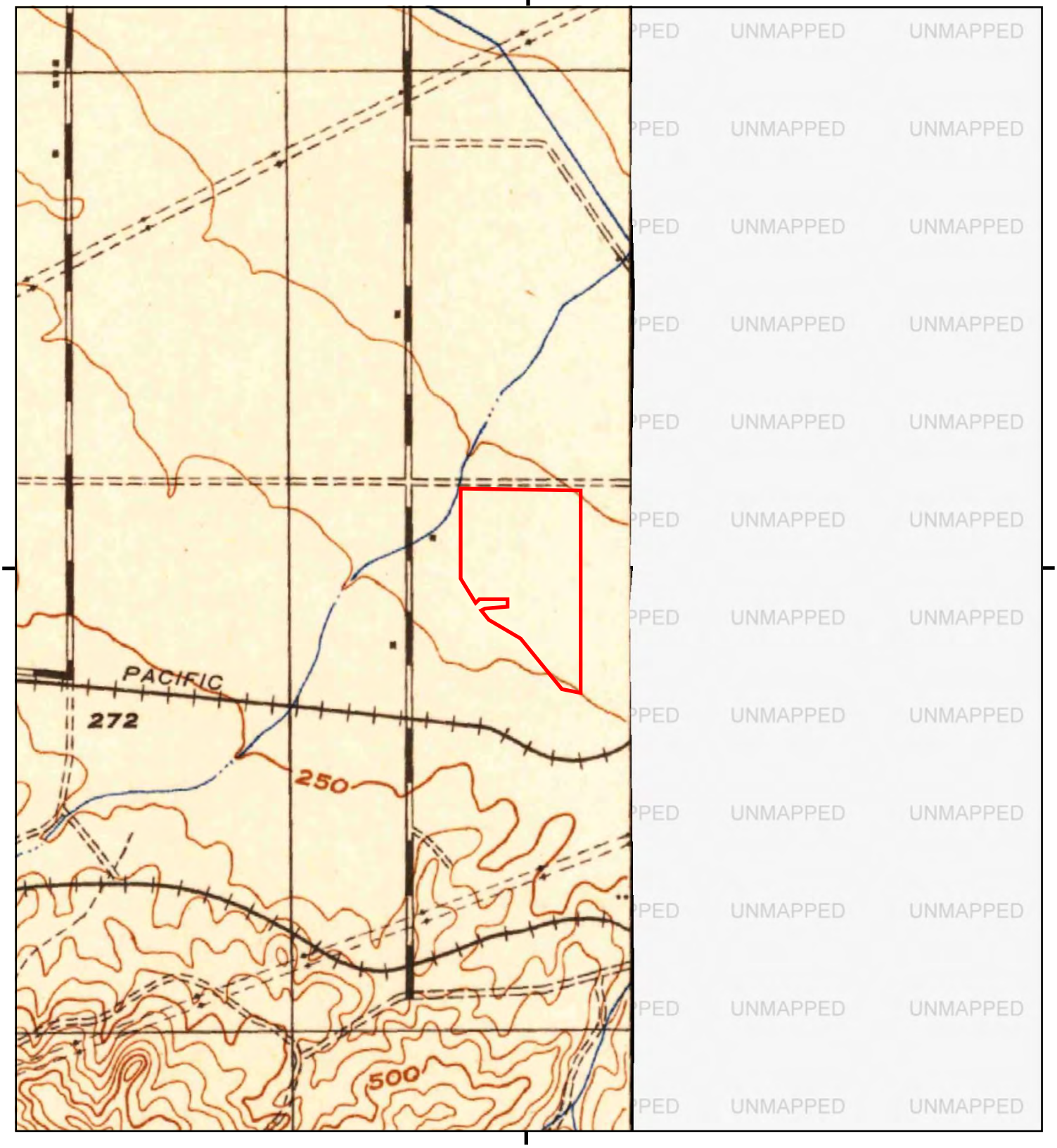
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

SE, CARBONA, 1947, 15-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N




This report includes information from the following map sheet(s).

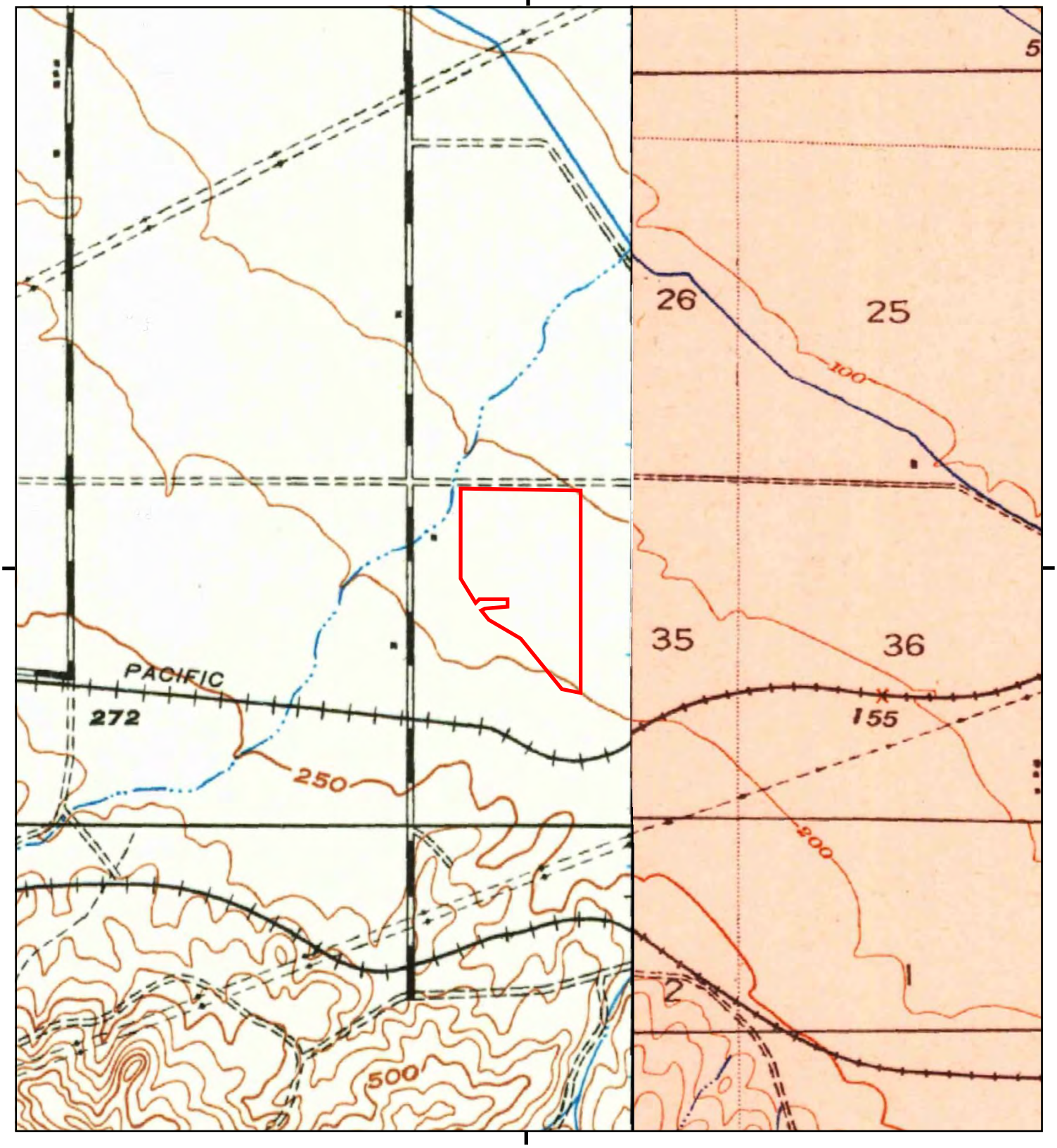
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Tesla, 1943, 15-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N




This report includes information from the following map sheet(s).

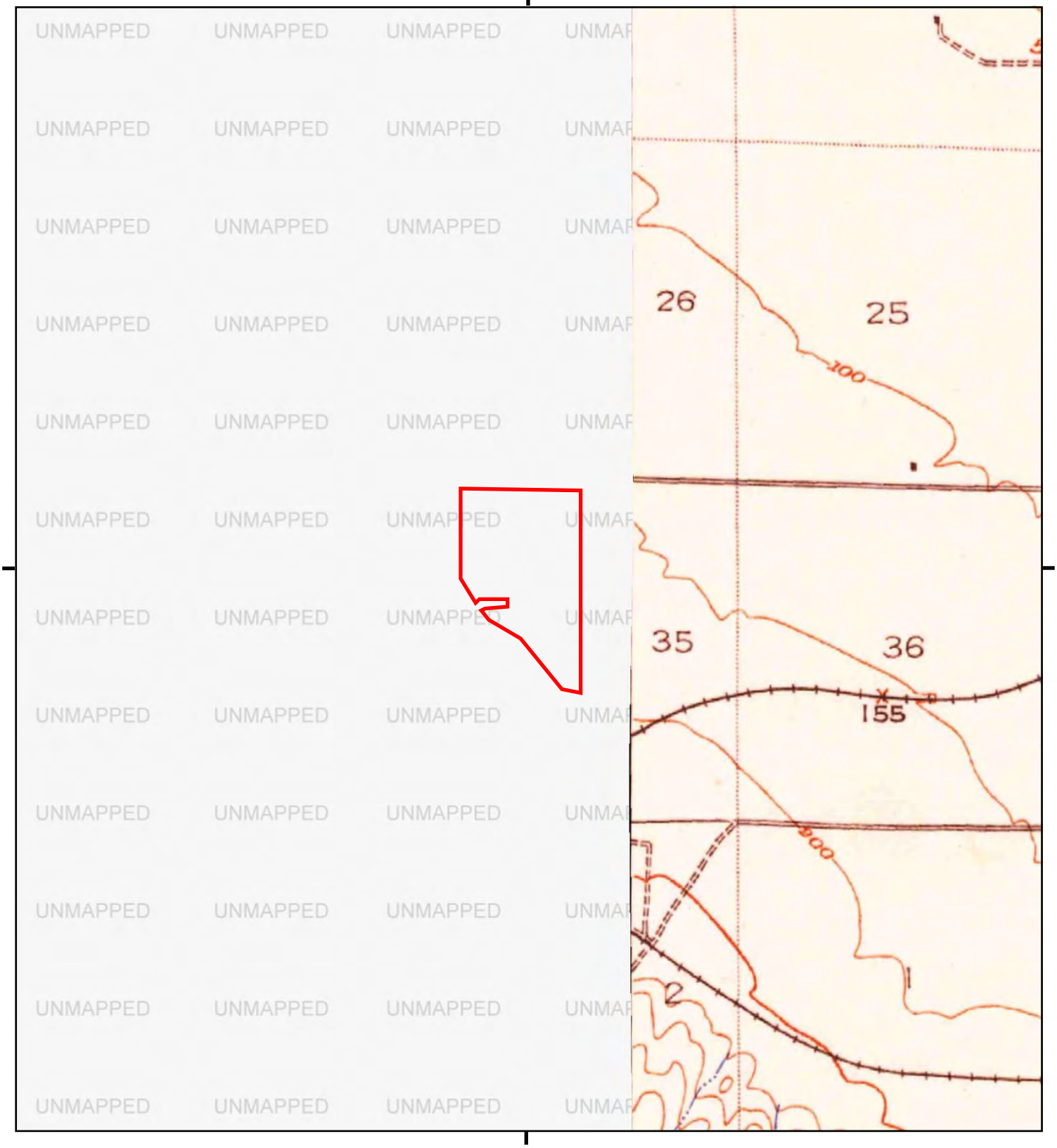
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Altamont, 1942, 15-minute
SE, Carbona, 1942, 15-minute

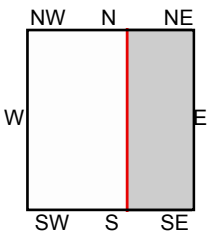
SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N




This report includes information from the following map sheet(s).

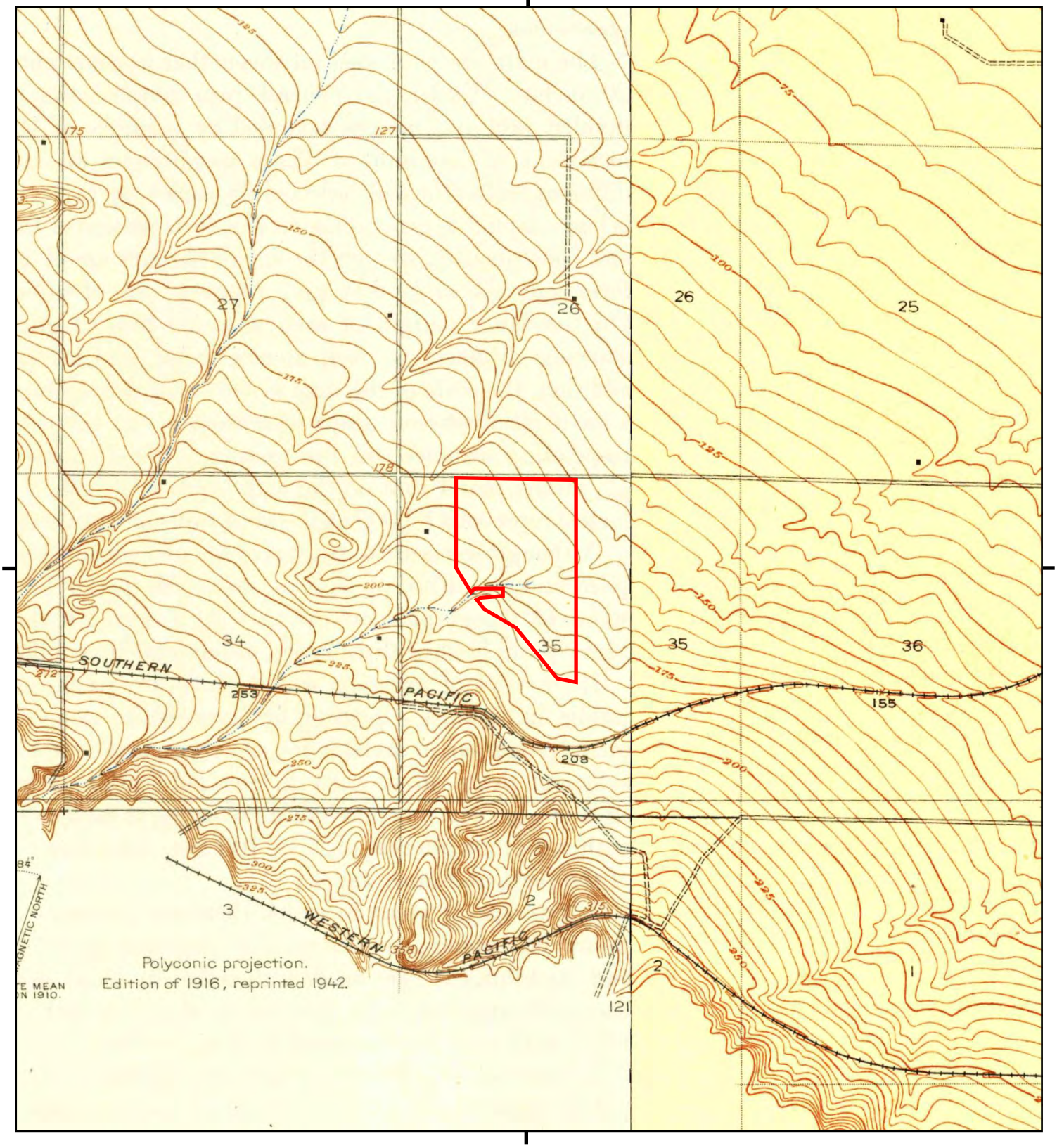
0 Miles 0.25 0.5 1 1.5




SE, Carbona, 1922, 15-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N




This report includes information from the following map sheet(s).

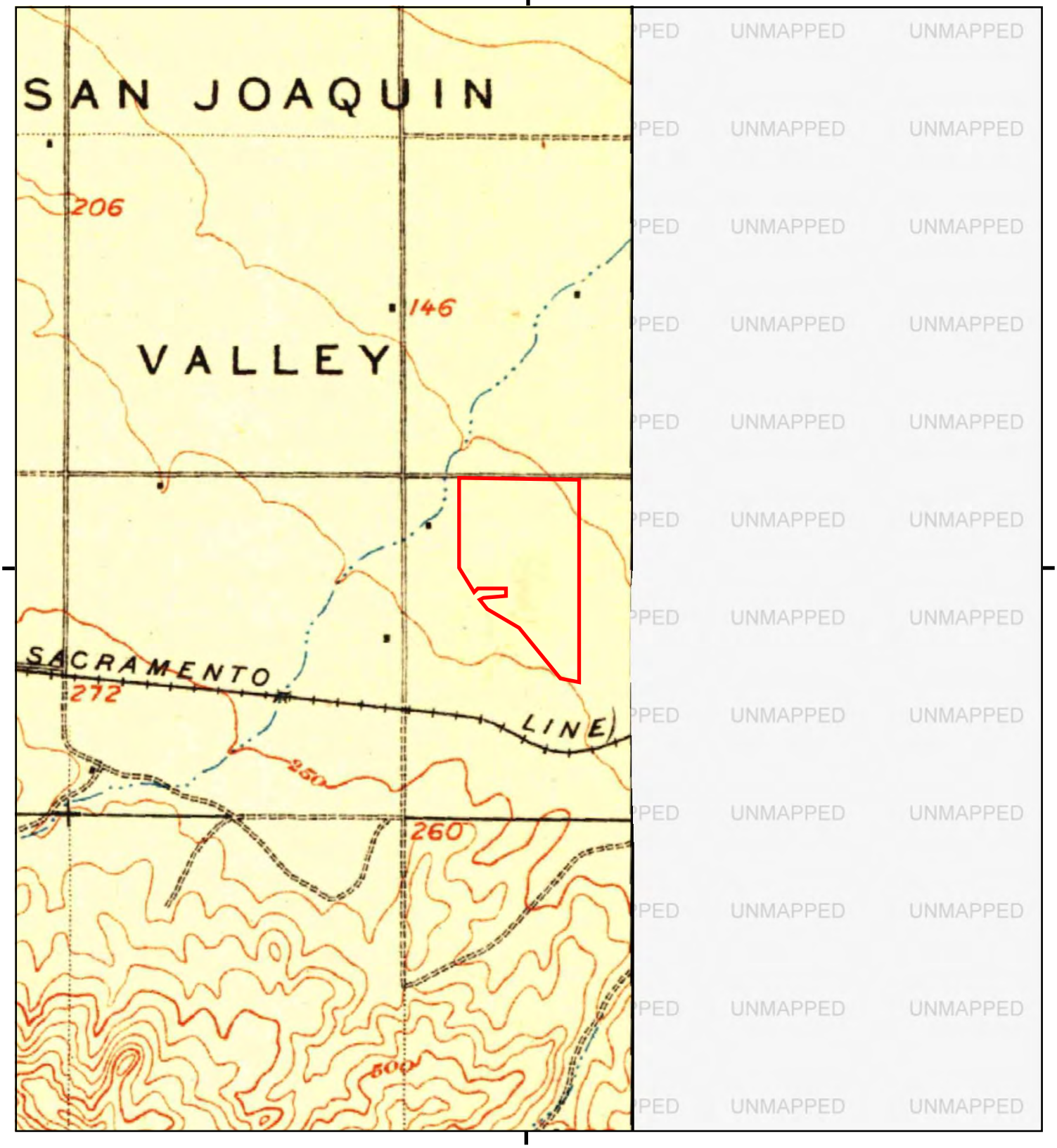
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Midway, 1916, 7.5-minute
SE, Tracy, 1916, 7.5-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Tesla, 1907, 15-minute

SITE NAME: 16000 West Schulte Road
ADDRESS: 16000 West Schulte Road
Tracy, CA 95377
CLIENT: Kleinfelder, Inc.

N

# APPENDIX E
# LIMITED PHASE II ESA TABLE, FIGURE AND LABORATORY REPORT

DRAFT


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**TABLE 1**
**ARSENIC AND OCP SURFACE SAMPLE RESULTS**
**Proposed Costco E-Commerce Facility**
**16000 West Schulte Road**
**Tracy, California**

| Sample | Date Sampled | Sample Depth (feet bgs) | Arsenic (mg/kg) 6010B | OCPs (µg/kg) 8081A |
|---|---|---|---|---|
| SS-1,2,11,12 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-3,4,13,14 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-5,6,15,16 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-7,8,17,18 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-9,10,19,20 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-21,22,31,32 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-23,24,33,34 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-25,26,35,36 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-27,28,37,38 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-30,29,39,40 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-30,29,39,40 (COMPOSITE) DUP | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-41,42,51,52 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-43,44,53,54 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-45,46,55,56 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-47,48,57,58 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-48,50,59,60 (COMPOSITE) | 4/17/2018 | 0.5 | NA | <1.0-20 |
| SS-61,62,71 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-61,62,71 (COMPOSITE) DUP | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-63,64,72,73 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-65,66,74,75 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-67,68,76,77 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-69,70,78,79 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-80,81,88 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-82,83,89,90 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-84,85,91,92 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-86,87,93,94 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-95,96,97,102 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-93,99,103,104 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-100,101,105,106 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-107,108,111 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-109,110,112,113 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-114,115,116 (COMPOSITE) | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-114,115,116 (COMPOSITE) DUP | 4/18/2018 | 0.5 | NA | <1.0-20 |
| SS-1 | 4/17/2018 | 0.5 | 2.9 | NA |
| SS-4 | 4/17/2018 | 0.5 | 2.9 | NA |
| SS-15 | 4/17/2018 | 0.5 | 3.4 | NA |
| SS-18 | 4/17/2018 | 0.5 | 3.4 | NA |
| SS-10 | 4/17/2018 | 0.5 | 3.4 | NA |
| SS-22 | 4/17/2018 | 0.5 | 2.5 | NA |
| SS-33 | 4/17/2018 | 0.5 | 3.0 | NA |
| SS-36 | 4/17/2018 | 0.5 | 3.4 | NA |
| SS-27 | 4/17/2018 | 0.5 | 3.3 | NA |
| SS-30 | 4/17/2018 | 0.5 | 3.3 | NA |
| SS-30-DUP | 4/17/2018 | 0.5 | 3.4 | NA |
| SS-51 | 4/17/2018 | 0.5 | 2.7 | NA |
| SS-54 | 4/17/2018 | 0.5 | 3.5 | NA |
| SS-45 | 4/17/2018 | 0.5 | 3.2 | NA |
| SS-48 | 4/17/2018 | 0.5 | 3.5 | NA |
| SS-59 | 4/17/2018 | 0.5 | 3.4 | NA |
| SS-71 | 4/18/2018 | 0.5 | 3.1 | NA |
| SS-71-DUP | 4/18/2018 | 0.5 | 3.0 | NA |
| SS-63 | 4/18/2018 | 0.5 | 3.5 | NA |
| SS-66 | 4/18/2018 | 0.5 | 3.4 | NA |
| SS-76 | 4/18/2018 | 0.5 | 4.0 | NA |
| SS-79 | 4/18/2018 | 0.5 | 3.8 | NA |
| SS-80 | 4/18/2018 | 0.5 | 2.3 | NA |
| SS-83 | 4/18/2018 | 0.5 | 4.1 | NA |
| SS-91 | 4/18/2018 | 0.5 | 3.8 | NA |
| SS-94 | 4/18/2018 | 0.5 | 3.9 | NA |


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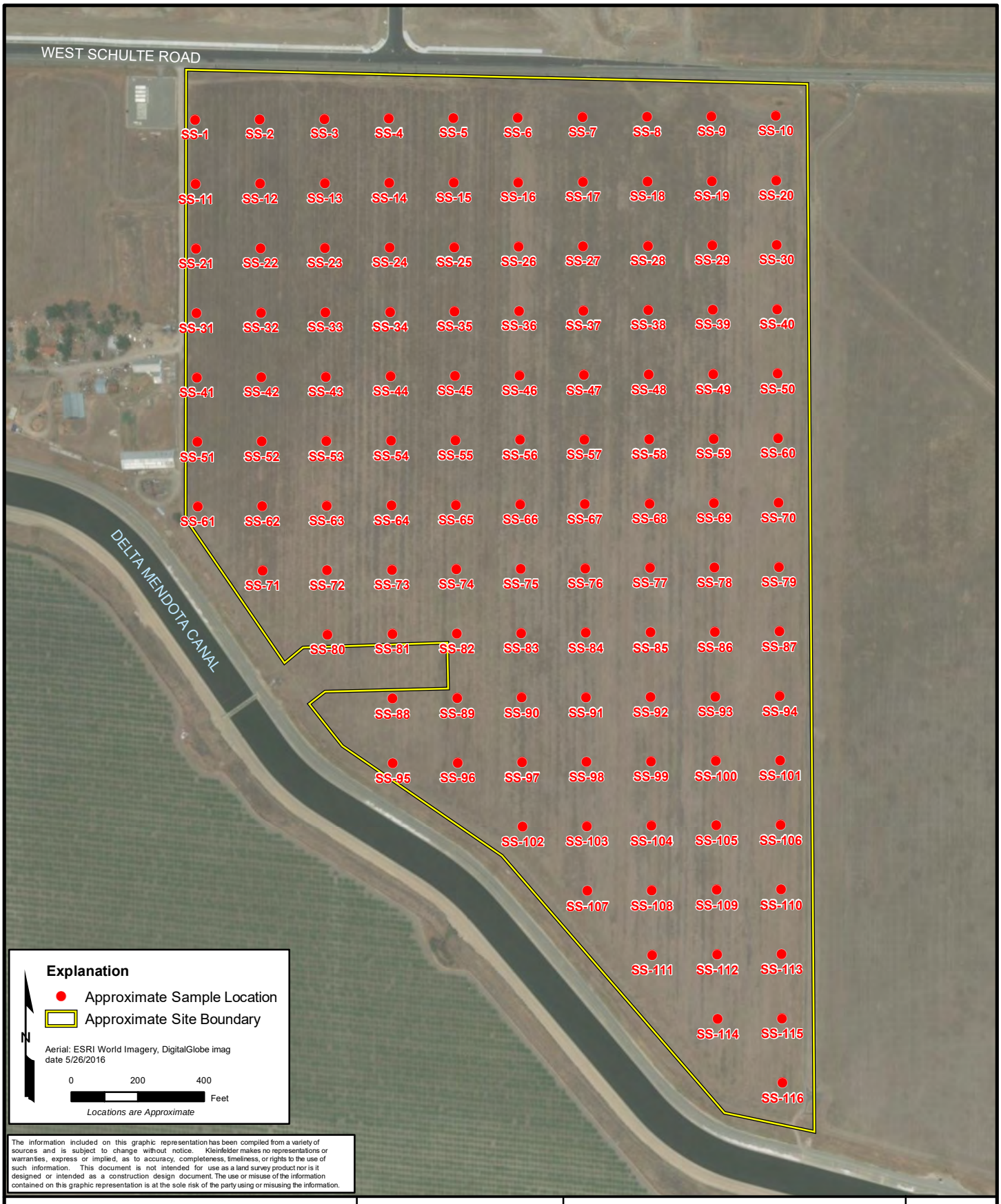
**TABLE 1**
**ARSENIC AND OCP SURFACE SAMPLE RESULTS**
**Proposed Costco E-Commerce Facility**
**16000 West Schulte Road**
**Tracy, California**

| Sample | Date Sampled | Sample Depth (feet bgs) | Arsenic (mg/kg) 6010B | OCPs (µg/kg) 8081A |
|---|---|---|---|---|
| SS-95 | 4/18/2018 | 0.5 | 3.4 | NA |
| SS-99 | 4/18/2018 | 0.5 | 3.9 | NA |
| SS-105 | 4/18/2018 | 0.5 | 3.6 | NA |
| SS-111 | 4/18/2018 | 0.5 | 3.9 | NA |
| SS-109 | 4/18/2018 | 0.5 | 3.5 | NA |
| SS-115 | 4/18/2018 | 0.5 | 4.3 | NA |
| SS-115-DUP | 4/18/2018 | 0.5 | 4.2 | NA |
| ESL | | | 0.067 | NL or Vary |
| DTSC SLs - Residential | | | 0.11 | NL or Vary |
| DTSC SLs - Commercial | | | 0.4 | NL or Vary |
| TTLC (mg/kg) | | | 500 | |
| STLC (mg/L) | | | 5 | |
| TCLP Value (mg/L) | | | 5 | |
| | 10 x STLC | | 50 | |
| | 20 x TCLP | | 100 | |

Notes:

| | |
|---|---|
| OCPs | Organochlorine pesticides |
| mg/kg | Milligrams per kilogram |
| µg/kg | Micrograms per kilogram |
| bgs | Below ground surface |
| 6010B / 8081A | United States Environmental Protection Agency (US EPA) analytical method number |
| <0.52 | Not detected above the indicated laboratory reporting limit |
| ESL | San Francisco Bay Regional Water Quality Control Board Tier 1 Environmental Screening Level (February 2016). |
| DTSC SLs | Recommended soil screening level (SL) provided in the California Environmental Protection Agency, Department of Toxic Substances Control, Office of Human and Ecological Risk (HERO) Human Health Risk Assessment Note No. 3, dated January 2018 (corrected February 2018). |
| TTLC | California Code of Regulations Title 22 Total Threshold Limit Concentration |
| STLC | California Code of Regulations Title 22 Soluble Threshold Limit Concentration |
| TCLP | Toxicity Characteristic Leaching Procedure |
| NL | Compound or value is not listed |


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KLEINFELDER
Bright People. Right Solutions.

| | |
|---|---|
| PROJECT: | 20190071 |
| DRAWN: | APR 2018 |
| DRAWN BY: | K. HAGAN |
| CHECKED BY: | M. CARROLL |
| FILE NAME: | Sampling.mxd |

# SAMPLE LOCATION MAP

PROPOSED COSTCO E-COMMERCE FACILITY
16000 WEST SCHULTE ROAD
TRACY, CALIFORNIA

FIGURE
E-1

PLOTTED: 4/24/2018 8:14:27 PM, KHagan
FILE: L:\2019\20190071.001A - CSM Costco Tracy CA #179 Tracy Depot ENV\2.0 Technical Information\2.8 GIS
IRVINE, CA

CALIFORNIA LABORATORY SERVICES
*Committed. Responsive. Flexible.*

April 23, 2018

**CLS Work Order #: 18D1101**
**COC #:**

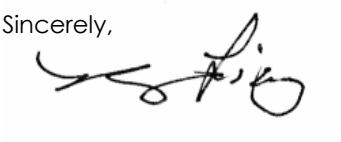
Paolo Dizon
Kleinfelder (Irvine)
2 Ada Stuite 250
Irvine, CA 92618

**Project Name: Hom Property**

Enclosed are the results of analyses for samples received by the laboratory on 04/19/18 16:10. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 18D1161 ( 1 of 10 )

**Report To:**
Kleinfelder - 24411 Ridge Route Drive, Suite 225
Laguna Hills, CA 92653

Project Manager: Paolo Dizon (pdizon@kleinfelder.com)
Project Name: Hom Property
Sampled By: Anthony Wohletz / Curtis Conti
Job Description:
Site Location: Tracy, CA

Client Job Number: 20190071.001A
Destination Laboratory:

☑ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

☐ OTHER

**ANALYSIS REQUESTED**

PRESERVATIVES ▼

| DATE | TIME | SAMPLE IDENTIFICATION (Box 1) | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/18 | 1049 | SS-1 | | Soil | 1 | Jar | 3 | X | Composite | | X | | | |
| | 1032 | SS-2 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:58 | SS-11 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:56 | SS-12 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:12 | SS-3 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 11:10 | SS-4 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 11:15 | SS-13 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:13 | SS-14 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:22 | SS-5 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 11:24 | SS-6 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:19 | SS-15 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:21 | SS-16 | | Soil | 1 | Jar | 3 | X | | | X | | | |

GEOTRACKER
EDF REPORT ☐ YES ☐
GLOBAL ID:

FIELD CONDITIONS:

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME:

PRESERVATIVES (1) HCL (2) HNO3 (3) COLD (4) H2SO4

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME |
|---|---|---|
| | Anthony Wohletz / Kleinfelder | 4/17 1611 |
| | Curtis Conti | 4/19/18 1010 |

| RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|
| | KLF Fridge |
| | CLS |

RECEIVED AT LAB BY: DATE/TIME: 4/19/18 1010

CONDITIONS/COMMENTS: 1.9

SHIPPED BY: ☐ FEDEX ☐ UPS ☒ OTHER CLS AIR BILL #

Sent by: 4/19/18 1610

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 19D1101 ( 2 of 10 )

**Report To:**
Kleinfelder - 24411 Ridge Route Drive, Suite 225
Laguna Hills, CA 92653

Project Manager: Paolo Dizon (pdizon@kleinfelder.com)
Project Name: Hom Property
Sampled By: Anthony Wohletz / Curtis Conti
Job Description:
Site Location: Tracy, CA

Client Job Number: 20190071.001A
Destination Laboratory:

☐ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

☐ OTHER

GEOTRACKER
EDF REPORT ☐ YES ☐
GLOBAL ID:

FIELD CONDITIONS:

| DATE | TIME | SAMPLE IDENTIFICATION (Box 1) | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/18 | 11:36 | SS-7 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 11:34 | SS-8 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:31 | SS-17 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:29 | SS-18 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 11:40 | SS-9 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 11:38 | SS-10 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 11:41 | SS-19 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:43 | SS-20 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 1:08 | SS-21 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 1:06 | SS-22 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 1:11 | SS-31 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 1:10 | SS-32 | | Soil | 1 | Jar | 3 | | | | X | | | |

AM ↑ PM ↓

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME:

PRESERVATIVES (1) HCL (2) HNO3 (3) = COLD (4)= H2SO4

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz / Kleinfelder | 4/17 1611 | KLF | KLF Fridge |
| | Curtis Conti | 4/19/18 1360 | CLS | CLS |

RECEIVED AT LAB BY: DATE/TIME: 4/19/18 1610 CONDITIONS/COMMENTS:

SHIPPED BY: ☐ FED EX ☐ UPS ☒ OTHER CLS AIR BILL #

RECEIVED BY 4/19/18 1610

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 16D1101 ( 2 of 10 )

**Report To:**
Kleinfelder - 24411 Ridge Route Drive, Suite 225
Laguna Hills, CA 92653
Project Manager: Paolo Dizon (pdizon@kleinfelder.com)
Project Name: Hom Property
Sampled By: Anthony Wohletz / Curtis Conn
Job Description:
Site Location: Tracy, CA

Client Job Number: 20190071.001A
Destination Laboratory:
☑ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com
☐ OTHER

ANALYSIS REQUESTED

GEOTRACKER
EDF REPORT ☐ YES ☐
GLOBAL ID:

FIELD CONDITIONS

| DATE | TIME PM | SAMPLE IDENTIFICATION (Box 2) | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES ▼ | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/18 | 1257 | SS-23 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 1258 | SS-24 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:54 | SS-33 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 12:56 | SS-34 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:59 | SS-25 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 12:37 | SS-26 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:35 | SS-35 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:31 | SS-36 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 12:18 | SS-27 | | Soil | 1 | Jar | 3 | X | Composite | | X | | | |
| | 12:20 | SS-28 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:22 | SS-37 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:23 | SS-38 | | Soil | 1 | Jar | 3 | | | | X | | | |

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (2) HNO3 (3) = COLD (4) = H2SO4

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz / Kleinfelder | 4/13 1611 | | |
| | Curtis Conn | 4/19/18 1340 | | KLF Fridge |
| RECEIVED AT LAB BY: | DATE/TIME: 4/19/18 1610 | | CONDITIONS/COMMENTS: | CLI |

SHIPPED BY: ☐ FEDEX ☐ UPS ☑ OTHER CLI

AIR BILL #

RELINQUISHED BY 4/19/18 1600

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 18P1101 (4 of 10)

**Report To:**
Kleinfelder - 24411 Ridge Route Drive, Suite 225
Laguna Hills, CA 92653
Project Manager: Paolo Dizon (pdizon@kleinfelder.com)
Project Name: Hom Property
Sampled By: Anthony Wohletz / Curtis Conti
Job Description:
Site Location: Tracy, CA

Client Job Number: 20190071.001A
Destination Laboratory:
☑ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com
☐ OTHER

GEOTRACKER
EDF REPORT ☐ YES ☐
GLOBAL ID:
FIELD CONDITIONS:

| DATE | TIME PM | SAMPLE IDENTIFICATION (Box 2) | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES ▼ | ANALYSIS REQUESTED: Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS: 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/18 | 12:03 | SS-30-DUP | | Soil | 1 | Jar | 3 | X | | | X | | | |
| 4/17/18 | 12:05 | SS-30 | | Soil | 1 | Jar | 3 | X | Composite* | | X | | | *Also prepare a composite duplicate and analyze for OCPs (8081A) |
| 4/18/18 | 13:25 | SS-29 | | Soil | 1 | Jar | 3 | | | | X | | | |
| 4/17/18 | 12:09 | SS-39 | | Soil | 1 | Jar | 3 | | | | X | | | |
| 4/17/18 | 12:07 | SS-40 | | Soil | 1 | Jar | 3 | | | | X | | | |
| 4/18/18 | 13:01 | SS-41 | | Soil | 1 | Jar | 3 | | | | X | | | |
| 4/17/18 | 1:49 | SS-42 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| " | 1:45 | SS-51 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| " | 1:46 | SS-52 | | Soil | 1 | Jar | 3 | | | | X | | | |
| 4/17/18 | 2:05 | SS-43 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| " | 2:01 | SS-44 | | Soil | 1 | Jar | 3 | | | | X | | | |
| " | 2:04 | SS-53 | | Soil | 1 | Jar | 3 | | | | X | | | |
| " | 2:02 | SS-54 | | Soil | 1 | Jar | 3 | X | | | X | | | |

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (3) = COLD (2) $HNO_3$ (4) = $H_2SO_4$

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz / Kleinfelder | 4/18 1545 | | |
| | Curtis Conti | 4/18 1840 | | KLF F. dyc |
| RECEIVED AT LAB BY: | DATE/TIME: 4/19/18 1610 | | CONDITIONS/COMMENTS: | CLS |

SHIPPED BY: ☐ FEDEX ☐ UPS ☑ OTHER CLS AIR BILL #

RELINQUISHED BY: 4/19/18 1610K

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 18D1101 ( 5 of 10 )

**Report To:**

Kleinfelder - 24411 Ridge Route Drive, Suite 225

Laguna Hills, CA 92653

Project Manager: Paolo Dizon (pdizon@kleinfelder.com)

Project Name: Hom Property

Sampled By: Anthony Wohletz / Curtis Conti

Job Description:

Site Location: Tracy, CA

Client Job Number: 20190071.001A

Destination Laboratory

☑ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

☐ OTHER

ANALYSIS REQUESTED

PRESERVATIVES

Arsenic (6010B)

Organochlorine Pesticides (8081A)

GEOTRACKER

EDF REPORT ☐ YES ☐

GLOBAL ID:

FIELD CONDITIONS:

| DATE | TIME PM | SAMPLE IDENTIFICATION (Box 3) | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/18 | 2:15 | SS-45 | | Soil | 1 | Jar | 3 | X | Composite | | X | | | |
| / | 2:17 | SS-46 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 2:20 | SS-55 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 2:21 | SS-56 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 2:32 | SS-47 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 2:30 | SS-48 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 2:36 | SS-57 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 2:39 | SS-58 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 2:46 | SS-49 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 2:58 | SS-50 | | Soil | 1 | Jar | 3 | | | | X | | | |
| ↓ | 2:43 | SS-59 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 2:45 | SS-60 | | Soil | 1 | Jar | 3 | | | | X | | | |

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (2) HNO3 (3) = COLD (4) = H2SO4

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz / Kleinfelder | 4/17 1611 | | |
| | Gabe Gomez | 4/18 1130 | 1340H | 1st Fridge |

RECEIVED AT LAB BY: DATE/TIME: 4/19/18 0700 CONDITIONS/COMMENTS: 7.9

SHIPPED BY: ☐ FED EX ☐ UPS ☒ OTHER CL AIR/BILL #

RELINQUISHED BY: 4/19/18 0601H

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 18D1101 (2 of 10)

**Report To:**
Kleinfelder - 24411 Ridge Route Drive, Suite 225
Laguna Hills, CA 92653
Project Manager: Paolo Dizon (pdizon@kleinfelder.com)
Project Name: Hom Property
Sampled By: Anthony Wohletz / Curtis Conn
Job Description:
Site Location: Tracy, CA

Client Job Number: 20190071.001A
Destination Laboratory:
☒ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com
☐ OTHER

ANALYSIS REQUESTED
PRESERVATIVES ▼

GEOTRACKER
EDF REPORT ☐ YES ☐
GLOBAL ID:
FIELD CONDITIONS:

| DATE | TIME | SAMPLE IDENTIFICATION (Blk 3) | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/18 | 10:13 | SS-71-DUP | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 10:16 | SS-61 | | Soil | 1 | Jar | 3 | | Composite* | | X | | | *Also prepare a composite duplicate and analyze for OCPs (8081A) |
| | 10:18 | SS-62 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:18 | SS-71 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 10:22 | SS-63 | | Soil | 1 | Jar | 3 | X | Composite | | X | | | |
| | 10:22 | SS-64 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:44 | SS-72 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:45 | SS-73 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 9:46 | SS-65 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 9:49 | SS-66 | | Soil | 1 | Jar | 3 | X | Composite | | X | | | |
| | 9:48 | SS-74 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 9:47 | SS-75 | | Soil | 1 | Jar | 3 | | | | X | | | |

SUSPECTED CONSTITUENTS:
SAMPLE RETENTION TIME:
PRESERVATIVES (1) HCL (2) HNO3 (3) - COLD (4)- H2SO4

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz / Kleinfelder | 4/18 1545 | | KLF Fridge |
| | Curtis Conn | 4/19/18 | | CLS |

RECEIVED AT LAB BY: DATE/TIME: 4/19/18 1610 CONDITIONS/COMMENTS: 1 cl

SHIPPED BY: ☐ FEDEX ☐ UPS ☒ OTHER CLS AIR BILL #

RELINQUISHED BY - 4/19/18 1610

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 187116 (7 of 14)

**Report To:**
Kleinfelder - 24411 Ridge Route Drive, Suite 225
Laguna Hills, CA 92653
Project Manager: Paolo Dizon (pdizon@kleinfelder.com)
Project Name: Hom Property
Sampled By: Anthony Wohletz / Curtis Conti
Job Description:
Site Location: Tracy, CA

Client Job Number: 20190071.001A
Destination Laboratory:
☒ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com
☐ OTHER

ANALYSIS REQUESTED

GEOTRACKER
EDF REPORT ☐ YES ☐
GLOBAL ID:

FIELD CONDITIONS:

| DATE | TIME | SAMPLE BOX 4 IDENTIFICATION | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES ▼ | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/18 | 9:34 | SS-67 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 9:35 | SS-68 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 9:30 | SS-76 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 9:32 | SS-77 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 9:29 | SS-69 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 9:23 | SS-70 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 9:22 | SS-78 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 9:20 | SS-79 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 10:17 | SS-80 | | Soil | 1 | Jar | 3 | X | Composite | | X | | | |
| | 10:28 | SS-81 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:24 | SS-88 | | Soil | 1 | Jar | 3 | | | | X | | | |

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (2) HNO3 (3) = COLD (4)= H2SO4

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz / Kleinfelder | 4/19 1545 | | KLF Fedex |
| | CARL CONTI | 4/19/18 - 1340H | | CLS |

RECEIVED AT LAB BY: DATE/TIME: 4/19/18 1610 CONDITIONS/COMMENTS:

SHIPPED BY: ☐ FED EX ☐ UPS ☒ OTHER CLS AIR BILL #

RELINQUISHED BY: 4/19/18 1610H

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 18-0404 ( 8 of 16 )

**Report To:**

Kleinfelder - 24411 Ridge Route Drive, Suite 225

Laguna Hills, CA 92653

Project Manager: Paolo Dizon (pdizon@kleinfelder.com)

Project Name: Hom Property

Sampled By: Anthony Wohletz / Curtis Conti

Job Description:

Site Location: Tracy, CA

Client Job Number: 20190071.001A

Destination Laboratory

☑ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

☐ OTHER

ANALYSIS REQUESTED

GEOTRACKER

EDF REPORT ☐ YES ☐

GLOBAL ID:

FIELD CONDITIONS:

| DATE | TIME AM | SAMPLE IDENTIFICATION (B2x4) | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/18 | 10:40 | SS-82 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:29 | SS-83 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 10:43 | SS-89 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:42 | SS-90 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:58 | SS-84 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:56 | SS-85 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 10:52 | SS-91 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 10:53 | SS-92 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:07 | SS-86 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:04 | SS-87 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:04 | SS-93 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:03 | SS-94 | | Soil | 1 | Jar | 3 | X | | | X | | | |

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (2) HNO3 (3) - COLD (4) - H2SO4

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz / Kleinfelder | 4/18 1545 | | KLF Field |
| | Carol Conner | 4/19/18 - 1240 | | CLS |

RECEIVED AT LAB BY: DATE/TIME: 4/19/18 1610 CONDITIONS/COMMENTS: 1 1-0

SHIPPED BY: ☐ FEDEX ☐ UPS ☒ OTHER CLS AIR BILL #

RELINQUISHED BY: 4/19/18 1610

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 160101 ( 1 of 10 )

**Report To:**

Kleinfelder - 24411 Ridge Route Drive, Suite 225

Laguna Hills, CA 92653

Project Manager: Paolo Dizon (pdizon@kleinfelder.com)

Project Name: Hom Property

Sampled By: Anthony Wohletz / Curtis Conti

Job Description:

Site Location: Tracy, CA

Client Job Number: 20190071.001A

Destination Laboratory

☑ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

☐ OTHER

**ANALYSIS REQUESTED**

GEOTRACKER

EDF REPORT ☐ YES ☐

GLOBAL ID:

FIELD CONDITIONS:

| DATE | TIME | SAMPLE IDENTIFICATION (Box 5) | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES ▼ | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS: 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/18 | 11:45 | SS-95 | | Soil | 1 | Jar | 3 | X | Composite | | X | | | |
| | 11:46 | SS-96 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:47 | SS-97 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:48 | SS-102 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:33 | SS-98 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 11:32 | SS-99 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 11:35 | SS-103 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:36 | SS-104 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:22 | SS-100 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 11:23 | SS-101 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:19 | SS-105 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 11:20 | SS-106 | | Soil | 1 | Jar | 3 | | | | X | | | |

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (3) – COLD (2) $HNO_3$ (4) – $H_2SO_4$

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz | 4/18 1545 | | |
| | CASE CONNECT | 4/19/18 1304 | | KLF Fridge |
| RECEIVED AT LAB BY: | DATE/TIME: 4/19/18 1610 | | CONDITIONS/COMMENTS: | 1.9 |

SHIPPED BY: ☐ FED EX ☐ UPS ☑ OTHER CC AIR BILL #

RELINQUISHED BY: 4/19/18 1604

# CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 187101 (10 of 10)

**Report To:**

Kleinfelder - 24411 Ridge Route Drive, Suite 225

Laguna Hills, CA 92653

Project Manager: Paolo Dizon (pdizon@kleinfelder.com)

Project Name: Hom Property

Sampled By: Anthony Wohletz / Curtis Conti

Job Description:

Site Location: Tracy, CA

Client Job Number: 20190071.001A

Destination Laboratory

☑ CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

☐ OTHER

ANALYSIS REQUESTED

GEOTRACKER

EDF REPORT ☐ YES ☐

GLOBAL ID:

FIELD CONDITIONS:

| DATE | TIME | SAMPLE IDENTIFICATION | FIELD ID. | MATRIX | CONTAINER NO. | CONTAINER TYPE | PRESERVATIVES | Arsenic (6010B) | Organochlorine Pesticides (8081A) | TURNAROUND TIME IN DAYS 1 | 2 | 5 | 10 | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11:57 | SS-107 | | Soil | 1 | Jar | 3 | | Composite | | X | | | |
| | 11:58 | SS-108 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 11:58 | SS-111 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 12:07 | SS-109 | | Soil | 1 | Jar | 3 | X | Composite | | X | | | |
| | 12:10 | SS-110 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:11 | SS-112 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:12 | SS-113 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:15 | SS-114 | | Soil | 1 | Jar | 3 | | Composite* | | X | | | *Also prepare a composite duplicate and analyze for OCPs (8081A) |
| | 12:43 | SS-115 | | Soil | 1 | Jar | 3 | X | | | X | | | |
| | 12:44 | SS-116 | | Soil | 1 | Jar | 3 | | | | X | | | |
| | 12:43 | SS-115-DUP | | Soil | 1 | Jar | 3 | X | | | X | | | |

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCl (2) HNO3 (3) COLD (4) H2SO4

| RELINQUISHED BY (Signature) | PRINT NAME/COMPANY | DATE/TIME | RECEIVED BY (Signature) | PRINT NAME/COMPANY |
|---|---|---|---|---|
| | Anthony Wohletz CLS Courier | 1545 4/19/18 | | KLF Fridge CLS |

RECEIVED AT LAB BY: DATE/TIME: 4/19/18 1610 CONDITIONS/COMMENTS: X 5

SHIPPED BY: ☐ FED EX ☐ UPS ☑ OTHER CL AIR BILL #

RELINQUISHED BY: 4/19/18 1660

# CLS LABS
## SAMPLE RECEIVING EXCEPTION REPORTS

**CLS Labs Job #** 18D1101

**Problem discovered by:** CP **Date:** 4/19/18

**Nature of problem**

- PAGE 8 OF 10 SHOWS SAMPLES WITHOUT ANALYSES
- PAGE 10 OF 10 DOES NOT HAVE A SAMPLING DATE FOR ALL SAMPLES.

**Client contacted?** Yes / **No** ____ **Spoke With:** PAOLO DIZON

**By whom:** CHELLIE F **Date:** 4/20/18 **Time:** 1220 HRS

**Client instructions:**

- SAMPLES ON PAGE 8 OF 10 SHOULD BE 4:1 COMPS FOR 8081
- SAMPLES ON PAGE 10 OF 10 WERE SAMPLED ON 4/18/18.

**Resolution of problem:**

- LOGGED IN PER PAOLO DIZON.

H:\Will\Orellana\SampleException.Doc

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Metals by EPA 6000/7000 Series Methods

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-1 (18D1101-01) Soil Sampled: 04/17/18 10:49 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **2.9** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-4 (18D1101-07) Soil Sampled: 04/17/18 11:10 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **2.9** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-15 (18D1101-13) Soil Sampled: 04/17/18 11:19 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.4** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-18 (18D1101-19) Soil Sampled: 04/17/18 11:29 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.4** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-10 (18D1101-22) Soil Sampled: 04/17/18 11:38 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.4** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-22 (18D1101-27) Soil Sampled: 04/17/18 13:06 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **2.5** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-33 (18D1101-33) Soil Sampled: 04/17/18 12:54 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.0** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-36 (18D1101-39) Soil Sampled: 04/17/18 12:33 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.4** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-27 (18D1101-41) Soil Sampled: 04/17/18 12:18 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.3** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Metals by EPA 6000/7000 Series Methods

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-30-DUP (18D1101-46) Soil Sampled: 04/17/18 12:03 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.4** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-30 (18D1101-47) Soil Sampled: 04/17/18 12:05 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.3** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-51 (18D1101-54) Soil Sampled: 04/17/18 13:45 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **2.7** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-54 (18D1101-60) Soil Sampled: 04/17/18 14:02 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.5** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-45 (18D1101-62) Soil Sampled: 04/17/18 14:15 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.2** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-48 (18D1101-68) Soil Sampled: 04/17/18 14:30 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.5** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-59 (18D1101-74) Soil Sampled: 04/17/18 14:43 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.4** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-71-DUP (18D1101-77) Soil Sampled: 04/18/18 10:13 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.0** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-71 (18D1101-80) Soil Sampled: 04/18/18 10:08 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.1** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Metals by EPA 6000/7000 Series Methods

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-63 (18D1101-82) Soil Sampled: 04/18/18 10:00 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.5** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-66 (18D1101-88) Soil Sampled: 04/18/18 09:44 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.4** | 1.0 | mg/kg | 10 | 1803303 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-76 (18D1101-94) Soil Sampled: 04/18/18 09:30 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **4.0** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-79 (18D1101-AA) Soil Sampled: 04/18/18 09:20 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.8** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-80 (18D1101-AC) Soil Sampled: 04/18/18 10:27 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **2.3** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-83 (18D1101-AH) Soil Sampled: 04/18/18 10:39 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **4.1** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-91 (18D1101-AN) Soil Sampled: 04/18/18 10:52 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.8** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-94 (18D1101-AT) Soil Sampled: 04/18/18 11:03 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.9** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-95 (18D1101-AV) Soil Sampled: 04/18/18 11:45 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.4** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Metals by EPA 6000/7000 Series Methods

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-99 (18D1101-BB) Soil Sampled: 04/18/18 11:32 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.9** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-105 (18D1101-BH) Soil Sampled: 04/18/18 11:19 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.6** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-111 (18D1101-BM) Soil Sampled: 04/18/18 11:57 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.9** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-109 (18D1101-BO) Soil Sampled: 04/18/18 12:09 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **3.5** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-115 (18D1101-BU) Soil Sampled: 04/18/18 12:43 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **4.3** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |
| **SS-115-DUP (18D1101-BX) Soil Sampled: 04/18/18 12:43 Received: 04/19/18 16:10** | | | | | | | | | |
| **Arsenic** | **4.2** | 1.0 | mg/kg | 10 | 1803304 | 04/20/18 | 04/21/18 | EPA 6020 | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-1, 2, 11, 12 (COMPOSITE) (18D1101-05) Soil** | **Sampled: 04/17/18 10:49** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *54 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *73 %* | *46-139* | | " | " | " | " | |
| **SS-3, 4, 13, 14 (COMPOSITE) (18D1101-10) Soil** | **Sampled: 04/17/18 11:12** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-3, 4, 13, 14 (COMPOSITE) (18D1101-10) Soil** | **Sampled: 04/17/18 11:12** | | **Received: 04/19/18 16:10** | | | | | | |
| Chlordane-technical | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *59 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *73 %* | *46-139* | | " | " | " | " | |
| **SS-5, 6, 15, 16 (COMPOSITE) (18D1101-15) Soil** | **Sampled: 04/17/18 11:22** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-5, 6, 15, 16 (COMPOSITE) (18D1101-15) Soil** | **Sampled: 04/17/18 11:22** | | **Received: 04/19/18 16:10** | | | | | | |
| Endrin | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *57 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *69 %* | *46-139* | | " | " | " | " | |
| **SS-7, 8, 17, 18 (COMPOSITE) (18D1101-20) Soil** | **Sampled: 04/17/18 11:32** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-7, 8, 17, 18 (COMPOSITE) (18D1101-20) Soil Sampled: 04/17/18 11:32 Received: 04/19/18 16:10** | | | | | | | | | |
| Mirex | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *54 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *68 %* | *46-139* | | " | " | " | " | |
| **SS-9, 10, 19, 20 (COMPOSITE) (18D1101-25) Soil Sampled: 04/17/18 11:40 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *62 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *68 %* | *46-139* | | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-21, 22, 31, 32 (COMPOSITE) (18D1101-30) Soil** | **Sampled: 04/17/18 13:08** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *61 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *73 %* | *46-139* | | " | " | " | " | |
| **SS-23, 24, 33, 34 (COMPOSITE) (18D1101-35) Soil** | **Sampled: 04/17/18 12:57** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-23, 24, 33, 34 (COMPOSITE) (18D1101-35) Soil** | **Sampled: 04/17/18 12:57** | | **Received: 04/19/18 16:10** | | | | | | |
| Chlordane-technical | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *61 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *73 %* | *46-139* | | " | " | " | " | |
| **SS-25, 26, 35, 36 (COMPOSITE) (18D1101-40) Soil** | **Sampled: 04/17/18 12:39** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-25, 26, 35, 36 (COMPOSITE) (18D1101-40) Soil** | **Sampled: 04/17/18 12:39** | | **Received: 04/19/18 16:10** | | | | | | |
| Endrin | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *65 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *72 %* | *46-139* | | " | " | " | " | |
| **SS-27, 28, 37, 38 (COMPOSITE) (18D1101-45) Soil** | **Sampled: 04/17/18 12:18** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-27, 28, 37, 38 (COMPOSITE) (18D1101-45) Soil** | **Sampled: 04/17/18 12:18** | | **Received: 04/19/18 16:10** | | | | | | |
| Mirex | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *66 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *72 %* | *46-139* | | " | " | " | " | |
| **SS-30, 29, 39, 40 (COMPOSITE) (18D1101-51) Soil** | **Sampled: 04/17/18 12:05** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *59 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *63 %* | *46-139* | | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-41, 42, 51, 52 (COMPOSITE) (18D1101-56) Soil** | **Sampled: 04/17/18 13:49** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *66 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *72 %* | *46-139* | | " | " | " | " | |
| **SS-43, 44, 53, 54 (COMPOSITE) (18D1101-61) Soil** | **Sampled: 04/17/18 14:02** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-43, 44, 53, 54 (COMPOSITE) (18D1101-61) Soil** | **Sampled: 04/17/18 14:02** | | **Received: 04/19/18 16:10** | | | | | | |
| Chlordane-technical | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *61 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *71 %* | *46-139* | | " | " | " | " | |
| **SS-45, 46, 55, 56 (COMPOSITE) (18D1101-66) Soil** | **Sampled: 04/17/18 14:15** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-45, 46, 55, 56 (COMPOSITE) (18D1101-66) Soil** | **Sampled: 04/17/18 14:15** | | **Received: 04/19/18 16:10** | | | | | | |
| Endrin | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *71 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *76 %* | *46-139* | | " | " | " | " | |
| **SS-47, 48, 57, 58 (COMPOSITE) (18D1101-71) Soil** | **Sampled: 04/17/18 14:30** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-47, 48, 57, 58 (COMPOSITE) (18D1101-71) Soil** | **Sampled: 04/17/18 14:30** | | **Received: 04/19/18 16:10** | | | | | | |
| Mirex | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *69 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *71 %* | *46-139* | | " | " | " | " | |
| **SS-49, 50, 59, 60 (COMPOSITE) (18D1101-76) Soil** | **Sampled: 04/17/18 14:43** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *66 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *72 %* | *46-139* | | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-61, 62, 71 (COMPOSITE) (18D1101-81) Soil** | **Sampled: 04/18/18 10:08** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *66 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *73 %* | *46-139* | | " | " | " | " | |
| **SS-63, 64, 72, 73 (COMPOSITE) (18D1101-86) Soil** | **Sampled: 04/18/18 10:00** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-63, 64, 72, 73 (COMPOSITE) (18D1101-86) Soil** | **Sampled: 04/18/18 10:00** | | **Received: 04/19/18 16:10** | | | | | | |
| Chlordane-technical | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *68 %* | *52-141* | | *"* | " | *"* | *"* | |
| *Surrogate: Tetrachloro-meta-xylene* | | *74 %* | *46-139* | | *"* | " | *"* | *"* | |
| **SS-65, 66, 74, 75 (COMPOSITE) (18D1101-91) Soil** | **Sampled: 04/18/18 09:44** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-65, 66, 74, 75 (COMPOSITE) (18D1101-91) Soil** | **Sampled: 04/18/18 09:44** | | **Received: 04/19/18 16:10** | | | | | | |
| Endrin | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *79 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *69 %* | *46-139* | | " | " | " | " | |
| **SS-67, 68, 76, 77 (COMPOSITE) (18D1101-96) Soil** | **Sampled: 04/18/18 09:30** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803320 | 04/20/18 | 04/22/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-67, 68, 76, 77 (COMPOSITE) (18D1101-96) Soil** | **Sampled: 04/18/18 09:30** | | **Received: 04/19/18 16:10** | | | | | | |
| Mirex | ND | 3.3 | µg/kg | 1 | 1803320 | " | 04/22/18 | EPA 8081A | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *64 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *74 %* | *46-139* | | " | " | " | " | |
| **SS-69, 70, 78, 79 (COMPOSITE) (18D1101-AB) Soil** | **Sampled: 04/18/18 09:20** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *68 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *76 %* | *46-139* | | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-80, 81, 88(COMPOSITE) (18D1101-AF) Soil** | **Sampled: 04/18/18 10:27** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *59 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *68 %* | *46-139* | | " | " | " | " | |
| **SS-82, 83, 89, 90(COMPOSITE) (18D1101-AK) Soil** | **Sampled: 04/18/18 10:39** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-82, 83, 89, 90(COMPOSITE) (18D1101-AK) Soil** | **Sampled: 04/18/18 10:39** | | **Received: 04/19/18 16:10** | | | | | | |
| Chlordane-technical | ND | 3.3 | µg/kg | 1 | 1803276 | " | 04/23/18 | EPA 8081A | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *80 %* | *52-141* | | *"* | " | *"* | *"* | |
| *Surrogate: Tetrachloro-meta-xylene* | | *75 %* | *46-139* | | *"* | " | *"* | *"* | |
| **SS-84, 85, 91, 92 (COMPOSITE) (18D1101-AP) Soil** | **Sampled: 04/18/18 10:52** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-84, 85, 91, 92 (COMPOSITE) (18D1101-AP) Soil** | **Sampled: 04/18/18 10:52** | | **Received: 04/19/18 16:10** | | | | | | |
| Endrin | ND | 3.3 | µg/kg | 1 | 1803276 | " | 04/23/18 | EPA 8081A | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *58 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *62 %* | *46-139* | | " | " | " | " | |
| **SS-86, 87, 93, 94 (COMPOSITE) (18D1101-AU) Soil** | **Sampled: 04/18/18 11:03** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-86, 87, 93, 94 (COMPOSITE) (18D1101-AU) Soil** | **Sampled: 04/18/18 11:03** | | **Received: 04/19/18 16:10** | | | | | | |
| Mirex | ND | 3.3 | µg/kg | 1 | 1803276 | " | 04/23/18 | EPA 8081A | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *65 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *74 %* | *46-139* | | " | " | " | " | |
| **SS-95, 96, 97, 102 (COMPOSITE) (18D1101-AZ) Soil** | **Sampled: 04/18/18 11:45** | | **Received: 04/19/18 16:10** | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *57 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *69 %* | *46-139* | | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-98, 99, 103, 104 (COMPOSITE) (18D1101-BE) Soil Sampled: 04/18/18 11:32 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *54 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *63 %* | *46-139* | | " | " | " | " | |
| **SS-100, 101, 105, 106 (COMPOSITE) (18D1101-BJ) Soil Sampled: 04/18/18 11:19 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-100, 101, 105, 106 (COMPOSITE) (18D1101-BJ) Soil Sampled: 04/18/18 11:19 Received: 04/19/18 16:10** | | | | | | | | | |
| Chlordane-technical | ND | 3.3 | µg/kg | 1 | 1803276 | " | 04/23/18 | EPA 8081A | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *57 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *66 %* | *46-139* | | " | " | " | " | |
| **SS-107, 108, 111 (COMPOSITE) (18D1101-BN) Soil Sampled: 04/18/18 11:57 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-107, 108, 111 (COMPOSITE) (18D1101-BN) Soil Sampled: 04/18/18 11:57 Received: 04/19/18 16:10** | | | | | | | | | |
| Endrin | ND | 3.3 | µg/kg | 1 | 1803276 | " | 04/23/18 | EPA 8081A | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *57 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *60 %* | *46-139* | | " | " | " | " | |
| **SS-109, 110, 112, 113 (COMPOSITE) (18D1101-BS) Soil Sampled: 04/18/18 12:09 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-109, 110, 112, 113 (COMPOSITE) (18D1101-BS) Soil Sampled: 04/18/18 12:09 Received: 04/19/18 16:10** | | | | | | | | | |
| Mirex | ND | 3.3 | µg/kg | 1 | 1803276 | " | 04/23/18 | EPA 8081A | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *60 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *67 %* | *46-139* | | " | " | " | " | |
| **SS-114, 115, 116 (COMPOSITE) (18D1101-BW) Soil Sampled: 04/18/18 12:43 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803276 | 04/20/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *61 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *69 %* | *46-139* | | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-30, 29, 39, 40 (COMPOSITE) DUP (18D1101-BY) Soil Sampled: 04/17/18 12:05 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803323 | 04/21/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *64 %* | *52-141* | | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *58 %* | *46-139* | | " | " | " | " | |
| **SS-61, 62, 71 (COMPOSITE) DUP (18D1101-BZ) Soil Sampled: 04/18/18 10:08 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803323 | 04/21/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-61, 62, 71 (COMPOSITE) DUP (18D1101-BZ) Soil Sampled: 04/18/18 10:08 Received: 04/19/18 16:10** | | | | | | | | | |
| Chlordane-technical | ND | 3.3 | µg/kg | 1 | 1803323 | " | 04/23/18 | EPA 8081A | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |
| Endrin | ND | 3.3 | " | " | " | " | " | " | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *61 %* | | *52-141* | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *56 %* | | *46-139* | " | " | " | " | |
| **SS-114, 115, 116 (COMPOSITE) DUP (18D1101-CA) Soil Sampled: 04/18/18 12:43 Received: 04/19/18 16:10** | | | | | | | | | |
| 4,4´-DDD | ND | 3.3 | µg/kg | 1 | 1803323 | 04/21/18 | 04/23/18 | EPA 8081A | |
| 4,4´-DDE | ND | 3.3 | " | " | " | " | " | " | |
| 4,4´-DDT | ND | 3.3 | " | " | " | " | " | " | |
| Aldrin | ND | 1.0 | " | " | " | " | " | " | |
| alpha-BHC | ND | 1.7 | " | " | " | " | " | " | |
| beta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Chlordane-technical | ND | 3.3 | " | " | " | " | " | " | |
| delta-BHC | ND | 1.7 | " | " | " | " | " | " | |
| Dieldrin | ND | 1.0 | " | " | " | " | " | " | |
| Endosulfan I | ND | 1.7 | " | " | " | " | " | " | |
| Endosulfan II | ND | 3.3 | " | " | " | " | " | " | |
| Endosulfan sulfate | ND | 3.3 | " | " | " | " | " | " | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SS-114, 115, 116 (COMPOSITE) DUP (18D1101-CA) Soil** | **Sampled: 04/18/18 12:43** | | **Received: 04/19/18 16:10** | | | | | | |
| Endrin | ND | 3.3 | µg/kg | 1 | 1803323 | " | 04/23/18 | EPA 8081A | |
| Endrin aldehyde | ND | 3.3 | " | " | " | " | " | " | |
| gamma-BHC (Lindane) | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor | ND | 1.7 | " | " | " | " | " | " | |
| Heptachlor epoxide | ND | 1.7 | " | " | " | " | " | " | |
| Methoxychlor | ND | 17 | " | " | " | " | " | " | |
| Mirex | ND | 3.3 | " | " | " | " | " | " | |
| Toxaphene | ND | 20 | " | " | " | " | " | " | |
| *Surrogate: Decachlorobiphenyl* | | *64 %* | | *52-141* | " | " | " | " | |
| *Surrogate: Tetrachloro-meta-xylene* | | *55 %* | | *46-139* | " | " | " | " | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Metals by EPA 6000/7000 Series Methods - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1803303 - EPA 3050B** | | | | | | | | | | |
| **Blank (1803303-BLK1)** | | | | Prepared: 04/20/18 Analyzed: 04/21/18 | | | | | | |
| Arsenic | ND | 0.10 | mg/kg | | | | | | | |
| **LCS (1803303-BS1)** | | | | Prepared: 04/20/18 Analyzed: 04/21/18 | | | | | | |
| Arsenic | 9.66 | 0.10 | mg/kg | 10.0 | | 97 | 75-125 | | | |
| **Matrix Spike (1803303-MS1)** | **Source: 18D1101-01** | | | Prepared: 04/20/18 Analyzed: 04/21/18 | | | | | | |
| Arsenic | 9.97 | 1.0 | mg/kg | 10.0 | 2.86 | 71 | 75-125 | | | QM-5 |
| **Matrix Spike Dup (1803303-MSD1)** | **Source: 18D1101-01** | | | Prepared: 04/20/18 Analyzed: 04/21/18 | | | | | | |
| Arsenic | 9.89 | 1.0 | mg/kg | 10.0 | 2.86 | 70 | 75-125 | 0.9 | 30 | QM-5 |
| **Batch 1803304 - EPA 3050B** | | | | | | | | | | |
| **Blank (1803304-BLK1)** | | | | Prepared: 04/20/18 Analyzed: 04/21/18 | | | | | | |
| Arsenic | ND | 0.10 | mg/kg | | | | | | | |
| **LCS (1803304-BS1)** | | | | Prepared: 04/20/18 Analyzed: 04/21/18 | | | | | | |
| Arsenic | 9.85 | 0.10 | mg/kg | 10.0 | | 99 | 75-125 | | | |
| **Matrix Spike (1803304-MS1)** | **Source: 18D1101-94** | | | Prepared: 04/20/18 Analyzed: 04/21/18 | | | | | | |
| Arsenic | 10.6 | 1.0 | mg/kg | 10.0 | 4.00 | 66 | 75-125 | | | QM-5 |
| **Matrix Spike Dup (1803304-MSD1)** | **Source: 18D1101-94** | | | Prepared: 04/20/18 Analyzed: 04/21/18 | | | | | | |
| Arsenic | 11.1 | 1.0 | mg/kg | 10.0 | 4.00 | 71 | 75-125 | 5 | 30 | QM-5 |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1803276 - LUFT-DHS GCNV** | | | | | | | | | | |
| **Blank (1803276-BLK1)** | | | | Prepared: 04/19/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | ND | 1.0 | µg/kg | | | | | | | |
| alpha-BHC | ND | 1.7 | " | | | | | | | |
| beta-BHC | ND | 1.7 | " | | | | | | | |
| gamma-BHC (Lindane) | ND | 1.7 | " | | | | | | | |
| delta-BHC | ND | 1.7 | " | | | | | | | |
| Chlordane-technical | ND | 3.3 | " | | | | | | | |
| 4,4´-DDD | ND | 3.3 | " | | | | | | | |
| 4,4´-DDE | ND | 3.3 | " | | | | | | | |
| 4,4´-DDT | ND | 3.3 | " | | | | | | | |
| Dieldrin | ND | 1.0 | " | | | | | | | |
| Endosulfan I | ND | 1.7 | " | | | | | | | |
| Endosulfan II | ND | 3.3 | " | | | | | | | |
| Endosulfan sulfate | ND | 3.3 | " | | | | | | | |
| Endrin | ND | 3.3 | " | | | | | | | |
| Endrin aldehyde | ND | 3.3 | " | | | | | | | |
| Heptachlor | ND | 1.7 | " | | | | | | | |
| Heptachlor epoxide | ND | 1.7 | " | | | | | | | |
| Methoxychlor | ND | 17 | " | | | | | | | |
| Mirex | ND | 3.3 | " | | | | | | | |
| Toxaphene | ND | 20 | " | | | | | | | |
| *Surrogate: Tetrachloro-meta-xylene* | *6.15* | | *"* | *8.33* | | *74* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *7.96* | | *"* | *8.33* | | *95* | *52-141* | | | |
| **LCS (1803276-BS1)** | | | | Prepared: 04/19/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | 13.5 | 1.0 | µg/kg | 16.7 | | 81 | 47-132 | | | |
| gamma-BHC (Lindane) | 13.2 | 1.7 | " | 16.7 | | 79 | 56-133 | | | |
| 4,4´-DDT | 16.4 | 3.3 | " | 16.7 | | 98 | 46-137 | | | |
| Dieldrin | 15.1 | 1.0 | " | 16.7 | | 91 | 44-143 | | | |
| Endrin | 16.1 | 3.3 | " | 16.7 | | 97 | 30-147 | | | |
| Heptachlor | 13.3 | 1.7 | " | 16.7 | | 80 | 33-148 | | | |
| *Surrogate: Tetrachloro-meta-xylene* | *5.90* | | *"* | *8.33* | | *71* | *46-139* | | | |

| | | |
|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon |

**CLS Work Order #: 18D1101**
COC #:

## Organochlorine Pesticides by EPA Method 8081A - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1803276 - LUFT-DHS GCNV** | | | | | | | | | | |
| **LCS (1803276-BS1)** | | | | Prepared: 04/19/18 Analyzed: 04/23/18 | | | | | | |
| *Surrogate: Decachlorobiphenyl* | *8.20* | | *µg/kg* | *8.33* | | *98* | *52-141* | | | |
| **LCS Dup (1803276-BSD1)** | | | | Prepared: 04/19/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | 12.8 | 1.0 | µg/kg | 16.7 | | 77 | 47-132 | 5 | 30 | |
| gamma-BHC (Lindane) | 12.7 | 1.7 | " | 16.7 | | 76 | 56-133 | 4 | 30 | |
| 4,4´-DDT | 15.7 | 3.3 | " | 16.7 | | 94 | 46-137 | 5 | 30 | |
| Dieldrin | 14.3 | 1.0 | " | 16.7 | | 86 | 44-143 | 6 | 30 | |
| Endrin | 15.1 | 3.3 | " | 16.7 | | 91 | 30-147 | 6 | 30 | |
| Heptachlor | 12.8 | 1.7 | " | 16.7 | | 77 | 33-148 | 4 | 30 | |
| *Surrogate: Tetrachloro-meta-xylene* | *5.58* | | *"* | *8.33* | | *67* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *7.66* | | *"* | *8.33* | | *92* | *52-141* | | | |
| **Matrix Spike (1803276-MS1)** | **Source: 18D0857-02** | | | Prepared: 04/19/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | 14.2 | 10 | µg/kg | 16.7 | ND | 85 | 47-138 | | | |
| gamma-BHC (Lindane) | 20.1 | 17 | " | 16.7 | ND | 121 | 38-144 | | | |
| 4,4´-DDT | 3270 | 33 | " | 16.7 | ND | NR | 41-157 | | | QM-7T |
| Dieldrin | 391 | 10 | " | 16.7 | ND | NR | 46-155 | | | QM-7T |
| Endrin | ND | 33 | " | 16.7 | ND | | 34-149 | | | QM-7T |
| Heptachlor | 66.8 | 17 | " | 16.7 | ND | 401 | 36-155 | | | QM-7T |
| *Surrogate: Tetrachloro-meta-xylene* | *15.7* | | *"* | *20.8* | | *76* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *55.3* | | *"* | *20.8* | | *265* | *52-141* | | | *QS-4* |
| **Matrix Spike Dup (1803276-MSD1)** | **Source: 18D0857-02** | | | Prepared: 04/19/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | 14.6 | 10 | µg/kg | 16.7 | ND | 87 | 47-138 | 3 | 35 | |
| gamma-BHC (Lindane) | 20.1 | 17 | " | 16.7 | ND | 120 | 38-144 | 0.3 | 35 | |
| 4,4´-DDT | 3280 | 33 | " | 16.7 | ND | NR | 41-157 | 0.3 | 35 | QM-7T |
| Dieldrin | 437 | 10 | " | 16.7 | ND | NR | 46-155 | 11 | 35 | QM-7T |
| Endrin | ND | 33 | " | 16.7 | ND | | 34-149 | | 35 | QM-7T |
| Heptachlor | 89.2 | 17 | " | 16.7 | ND | 535 | 36-155 | 29 | 35 | QM-7T |
| *Surrogate: Tetrachloro-meta-xylene* | *14.9* | | *"* | *20.8* | | *71* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *62.7* | | *"* | *20.8* | | *301* | *52-141* | | | *QS-4* |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1803320 - LUFT-DHS GCNV** | | | | | | | | | | |
| **Blank (1803320-BLK1)** | | | | Prepared: 04/20/18 Analyzed: 04/22/18 | | | | | | |
| Aldrin | ND | 1.0 | µg/kg | | | | | | | |
| alpha-BHC | ND | 1.7 | " | | | | | | | |
| beta-BHC | ND | 1.7 | " | | | | | | | |
| gamma-BHC (Lindane) | ND | 1.7 | " | | | | | | | |
| delta-BHC | ND | 1.7 | " | | | | | | | |
| Chlordane-technical | ND | 3.3 | " | | | | | | | |
| 4,4´-DDD | ND | 3.3 | " | | | | | | | |
| 4,4´-DDE | ND | 3.3 | " | | | | | | | |
| 4,4´-DDT | ND | 3.3 | " | | | | | | | |
| Dieldrin | ND | 1.0 | " | | | | | | | |
| Endosulfan I | ND | 1.7 | " | | | | | | | |
| Endosulfan II | ND | 3.3 | " | | | | | | | |
| Endosulfan sulfate | ND | 3.3 | " | | | | | | | |
| Endrin | ND | 3.3 | " | | | | | | | |
| Endrin aldehyde | ND | 3.3 | " | | | | | | | |
| Heptachlor | ND | 1.7 | " | | | | | | | |
| Heptachlor epoxide | ND | 1.7 | " | | | | | | | |
| Methoxychlor | ND | 17 | " | | | | | | | |
| Mirex | ND | 3.3 | " | | | | | | | |
| Toxaphene | ND | 20 | " | | | | | | | |
| *Surrogate: Tetrachloro-meta-xylene* | *7.06* | | *"* | *8.33* | | *85* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *9.08* | | *"* | *8.33* | | *109* | *52-141* | | | |
| **LCS (1803320-BS1)** | | | | Prepared: 04/20/18 Analyzed: 04/22/18 | | | | | | |
| Aldrin | 16.2 | 1.0 | µg/kg | 16.7 | | 97 | 47-132 | | | |
| gamma-BHC (Lindane) | 15.9 | 1.7 | " | 16.7 | | 95 | 56-133 | | | |
| 4,4´-DDT | 18.7 | 3.3 | " | 16.7 | | 112 | 46-137 | | | |
| Dieldrin | 17.4 | 1.0 | " | 16.7 | | 104 | 44-143 | | | |
| Endrin | 18.2 | 3.3 | " | 16.7 | | 109 | 30-147 | | | |
| Heptachlor | 15.9 | 1.7 | " | 16.7 | | 95 | 33-148 | | | |
| *Surrogate: Tetrachloro-meta-xylene* | *7.15* | | *"* | *8.33* | | *86* | *46-139* | | | |

| | | |
|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon |

**CLS Work Order #: 18D1101**
COC #:

## Organochlorine Pesticides by EPA Method 8081A - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1803320 - LUFT-DHS GCNV** | | | | | | | | | | |
| **LCS (1803320-BS1)** | | | | Prepared: 04/20/18 Analyzed: 04/22/18 | | | | | | |
| *Surrogate: Decachlorobiphenyl* | *9.13* | | *µg/kg* | *8.33* | | *110* | *52-141* | | | |
| **LCS Dup (1803320-BSD1)** | | | | Prepared: 04/20/18 Analyzed: 04/22/18 | | | | | | |
| Aldrin | 15.9 | 1.0 | µg/kg | 16.7 | | 95 | 47-132 | 2 | 30 | |
| gamma-BHC (Lindane) | 15.5 | 1.7 | " | 16.7 | | 93 | 56-133 | 3 | 30 | |
| 4,4´-DDT | 18.0 | 3.3 | " | 16.7 | | 108 | 46-137 | 4 | 30 | |
| Dieldrin | 17.0 | 1.0 | " | 16.7 | | 102 | 44-143 | 2 | 30 | |
| Endrin | 17.6 | 3.3 | " | 16.7 | | 106 | 30-147 | 3 | 30 | |
| Heptachlor | 15.4 | 1.7 | " | 16.7 | | 93 | 33-148 | 3 | 30 | |
| *Surrogate: Tetrachloro-meta-xylene* | *6.45* | | *"* | *8.33* | | *77* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *8.30* | | *"* | *8.33* | | *100* | *52-141* | | | |
| **Matrix Spike (1803320-MS1)** | **Source: 18D1077-03** | | | Prepared: 04/20/18 Analyzed: 04/22/18 | | | | | | |
| Aldrin | 17.2 | 1.0 | µg/kg | 16.7 | ND | 103 | 47-138 | | | |
| gamma-BHC (Lindane) | 14.6 | 1.7 | " | 16.7 | ND | 88 | 38-144 | | | |
| 4,4´-DDT | 18.2 | 3.3 | " | 16.7 | 7.15 | 66 | 41-157 | | | |
| Dieldrin | 15.4 | 1.0 | " | 16.7 | ND | 92 | 46-155 | | | |
| Endrin | 14.6 | 3.3 | " | 16.7 | ND | 88 | 34-149 | | | |
| Heptachlor | 13.3 | 1.7 | " | 16.7 | ND | 80 | 36-155 | | | |
| *Surrogate: Tetrachloro-meta-xylene* | *15.7* | | *"* | *20.8* | | *75* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *15.0* | | *"* | *20.8* | | *72* | *52-141* | | | |
| **Matrix Spike Dup (1803320-MSD1)** | **Source: 18D1077-03** | | | Prepared: 04/20/18 Analyzed: 04/22/18 | | | | | | |
| Aldrin | 18.5 | 1.0 | µg/kg | 16.7 | ND | 111 | 47-138 | 7 | 35 | |
| gamma-BHC (Lindane) | 15.2 | 1.7 | " | 16.7 | ND | 91 | 38-144 | 4 | 35 | |
| 4,4´-DDT | 19.7 | 3.3 | " | 16.7 | 7.15 | 75 | 41-157 | 8 | 35 | |
| Dieldrin | 14.8 | 1.0 | " | 16.7 | ND | 89 | 46-155 | 3 | 35 | |
| Endrin | 14.9 | 3.3 | " | 16.7 | ND | 89 | 34-149 | 2 | 35 | |
| Heptachlor | 14.1 | 1.7 | " | 16.7 | ND | 84 | 36-155 | 6 | 35 | |
| *Surrogate: Tetrachloro-meta-xylene* | *17.3* | | *"* | *20.8* | | *83* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *16.5* | | *"* | *20.8* | | *79* | *52-141* | | | |

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|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Organochlorine Pesticides by EPA Method 8081A - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1803323 - LUFT-DHS GCNV** | | | | | | | | | | |
| **Blank (1803323-BLK1)** | | | | Prepared: 04/21/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | ND | 1.0 | µg/kg | | | | | | | |
| alpha-BHC | ND | 1.7 | " | | | | | | | |
| beta-BHC | ND | 1.7 | " | | | | | | | |
| gamma-BHC (Lindane) | ND | 1.7 | " | | | | | | | |
| delta-BHC | ND | 1.7 | " | | | | | | | |
| Chlordane-technical | ND | 3.3 | " | | | | | | | |
| 4,4´-DDD | ND | 3.3 | " | | | | | | | |
| 4,4´-DDE | ND | 3.3 | " | | | | | | | |
| 4,4´-DDT | ND | 3.3 | " | | | | | | | |
| Dieldrin | ND | 1.0 | " | | | | | | | |
| Endosulfan I | ND | 1.7 | " | | | | | | | |
| Endosulfan II | ND | 3.3 | " | | | | | | | |
| Endosulfan sulfate | ND | 3.3 | " | | | | | | | |
| Endrin | ND | 3.3 | " | | | | | | | |
| Endrin aldehyde | ND | 3.3 | " | | | | | | | |
| Heptachlor | ND | 1.7 | " | | | | | | | |
| Heptachlor epoxide | ND | 1.7 | " | | | | | | | |
| Methoxychlor | ND | 17 | " | | | | | | | |
| Mirex | ND | 3.3 | " | | | | | | | |
| Toxaphene | ND | 20 | " | | | | | | | |
| *Surrogate: Tetrachloro-meta-xylene* | *5.10* | | *"* | *8.33* | | *61* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *8.85* | | *"* | *8.33* | | *106* | *52-141* | | | |
| **LCS (1803323-BS1)** | | | | Prepared: 04/21/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | 14.9 | 1.0 | µg/kg | 16.7 | | 89 | 47-132 | | | |
| gamma-BHC (Lindane) | 14.5 | 1.7 | " | 16.7 | | 87 | 56-133 | | | |
| 4,4´-DDT | 17.0 | 3.3 | " | 16.7 | | 102 | 46-137 | | | |
| Dieldrin | 16.3 | 1.0 | " | 16.7 | | 98 | 44-143 | | | |
| Endrin | 16.9 | 3.3 | " | 16.7 | | 101 | 30-147 | | | |
| Heptachlor | 14.2 | 1.7 | " | 16.7 | | 85 | 33-148 | | | |
| *Surrogate: Tetrachloro-meta-xylene* | *6.94* | | *"* | *8.33* | | *83* | *46-139* | | | |

| | | |
|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon |

**CLS Work Order #: 18D1101**
COC #:

## Organochlorine Pesticides by EPA Method 8081A - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1803323 - LUFT-DHS GCNV** | | | | | | | | | | |
| **LCS (1803323-BS1)** | | | | Prepared: 04/21/18 Analyzed: 04/23/18 | | | | | | |
| *Surrogate: Decachlorobiphenyl* | *9.57* | | *µg/kg* | *8.33* | | *115* | *52-141* | | | |
| **LCS Dup (1803323-BSD1)** | | | | Prepared: 04/21/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | 14.8 | 1.0 | µg/kg | 16.7 | | 89 | 47-132 | 0.6 | 30 | |
| gamma-BHC (Lindane) | 14.3 | 1.7 | " | 16.7 | | 86 | 56-133 | 0.9 | 30 | |
| 4,4´-DDT | 18.0 | 3.3 | " | 16.7 | | 108 | 46-137 | 6 | 30 | |
| Dieldrin | 16.7 | 1.0 | " | 16.7 | | 100 | 44-143 | 2 | 30 | |
| Endrin | 17.5 | 3.3 | " | 16.7 | | 105 | 30-147 | 4 | 30 | |
| Heptachlor | 14.2 | 1.7 | " | 16.7 | | 85 | 33-148 | 0.1 | 30 | |
| *Surrogate: Tetrachloro-meta-xylene* | *5.55* | | *"* | *8.33* | | *67* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *8.61* | | *"* | *8.33* | | *103* | *52-141* | | | |
| **Matrix Spike (1803323-MS1)** | | **Source: 18D1101-BY** | | Prepared: 04/21/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | 15.0 | 1.0 | µg/kg | 16.7 | ND | 90 | 47-138 | | | |
| gamma-BHC (Lindane) | 14.9 | 1.7 | " | 16.7 | ND | 90 | 38-144 | | | |
| 4,4´-DDT | 16.8 | 3.3 | " | 16.7 | ND | 101 | 41-157 | | | |
| Dieldrin | 15.5 | 1.0 | " | 16.7 | ND | 93 | 46-155 | | | |
| Endrin | 16.4 | 3.3 | " | 16.7 | ND | 98 | 34-149 | | | |
| Heptachlor | 14.2 | 1.7 | " | 16.7 | ND | 85 | 36-155 | | | |
| *Surrogate: Tetrachloro-meta-xylene* | *13.5* | | *"* | *20.8* | | *65* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *15.5* | | *"* | *20.8* | | *75* | *52-141* | | | |
| **Matrix Spike Dup (1803323-MSD1)** | | **Source: 18D1101-BY** | | Prepared: 04/21/18 Analyzed: 04/23/18 | | | | | | |
| Aldrin | 13.5 | 1.0 | µg/kg | 16.7 | ND | 81 | 47-138 | 11 | 35 | |
| gamma-BHC (Lindane) | 14.5 | 1.7 | " | 16.7 | ND | 87 | 38-144 | 3 | 35 | |
| 4,4´-DDT | 15.8 | 3.3 | " | 16.7 | ND | 95 | 41-157 | 6 | 35 | |
| Dieldrin | 14.8 | 1.0 | " | 16.7 | ND | 89 | 46-155 | 4 | 35 | |
| Endrin | 15.7 | 3.3 | " | 16.7 | ND | 94 | 34-149 | 5 | 35 | |
| Heptachlor | 13.3 | 1.7 | " | 16.7 | ND | 80 | 36-155 | 7 | 35 | |
| *Surrogate: Tetrachloro-meta-xylene* | *12.9* | | *"* | *20.8* | | *62* | *46-139* | | | |
| *Surrogate: Decachlorobiphenyl* | *14.3* | | *"* | *20.8* | | *69* | *52-141* | | | |

| | | | |
|---|---|---|---|
| Kleinfelder (Irvine) | Project: | Hom Property | |
| 2 Ada Stuite 250 | Project Number: | 20190071.001A | **CLS Work Order #: 18D1101** |
| Irvine, CA 92618 | Project Manager: | Paolo Dizon | COC #: |

## Notes and Definitions

| | |
|---|---|
| QS-4 | The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. |
| QM-7T | The spike recovery was outside acceptance limits for these analytes in both the MS and MSD due to toxaphene/chlordane interference from the source. The batch was accepted based on acceptable LCS/LCSD recovery. |
| QM-5 | The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified) |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

# APPENDIX E

## Environmental Noise Assessment

# Environmental Noise Assessment

# Tracy Costco Depot

**City of Tracy, California**

**June 2, 2022**

**Project #191010**

**Prepared for:**

DE NOVO PLANNING GROUP

**De Novo Planning Group**
1020 Suncast Lane, Suite 106
El Dorado Hills, California 95762

**Prepared by:**
**Saxelby Acoustics, LLC**




**Luke Saxelby, INCE Bd. Cert.**
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915 Highland Pointe Drive, Suite 250
Roseville, CA 95678

This section provides a general description of the existing noise sources in the Project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed Project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts. However, one impact remains significant and unavoidable.

There were no Notice of Preparation comments received regarding this topic. As discussed in the Initial Study (see Appendix A), the proposed Project is not located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The closest airport is the Tracy Municipal Airport, located approximately three and a half miles southeast of the Project site. As such, there is ***no impact*** related to these CEQA topics, and these topics are not relevant to the proposed Project and will not be addressed further in this EIR beyond the discussion and analysis in the Initial Study.

## 3.11.1 ENVIRONMENTAL SETTING

### KEY TERMS

| | |
|---|---|
| **Acoustics** | The science of sound. |
| **Ambient Noise** | The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study. |
| **Attenuation** | The reduction of noise. |
| **A-Weighting** | A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response. |
| **Decibel or dB** | Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared. |
| **CNEL** | Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging. |
| **Frequency** | The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz. |
| **Impulsive** | Sound of short duration, usually less than one second, with an abrupt onset and rapid decay. |
| **$L_{dn}$** | Day/Night Average Sound Level. Similar to CNEL but with no evening weighting. |
| **$L_{eq}$** | Equivalent or energy-averaged sound level. |
| **$L_{max}$** | The highest root-mean-square (RMS) sound level measured over a given period of time. |
| **$L_{(n)}$** | The sound level exceeded a described percentile over a measurement period. For instance, an hourly $L_{50}$ is the sound level exceeded 50 percent of the time during the one-hour period. |
| **Loudness** | A subjective term for the sensation of the magnitude of sound. |

**Noise** Unwanted sound.

**SEL** Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

## FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level ($L_{eq}$), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The $L_{eq}$ is the foundation of the composite noise descriptor, $L_{dn}$, and shows very good correlation with community response to noise.

The day/night average level ($L_{dn}$) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because $L_{dn}$ represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to $L_{dn}$, but includes a +5 dB penalty for evening noise. Table 3.11-1 lists several examples of the noise levels associated with common situations.

***TABLE 3.11-1: TYPICAL NOISE LEVELS***

| *COMMON OUTDOOR ACTIVITIES* | *NOISE LEVEL (DBA)* | *COMMON INDOOR ACTIVITIES* |
|---|---|---|
| | --110-- | Rock Band |
| Jet Fly-over at 300 m (1,000 ft) | --100-- | |
| Gas Lawn Mower at 1 m (3 ft) | --90-- | |
| Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph) | --80-- | Food Blender at 1 m (3 ft)<br>Garbage Disposal at 1 m (3 ft) |
| Noisy Urban Area, Daytime<br>Gas Lawn Mower, 30 m (100 ft) | --70-- | Vacuum Cleaner at 3 m (10 ft) |
| Commercial Area<br>Heavy Traffic at 90 m (300 ft) | --60-- | Normal Speech at 1 m (3 ft) |
| Quiet Urban Daytime | --50-- | Large Business Office<br>Dishwasher in Next Room |
| Quiet Urban Nighttime | --40-- | Theater, Large Conference Room (Background) |
| Quiet Suburban Nighttime | --30-- | Library |
| Quiet Rural Nighttime | --20-- | Bedroom at Night, Concert Hall (Background) |
| | --10-- | Broadcast/Recording Studio |
| Lowest Threshold of Human Hearing | --0-- | Lowest Threshold of Human Hearing |

*SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.*

## EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less

acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

## EXISTING NOISE LEVELS

### Existing and Surrounding Land Uses

The Project site is located at 16000 West Schulte Road in unincorporated San Joaquin County, California (Figures 2.0-1 and 2.0-2). The Project site is within the Tracy Sphere of Influence (SOI) 10-Year Planning Horizon and is immediately adjacent to the Tracy city limits to the north of the site. The site contains undeveloped land previously used for agricultural purposes.

The Project site is immediately south of the intersection of Bud Lyons Way and West Schulte Road. The Project site is bounded on the north by West Schulte Road, on the west by an unnamed driveway serving the adjacent rural residence, on the south by the Delta Mendota Canal, and on the east by vacant agricultural land.

In the vicinity of the Project site, surrounding land uses include mostly vacant and agricultural lands, as well as some existing rural residential and industrial uses. Rural residential uses are located directly west of the Project site. Under the proposed Project, these rural residential land uses will remain outside the boundaries of the City of Tracy, within the boundaries of San Joaquin County.

### Existing Ambient Noise Levels

To quantify the existing ambient noise environment in the Project vicinity, three continuous (24-hour) noise level measurements were conducted near receptors adjacent to the Project site from November 7$^{th}$ to November 8$^{th}$, 2019. A short-term noise level measurement was conducted at one location on the northwestern Project boundary on November 7$^{th}$, 2019. The noise measurement locations are shown on Figure 3.11-1. The noise level measurement survey results are provided in Table 3.11-2. Appendix B of Appendix E shows the complete results of the continuous noise monitoring at sites LT-1, LT-2, LT-3, and ST-1.

***TABLE 3.11-2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA***

| SITE | LOCATION | $L_{DN}$ | AVERAGE MEASURED HOURLY NOISE LEVELS, dB | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | DAYTIME (7AM-10PM) | | | NIGHTTIME (10PM-7AM) | | |
| | | | $L_{EQ}$ | $L_{50}$ | $L_{MAX}$ | $L_{EQ}$ | $L_{50}$ | $L_{MAX}$ |
| CONTINUOUS (24-HOUR) NOISE LEVEL MEASUREMENTS | | | | | | | | |
| LT-1 | Western Project Boundary | 63 | 56 | 52 | 74 | 57 | 54 | 72 |
| LT-2 | Southwestern Project Boundary | 56 | 48 | 44 | 61 | 49 | 48 | 60 |
| LT-3 | Southeastern Project Boundary | 55 | 47 | 42 | 61 | 49 | 47 | 56 |
| SHORT-TERM NOISE LEVEL MEASUREMENTS | | | | | | | | |
| ST-1 | Northwestern Project Boundary | N/A | 72 | 58 | 88 | N/A | N/A | N/A |

*SOURCE: SAXELBY ACOUSTICS, 2019.*

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value ($L_{max}$) represents the highest noise level measured during an interval. The average value ($L_{eq}$) represents the energy average of all of the noise measured during an interval. The median value ($L_{50}$) represents the sound level exceeded 50 percent of the time during an interval.

Larson Davis Laboratories (LDL) Model 812, 820, and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

## EXISTING ROADWAY NOISE LEVELS

To predict existing noise levels due to traffic, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly $L_{eq}$ values for free-flowing traffic conditions. While the newer FHWA traffic noise model (TNM 3.0) is required for use on federally funded highway projects, the FHWA RD-77-108 model is still widely used in the industry and recognized as an accurate screening tool, typically resulting in slight over-predictions in traffic noise levels at typical receptor setback distances.

Traffic volumes for existing conditions were obtained from the traffic data prepared for the proposed Project (Kimley Horn, 2021). Vehicle speeds on the local area roadways were estimated from field observations.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each Project-area roadway segment. Table 3.11-3 shows the existing traffic noise levels in terms of $L_{dn}$ at closest sensitive receptors along each roadway segment. A complete listing of the FHWA Model input data is contained in Appendix C of Appendix E.

***TABLE 3.11-3: EXISTING TRAFFIC NOISE LEVELS AND DISTANCES TO CONTOURS***

| *ROADWAY* | *SEGMENT* | *EXTERIOR TRAFFIC NOISE LEVEL, DB $L_{DN}$* |
|---|---|---|
| Mountain House Pkwy. | North of I-205 | 65.0 |
| Mountain House Pkwy. | South of I-205 | 67.2 |
| Hansen Rd. | South of Old Schulte Rd. | 47.4 |
| Old Schulte Rd. | Hansen Rd. to Bud Lyons Wy. | 51.6 |
| Old Schulte Rd. | West of S. Lammers Rd. | 57.1 |
| S. Lammers Rd. | North of Old Schulte Rd. | 66.3 |
| S. Lammers Rd. | South of Old Schulte Rd. | 66.4 |
| S. Lammers Rd. | South of Western Pacific Wy. | 64.2 |
| S. Lammers Rd. | South of Valpico Rd. | 55.9 |

*SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KIMLEY HORN AND SAXELBY ACOUSTICS, 2021.*

## 3.11.2 REGULATORY SETTING

### FEDERAL

There are no federal regulations related to noise that apply to the proposed Project.

### STATE

#### California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance section.

# LOCAL

The Project site is located within an unincorporated area of San Joaquin County and requires annexation into the City of Tracy. The City of Tracy addresses noise in the Noise Element of the General Plan and in the Tracy Municipal Code.

## City of Tracy General Plan

The Noise Element establishes standards to provide compatible noise environments for new development or redevelopment projects and to control excessive noise exposure of existing developments. Goals, policies, actions, and standards provided in the Noise Element provide the basis for decision-making on determining land use compatibility with noise sources associated with the proposed Project, as well as mitigation requirements. The following objectives and policies are specfically relavaent to the prposed project:

**Objective N-1.2 Control sources of excessive noise.**

**Policies**

P2. Mitigation measures shall be required for new development projects that exceed the following criteria:

- Cause the Ldn at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the Ldn at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance Limits.

P4. All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. In addition, the following construction noise control measures shall be included as requirements at construction sites to minimize construction noise impacts:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

Figure 9-3 of the Noise Element shows a summary of different land uses in the City and their associated acceptable and unacceptable noise levels. These guidelines state that environments with noise levels ranging up to 60 dBA Ldn are considered "normally acceptable" for new residential land use development; environments with ambient noise levels greater than 60 dBA and up to 75 dBA Ldn are considered "conditionally acceptable" for new residential development.

## City of Tracy Municipal Code

Title 4, Chapter 12, Article 9 of the Tracy Municipal Code also contains guidance with the intent to control noise and vibration to promote and maintain the health, safety, and welfare of its residents. Section 4.12.720 of the Municipal Code generally prohibits certain activities that have the potential to result in loud, excessive, or unreasonable noise levels. According to the general sound level limits for residential districts, no person shall cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced to exceed 55 dBA for any one-hour average period. Specific activities enumerated in the municipal code that could potentially pertain to the proposed project include minor maintenance to or improvement of real property. This limitation prohibits the generation of construction noise, other than between the hours of 7:00 a.m. and 10:00 p.m. on weekdays or between the hours of 7:00 a.m. and 10:00 p.m. on weekends and federal holidays. The noise ordinance also specifically prohibits the operation of any pneumatic or air hammer, pile driver, steam shovel, derrick, steam or electric hoist, parking lot cleaning equipment, or other appliance, the use of which is attended by loud or unusual noise, between the hours of 10:00 p.m. and 7:00 a.m on weekends and federal holidays.

## San Joaquin County General Plan

Table PHS-2 of the San Joaquin County 2035 General Plan establishes an acceptable exterior noise level standard of 65 dBA $L_{dn}$ and an interior noise level standard of 45 dBA $L_{dn}$ for residential uses exposed to transportation noise sources.

For non-transportation noise sources, the General Plan establishes the standards for sensitive uses. See Table 3.11-4.

***TABLE 3.11-4: SAN JOAQUIN COUNTY GENERAL PLAN NON-TRANSPORTATION NOISE STANDARDS[1,2]***

| *NOISE LEVEL DESCRIPTOR* | *OUTDOOR ACTIVITY AREA[3] DAYTIME (7 A.M. TO 10 P.M.)* | *OUTDOOR ACTIVITY AREAS[3] NIGHTTIME (10 P.M. TO 7 A.M.)* |
|---|---|---|
| Hourly equivalent sound level ($L_{eq}$), dB | 50 | 45 |
| Maximum sound level ($L_{max}$), dB | 70 | 65 |

*NOTES: THESE STANDARDS APPLY TO NEW OR EXISTING RESIDENTIAL AREAS AFFECTED BY NEW OR EXISTING NON-TRANSPORTATION SOURCES.*

*[1] WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE NOISE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN DETERMINING THE EFFECTIVENESS OF NOISE MITIGATION MEASURES, THE STANDARDS SHALL BE APPLIED ON THE RECEIVING SIDE OF NOISE BARRIERS OR OTHER PROPERTY LINE NOISE MITIGATION MEASURES.*

*[2] REFER TO MOUNTAIN HOUSE MASTER PLAN, TABLE 11.2, EXTERIOR NOISE STANDARDS FOR NOISE-SENSITIVE USES AFFECTED BY NON- TRANSPORTATION NOISE SOURCES, PAGE 11.12, FOR MOUNTAIN HOUSE NOISE STANDARDS.*

*[3] EACH OF THE NOISE LEVEL STANDARDS SPECIFIED SHALL BE REDUCED BY 5 DB FOR IMPULSIVE NOISE, SINGLE TONE NOISE, OR NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC.*

*SOURCE: SAN JOAQUIN COUNTY GENERAL PLAN, TABLE PHS-1.*

## San Joaquin County Development Regulations

The San Joaquin County Development Regulations, Section 9-1025.9(b), establish land use noise level standards for new non-transportation or "stationary" noise sources, as outlined below that would be applicable to the proposed Project.

9-1025.9(B) – STATIONARY NOISE SOURCES.

Proposed projects that will create new stationary noise sources shall be required to mitigate the noise levels from these stationary noise sources so as not to exceed the noise level standards specified in Table 9-1025.9(b), Part II (Table 3.11-5).

***TABLE 3.11-5: STATIONARY NOISE SOURCES***

| *NOISE LEVEL DESCRIPTOR* | *OUTDOOR ACTIVITY AREAS[1] DAYTIME[2] (7 A.M. TO 10 P.M.)* | *OUTDOOR ACTIVITY AREAS[1] NIGHTTIME[2] (10 P.M. TO 7 A.M.)* |
|---|---|---|
| Hourly equivalent sound level ($L_{eq}$), dB | 50 | 45 |
| Maximum sound level ($L_{max}$), dB | 70 | 65 |

*NOTES: [1]WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE NOISE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN DETERMINING THE EFFECTIVENESS OF NOISE MITIGATION MEASURES, THE STANDARDS SHALL BE APPLIED ON THE RECEIVING SIDE OF NOISE BARRIERS OR OTHER PROPERTY LINE NOISE MITIGATION MEASURES.*

*[2]EACH OF THE NOISE LEVEL STANDARDS SPECIFIED SHALL BE REDUCED BY 5 DB FOR IMPULSIVE NOISE, SINGLE TONE NOISE, OR NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC.*

*(ORD. 3675; ORD. 4036 § 2(PART), 1999)*

*SOURCE: SAN JOAQUIN COUNTY DEVELOPMENT REGULATIONS.*

# VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Tracy does not have specific policies pertaining to vibration levels. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.11-6 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

***TABLE 3.11-6: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS***

| P.P.V. | | HUMAN REACTION | EFFECT ON BUILDINGS |
|---|---|---|---|
| MM/SEC. | IN./SEC. | | |
| 0.15-0.30 | 0.006-0.019 | Threshold of perception; possibility of intrusion | Vibrations unlikely to cause damage of any type |
| 2.0 | 0.08 | Vibrations readily perceptible | Recommended upper level of the vibration to which ruins and ancient monuments should be subjected |
| 2.5 | 0.10 | Level at which continuous vibrations begin to annoy people | Virtually no risk of "architectural" damage to normal buildings |
| 5.0 | 0.20 | Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations) | Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage |
| 10-15 | 0.4-0.6 | Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges | Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage. |

*SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.*

## 3.11.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact related to noise if it will result in:

- Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; and/or
- Generation of excessive groundborne vibration or groundborne noise levels.

### Determination of a Significant Increase in Noise Levels

#### TEMPORARY CONSTRUCTION NOISE IMPACTS

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Tract General Plan noise Policy P4, "All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. Per the City of Tracy noise ordinance, construction activities operating between 10 p.m. and 7 a.m. that create a noise disturbance at the property boundary of a residence are prohibited.

For short-term noise associated with project construction, Saxelby Acoustics recommends use of the Caltrans increase criteria of 12 dBA (Caltrans Traffic Noise Protocol, 2020) to determine whether the construction noise constitutes a significant increase under CEQA.

### OPERATIONAL IMPACTS

The noise standards applicable to the proposed Project include the relevant portions of the City of Tracy and County of San Joaquin General Plan and Municipal Code described in the Regulatory Setting section above (Section 3.11.2), and the following standards. Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the proposed Project is a factor in determining significance.

Per noise Policy P2, the following test of significance would be applied to operational noise increases:

- Cause the Ldn at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the Ldn at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance Limits.

It should be noted that 60 dBA Ldn is the City's "normally acceptable" noise standard.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.11-1: The proposed Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Significant and Unavoidable)

### Traffic Noise Environment at Off-Site Receptors With and Without the Project

Implementation of the proposed Project would result in an increase in daily traffic volumes on the local roadway network, and consequently, an increase in noise levels from traffic sources along affected segments. Tables 3.11-8 and 3.11-9 show the predicted traffic noise level increases on the local roadway network for Background, Background Plus Project, Cumulative No Project, and Cumulative Plus Project conditions. Appendix C of Appendix E provides the complete inputs and results of the FHWA traffic noise modeling.

***TABLE 3.11-8: BACKGROUND AND BACKGROUND PLUS PROJECT TRAFFIC NOISE LEVELS***

| *ROADWAY* | *SEGMENT* | *APPROX. RECEPTOR DISTANCE* | *NOISE LEVELS ($L_{DN}$, dB) AT NEAREST SENSITIVE RECEPTORS* | | | | |
|---|---|---|---|---|---|---|---|
| | | | *BACK.* | *BACK. + PROJECT* | *CHANGE* | *CRITERIA* | *SIGNIFICANT?* |
| Mountain House Pkwy. | North of I-205 | 165 | 65.0 | 65.1 | 0.1 | + 1.5 dB | No |
| Mountain House Pkwy. | South of I-205 | 120 | 67.2 | 68.3 | 1.1 | + 1.5 dB | No |
| Hansen Rd. | South of Old Schulte Rd. | 225 | 47.4 | 47.4 | 0.0 | + 5.0 dB | No |
| Old Schulte Rd. | Hansen Rd. to Bud Lyons Wy. | 840 | 51.6 | 55.2 | 3.6 | + 5.0 dB | No |
| Old Schulte Rd. | West of S. Lammers Rd. | 600 | 57.1 | 57.5 | 0.4 | + 5.0 dB | No |
| S. Lammers Rd. | North of Old Schulte Rd. | 85 | 66.3 | 66.4 | 0.1 | + 1.5 dB | No |
| S. Lammers Rd. | South of Old Schulte Rd. | 100 | 66.4 | 66.6 | 0.2 | + 1.5 dB | No |
| S. Lammers Rd. | South of Western Pacific Wy. | 110 | 64.2 | 64.5 | 0.3 | + 3.0 dB | No |
| S. Lammers Rd. | South of Valpico Rd. | 115 | 55.9 | 56.0 | 0.1 | + 5.0 dB | No |

*SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS. 2021.*

***TABLE 3.11-9: CUMULATIVE AND CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS***

| *ROADWAY* | *SEGMENT* | *APPROX. RECEPTOR DISTANCE* | *NOISE LEVELS ($L_{DN}$, dB) AT NEAREST SENSITIVE RECEPTORS* | | | | |
|---|---|---|---|---|---|---|---|
| | | | *CUMULATIVE* | *CUMULATIVE + PROJECT* | *CHANGE* | *CRITERIA* | *SIGNIFICANT?* |
| Mountain House Pkwy. | North of I-205 | 165 | 67.3 | 67.4 | 0.1 | + 1.5 dB | No |
| Mountain House Pkwy. | South of I-205 | 120 | 71.4 | 71.5 | 0.2 | + 1.5 dB | No |
| Hansen Rd. | South of Old Schulte Rd. | 225 | 56.5 | 56.7 | 0.2 | + 5.0 dB | No |
| Old Schulte Rd. | Hansen Rd. to Bud Lyons Wy. | 840 | 55.2 | 56.4 | 1.1 | + 5.0 dB | No |
| Old Schulte Rd. | West of S. Lammers Rd. | 600 | 57.4 | 57.7 | 0.3 | + 5.0 dB | No |
| S. Lammers Rd. | North of Old Schulte Rd. | 85 | 71.1 | 71.2 | 0.0 | + 1.5 dB | No |
| S. Lammers Rd. | South of Old Schulte Rd. | 100 | 70.3 | 70.4 | 0.1 | + 1.5 dB | No |

| ROADWAY | SEGMENT | APPROX. RECEPTOR DISTANCE | NOISE LEVELS ($L_{DN}$, dB) AT NEAREST SENSITIVE RECEPTORS | | | | |
|---|---|---|---|---|---|---|---|
| | | | CUMULATIVE | CUMULATIVE + PROJECT | CHANGE | CRITERIA | SIGNIFICANT? |
| S. Lammers Rd. | South of Western Pacific Wy. | 110 | 69.7 | 69.7 | 0.1 | + 5.0 dB | No |
| S. Lammers Rd. | South of Valpico Rd. | 115 | 69.1 | 69.1 | 0.0 | + 5.0 dB | No |

*SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS. 2021.*

## Project-Generated Non-Transportation Noise Environment at Off-Site Receptors

The primary non-transportation noise sources associated with the proposed Project are on-site parking lot circulation and the proposed loading docks. In order to evaluate these noise sources at the nearest sensitive receptors, Saxelby Acoustics used the SoundPLAN noise prediction model to generate noise level predictions according to the assumptions outlined below.

The SoundPLAN noise prediction model was used to plot noise contours and to calculate noise levels at the sensitive receptors located around the Project site. Inputs to the SoundPLAN model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:1996 (Acoustics – Attenuation of sound during propagation outdoors).

It should be noted that sound power is a measure of the total acoustic energy emitted by a noise source and is irrespective of distance from the source. Sound power is input into the SoundPLAN model as a representation of the total acoustic energy emitted by a specific noise source. Sound power levels in this report are A-weighted decibel levels, noted as "dBA, PWL" per industry standards. The model then corrects for the many factors (i.e., distance, terrain shielding, atmospheric absorption, etc.) which affect sound propagation from the noise source to the receiver location.

### LOADING DOCK NOISE GENERATION

To determine typical noise levels associated with the proposed loading docks, noise level measurement data from a United Natural Foods, Inc. (UNFI) warehouse was used. The UNFI facility is an approximately 400,000 s.f. facility located in Rocklin, California and includes a large cold storage facility for distribution of groceries. The noise level measurements were conducted at a distance of 200 feet from the center of the loading dock and circulation area. Activities during the peak hour of loading dock activities included truck arrival/departures, truck idling, truck backing, air brake release, and operation of truck-mounted refrigeration units.

The results of the UNFI noise measurements indicate that a busy hour generated an average noise level of 61 dBA $L_{eq}$ at a distance of 200 feet from the center of the loading dock truck maneuvering lanes. This analysis assumes that the proposed loading docks would operate at this level of activity in a busy hour during either daytime (7:00 a.m. to 10:00 p.m.) or nighttime (10:00 p.m. to 7:00 a.m.). The data from the UNFI facility was scaled up to represent the larger proposed project. It should be

noted that the collected noise measurement data occurred during the week of Thanksgiving which is one of the busiest times of year for the business and included refrigeration trucks.

### PARKING LOT CIRCULATION

Based upon the Project traffic study, the peak hour trips for the proposed Project would be 276 autos and 125 tractor-trailers. Based upon noise measurements conducted of vehicle movements in parking lots, the sound exposure level (SEL) for a single passenger vehicle is 71 dBA at a distance of 50 feet while the SEL of a tractor-trailer is 85 dBA at the same distance.

Saxelby Acoustics used the SoundPLAN noise model to calculate noise levels at the nearest sensitive receptors. Input data included the loading dock and parking lot noise generation, as discussed above. Figure 3.11-2 shows the results of this analysis for the site layout in terms of the nighttime (10:00 p.m. to 7:00 a.m.) peak hour average ($L_{eq}$). Daytime (7:00 a.m. to 10:00 p.m.) noise levels are expected to be similar to the nighttime scenario. Figure 3.11-3 shows the results of this analysis in terms of the peak hour maximum noise levels ($L_{max}$). Due to the nature of loading dock operation and parking lot circulation, the maximum noise levels are the same for both daytime and nighttime.

## Construction Noise Environment

During the construction of the proposed Project, noise from construction activities would temporarily add to the noise environment in the Project vicinity. As shown in Table 3.11-10, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

***TABLE 3.11-10: CONSTRUCTION EQUIPMENT NOISE***

| *TYPE OF EQUIPMENT* | *MAXIMUM LEVEL, DB AT 50 FEET* |
|---|---|
| Auger Drill Rig | 84 |
| Backhoe | 78 |
| Compactor | 83 |
| Compressor (air) | 78 |
| Concrete Saw | 90 |
| Dozer | 82 |
| Dump Truck | 76 |
| Excavator | 81 |
| Generator | 81 |
| Jackhammer | 89 |
| Pneumatic Tools | 85 |

*SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.*

## Conclusions

### INCREASED TRAFFIC NOISE LEVELS AT EXISTING RECEPTORS

The City of Tracy guidelines specify criteria to determine the significance of traffic noise impacts. Where existing traffic noise levels are less than 60 dB $L_{dn}$, at the outdoor activity areas of noise-sensitive uses, a +5.0 dB $L_{dn}$ increase in roadway noise levels will be considered significant. According to Table 3.11-8 and Table 3.11-9, the maximum increase is traffic noise at the nearest sensitive receptor is predicted to be 3.6 dBA. At this location, the existing ambient noise level is predicted to be approximately 51.6 dBA $L_{dn}$. All other project increases are expected to be less than 1.5 dBA.

Therefore, impacts resulting at existing receptors from increased traffic noise would be considered ***less-than-significant***.

### OPERATIONAL NOISE LEVELS AT EXISTING RECEPTORS

Operational noise levels at the existing residential receptors to the west of the site resulting from the proposed Project are quantified and shown in Figures 3.11-2 and 3.11-3. Figure 3.11-2 shows the average ($L_{eq}$) Project noise contours and Figure 3.11-3 shows the maximum ($L_{max}$) Project noise contours.

Based upon Figure 3.11-2, the proposed Project would generate peak hour noise levels of up to 54 dBA $L_{eq}$ at the outdoor activity areas of adjacent residential uses. The adjacent residential uses would remain outside of the City of Tracy limits, so noise generated by the proposed Project at these locations would be subject to the San Joaquin County noise criteria. The predicted noise levels of up to 54 dBA $L_{eq}$ would exceed the San Joaquin County non-transportation noise limits of 50 dBA $L_{eq}$ during daytime (7:00 a.m. to 10:00 p.m.) hours and 45 dBA $L_{eq}$ during nighttime (10:00 p.m. to 7:00 a.m.) hours.

Based upon Figure 3.11-3, the proposed Project is predicted to generate maximum noise levels of approximately 68 dBA $L_{max}$ at the residential uses to the west of the Project site. This would comply with the San Joaquin County maximum noise level limits of 70 dBA $L_{max}$ during daytime hours but would exceed the County's 65 dBA $L_{max}$ standard during nighttime hours.

In order to reduce project-related noise levels, Saxelby Acoustics used the Sound PLAN noise model to evaluate the use of noise barriers for reducing project-related noise levels at the adjacent residential uses. Figure 3.11-4 shows the exterior noise levels in terms of the peak hour average ($L_{eq}$) noise level, with a 20-foot-tall acoustically absorbent screen wall located along the western boundary of the Project site. The resulting noise levels of up to 50 dBA $L_{eq}$ would comply with the County's 50 dBA $L_{eq}$ daytime standard but would still exceed the County's 45 dBA $L_{eq}$ nighttime noise standard. As such, a sound wall would not result in noise levels at or below the County's nighttime noise standard. Therefore, the County's exterior noise standards would still be exceeded and this would be a ***significant and unavoidable*** impact.

### CONSTRUCTION NOISE

During the construction phases of the proposed Project, noise from construction activities would add to the noise environment in the immediate Project vicinity. Based upon the Table 3.11-10 data, the proposed Project is predicted to generate construction noise levels of up to 90 dBA Lmax at a distance of 50 feet. The closest sensitive receptor to the Project site is approximately 1,300 feet from the center of the Project construction area. At this distance, construction noise would attenuate to approximately 62 dBA Lmax . Existing ambient noise levels as measured at Site LT-2 were measured to average 61 dBA Lmax in the vicinity of the nearest noise sensitive receptors. This increase of 1 dBA would be less than the 12 dBA test of significance for temporary construction noise impacts.

Compliance with the City's permissible hours of construction, as well as implementing the best management noise reduction techniques and practices (both outlined in Mitigation Measure 3.11-1), would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. Therefore, with implementation of Mitigation Measure 3.11-1, temporary construction noise impacts would be ***less than significant***.

MITIGATION MEASURE(S)

***Mitigation Measure 3.11-1:*** *To reduce potential construction noise impacts during Project construction, the following multi-part mitigation measure shall be implemented for the Project:*

- *All construction equipment powered by internal combustion engines shall be muffled and maintained.*
- *Quiet construction equipment, particularly air compressors, shall be selected whenever possible.*
- *All stationary noise-generating construction equipment such as generators or air compressors shall be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.*
- *Unnecessary idling of internal combustion engines shall be prohibited.*
- *The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.*
- *Construction shall be limited to 7:00 a.m. to 7:00 p.m. per General Plan Policy P4.*

*These requirements shall be noted on the Project improvement plans.*

## Impact 3.11-2: The proposed Project would not generate excessive groundborne vibration or groundborne noise levels. (Less than Significant)

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage.

The primary vibration-generating activities would be grading, utilities placement, and parking lot construction. Table 3.11-11 shows the typical vibration levels produced by construction equipment.

With the exception of vibratory compactors, the Table 3.11-11 data indicate that construction vibration levels anticipated for the proposed Project are less than the 0.2 in/sec threshold at a distance of 25 feet. Use of vibratory compactors within 26 feet of the adjacent buildings could cause vibrations in excess of 0.2 in/sec. Structures that could be impacted by construction-related vibrations, especially vibratory compactors/rollers, are located approximately 60 feet, or further, from the Project site. Therefore, this is a ***less-than-significant*** impact and no mitigation is required.

***TABLE 3.11-11: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT***

| *TYPE OF EQUIPMENT* | *P.P.V. AT 25 FEET (INCHES/SECOND)* | *P.P.V. AT 50 FEET (INCHES/SECOND)* | *P.P.V. AT 100 FEET (INCHES/SECOND)* |
|---|---|---|---|
| Large Bulldozer | 0.089 | 0.031 | 0.011 |
| Loaded Trucks | 0.076 | 0.027 | 0.010 |
| Small Bulldozer | 0.003 | 0.001 | 0.000 |
| Auger/drill Rigs | 0.089 | 0.031 | 0.011 |
| Jackhammer | 0.035 | 0.012 | 0.004 |
| Vibratory Hammer | 0.070 | 0.025 | 0.009 |
| Vibratory Compactor/roller | 0.210 (Less than 0.20 at 26 feet) | 0.074 | 0.026 |

*SOURCE: TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES. FEDERAL TRANSIT ADMINISTRATION. MAY 2006.*




# Tracy Costco Depot

City of Tracy, California

Figure 3.11-1

Noise Measurement Sites

**Legend**

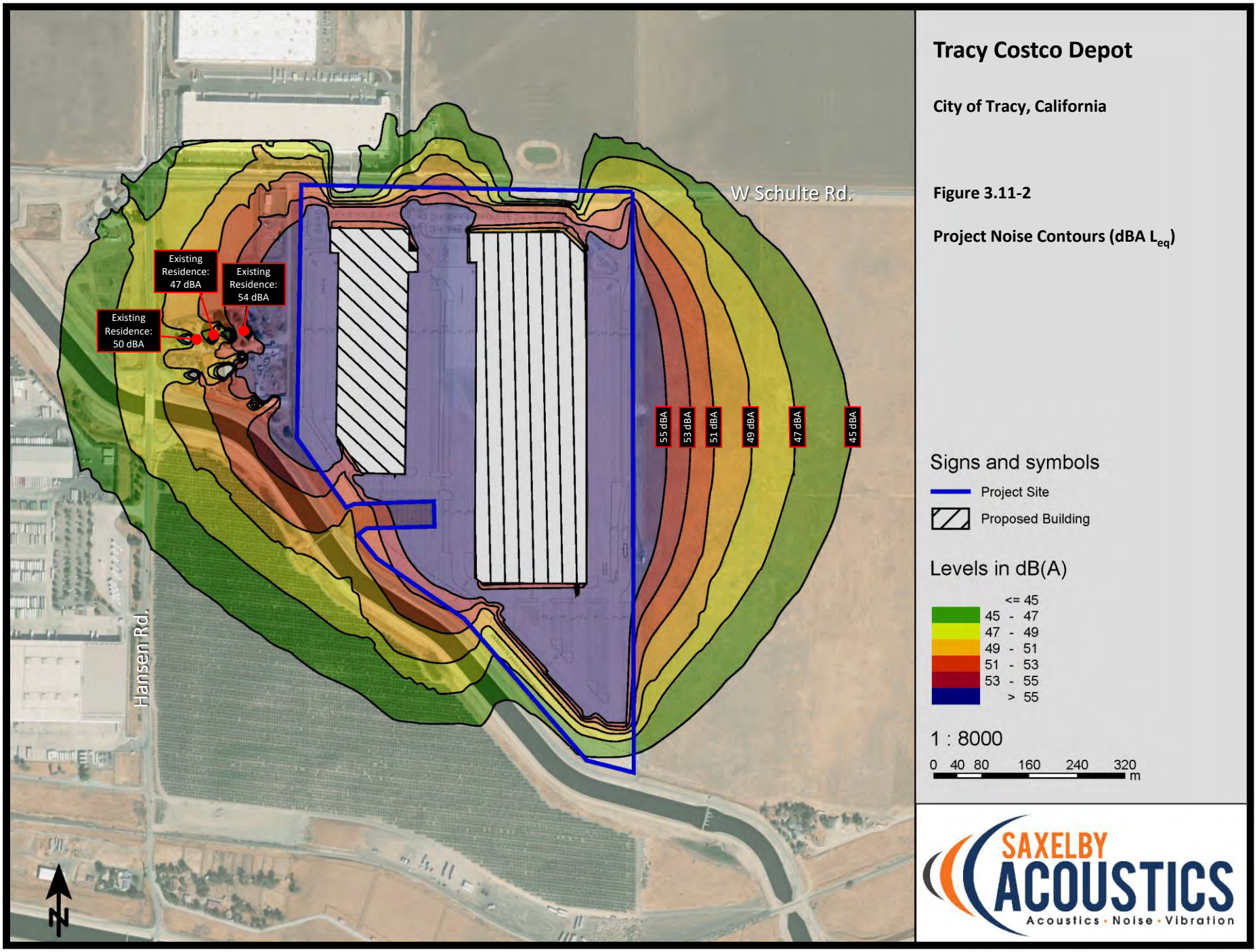
- Project Site
- Noise Measurement Site - Long Term
- Noise Measurement Site - Short Term

0 m 100 m 200 m 300 m

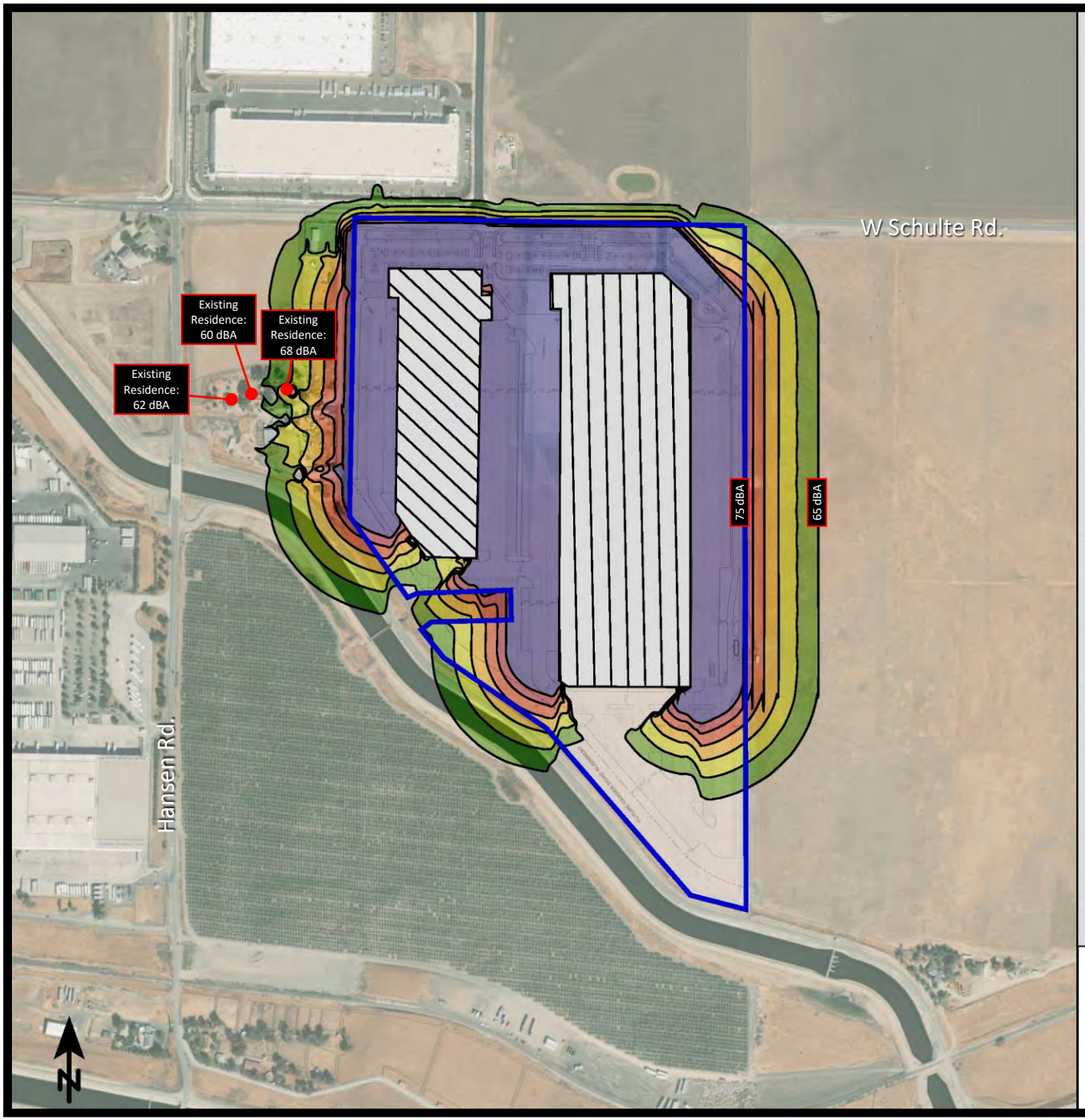
Projection: State Plane (California Zone 3) / NAD83 / meters
Rev. Date: 07/14/2021

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W Schulte Rd.
Hansen Rd.
Existing Residence: 47 dBA
Existing Residence: 54 dBA
Existing Residence: 50 dBA
55 dBA
53 dBA
51 dBA
49 dBA
47 dBA
45 dBA
N
Tracy Costco Depot
City of Tracy, California
Figure 3.11-2
Project Noise Contours (dBA $L_{eq}$)
Signs and symbols
Project Site
Proposed Building
Levels in dB(A)
<= 45
45 - 47
47 - 49
49 - 51
51 - 53
53 - 55
> 55
1 : 8000
0 40 80 160 240 320
m
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# Tracy Costco Depot

**City of Tracy, California**

**Figure 3.11-3**

**Project Noise Contours (dBA $L_{max}$)**

Signs and symbols

- Project Site
- Proposed Building

Levels in dB(A)

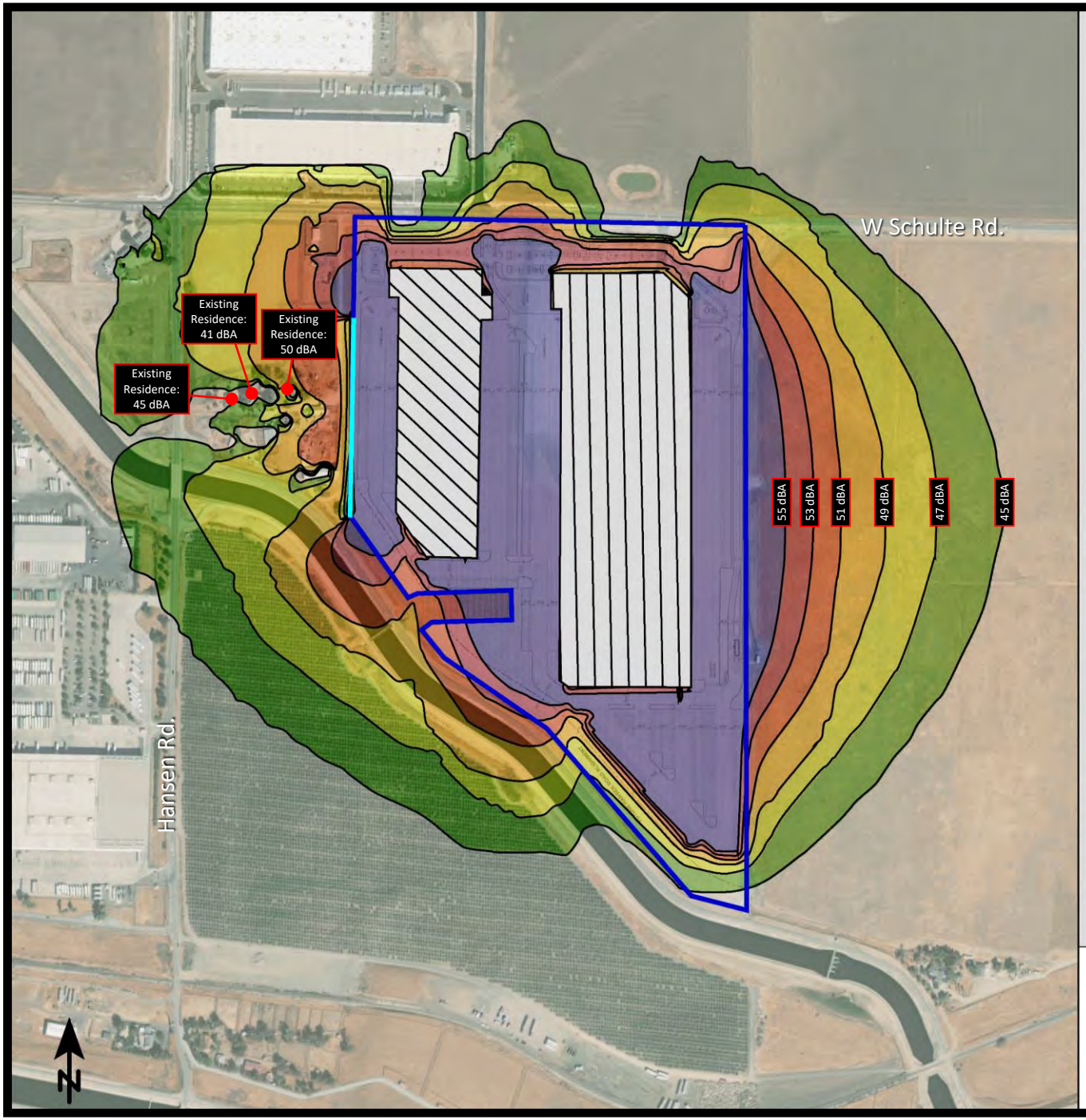
- <= 65
- 65 - 67
- 67 - 69
- 69 - 71
- 71 - 73
- 73 - 75
- > 75

1 : 8000

0 40 80 160 240 320 m

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# Tracy Costco Depot

**City of Tracy, California**

**Figure 3.11-4**

**Project Noise Contours with 20-Foot Wall (dBA $L_{eq}$)**

Signs and symbols

- Project Site
- 20-Foot Wall
- Proposed Building

Levels in dB(A)

- <= 45
- 45 - 47
- 47 - 49
- 49 - 51
- 51 - 53
- 53 - 55
- > 55

1 : 8000

0 40 80 160 240 320 m

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## Appendix A: Acoustical Terminology

| | |
|---|---|
| **Acoustics** | The science of sound. |
| **Ambient Noise** | The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study. |
| **ASTC** | Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic. |
| **Attenuation** | The reduction of an acoustic signal. |
| **A-Weighting** | A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response. |
| **Decibel or dB** | Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell. |
| **CNEL** | Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA. |
| **DNL** | See definition of Ldn. |
| **IIC** | Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic. |
| **Frequency** | The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz). |
| **Ldn** | Day/Night Average Sound Level. Similar to CNEL but with no evening weighting. |
| **Leq** | Equivalent or energy-averaged sound level. |
| **Lmax** | The highest root-mean-square (RMS) sound level measured over a given period of time. |
| **L(n)** | The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period. |
| **Loudness** | A subjective term for the sensation of the magnitude of sound. |
| **NIC** | Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation. |
| **NNIC** | Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation. |
| **Noise** | Unwanted sound. |
| **NRC** | Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption. |
| **RT60** | The time it takes reverberant sound to decay by 60 dB once the source has been removed. |
| **Sabin** | The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin. |
| **SEL** | Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event. |
| **SPC** | Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room. |
| **STC** | Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic. |
| **Threshold of Hearing** | The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing. |
| **Threshold of Pain** | Approximately 120 dB above the threshold of hearing. |
| **Impulsive** | Sound of short duration, usually less than one second, with an abrupt onset and rapid decay. |
| **Simple Tone** | Any sound which can be judged as audible as a single pitch or set of single pitches. |

# Appendix B: Continuous and Short-Term Ambient Noise Measurement Results

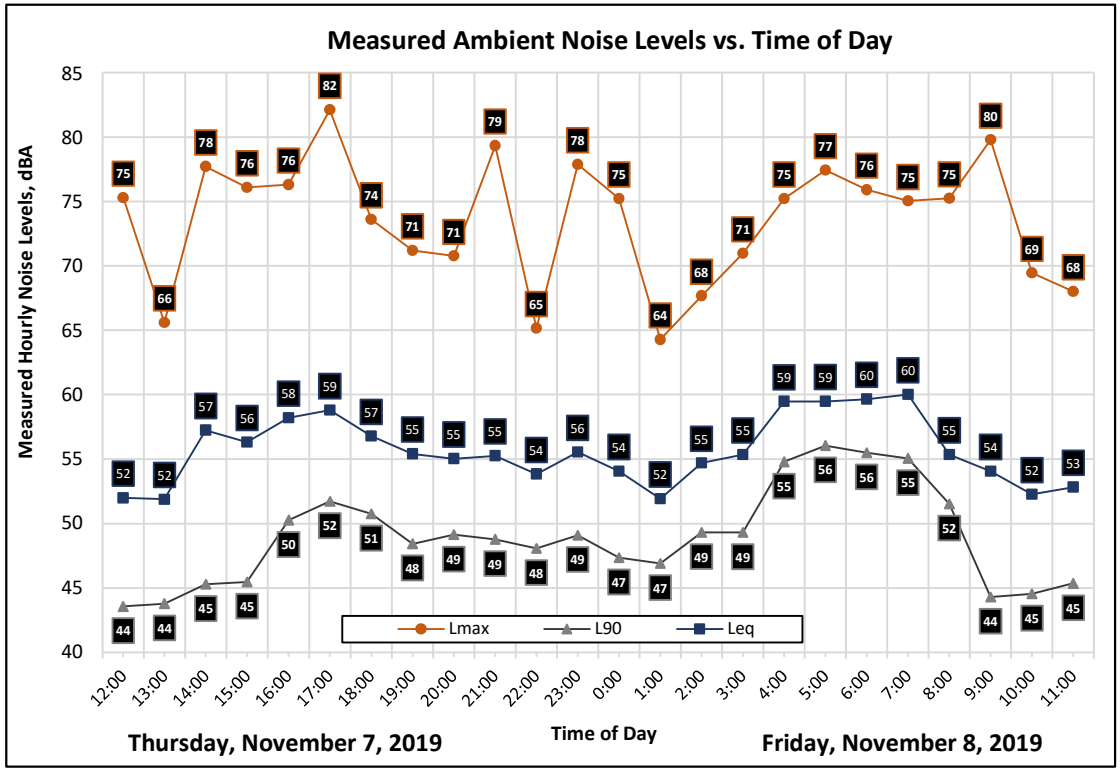


## Appendix B1: Continuous Noise Monitoring Results

**Site:** LT-1
**Project:** Tracy Costco Depot
**Meter:** LDL 820-1
**Location:** Western Project Boundary
**Calibrator:** CAL200
**Coordinates:** 37.7211602°, -121.5105462°

| Date | Time | Measured Level, dBA | | | |
|---|---|---|---|---|---|
| | | $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{90}$ |
| Thursday, November 7, 2019 | 12:00 | 52 | 75 | 48 | 44 |
| Thursday, November 7, 2019 | 13:00 | 52 | 66 | 49 | 44 |
| Thursday, November 7, 2019 | 14:00 | 57 | 78 | 51 | 45 |
| Thursday, November 7, 2019 | 15:00 | 56 | 76 | 53 | 45 |
| Thursday, November 7, 2019 | 16:00 | 58 | 76 | 56 | 50 |
| Thursday, November 7, 2019 | 17:00 | 59 | 82 | 56 | 52 |
| Thursday, November 7, 2019 | 18:00 | 57 | 74 | 56 | 51 |
| Thursday, November 7, 2019 | 19:00 | 55 | 71 | 54 | 48 |
| Thursday, November 7, 2019 | 20:00 | 55 | 71 | 53 | 49 |
| Thursday, November 7, 2019 | 21:00 | 55 | 79 | 52 | 49 |
| Thursday, November 7, 2019 | 22:00 | 54 | 65 | 52 | 48 |
| Thursday, November 7, 2019 | 23:00 | 56 | 78 | 53 | 49 |
| Friday, November 8, 2019 | 0:00 | 54 | 75 | 50 | 47 |
| Friday, November 8, 2019 | 1:00 | 52 | 64 | 50 | 47 |
| Friday, November 8, 2019 | 2:00 | 55 | 68 | 52 | 49 |
| Friday, November 8, 2019 | 3:00 | 55 | 71 | 54 | 49 |
| Friday, November 8, 2019 | 4:00 | 59 | 75 | 58 | 55 |
| Friday, November 8, 2019 | 5:00 | 59 | 77 | 59 | 56 |
| Friday, November 8, 2019 | 6:00 | 60 | 76 | 59 | 56 |
| Friday, November 8, 2019 | 7:00 | 60 | 75 | 58 | 55 |
| Friday, November 8, 2019 | 8:00 | 55 | 75 | 54 | 52 |
| Friday, November 8, 2019 | 9:00 | 54 | 80 | 49 | 44 |
| Friday, November 8, 2019 | 10:00 | 52 | 69 | 48 | 45 |
| Friday, November 8, 2019 | 11:00 | 53 | 68 | 50 | 45 |

| Statistics | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| Day Average | 56 | 74 | 52 | 48 |
| Night Average | 57 | 72 | 54 | 51 |
| Day Low | 52 | 66 | 48 | 44 |
| Day High | 60 | 82 | 58 | 55 |
| Night Low | 52 | 64 | 50 | 47 |
| Night High | 60 | 78 | 59 | 56 |
| Ldn | 63 | Day % | | 59 |
| CNEL | 63 | Night % | | 41 |



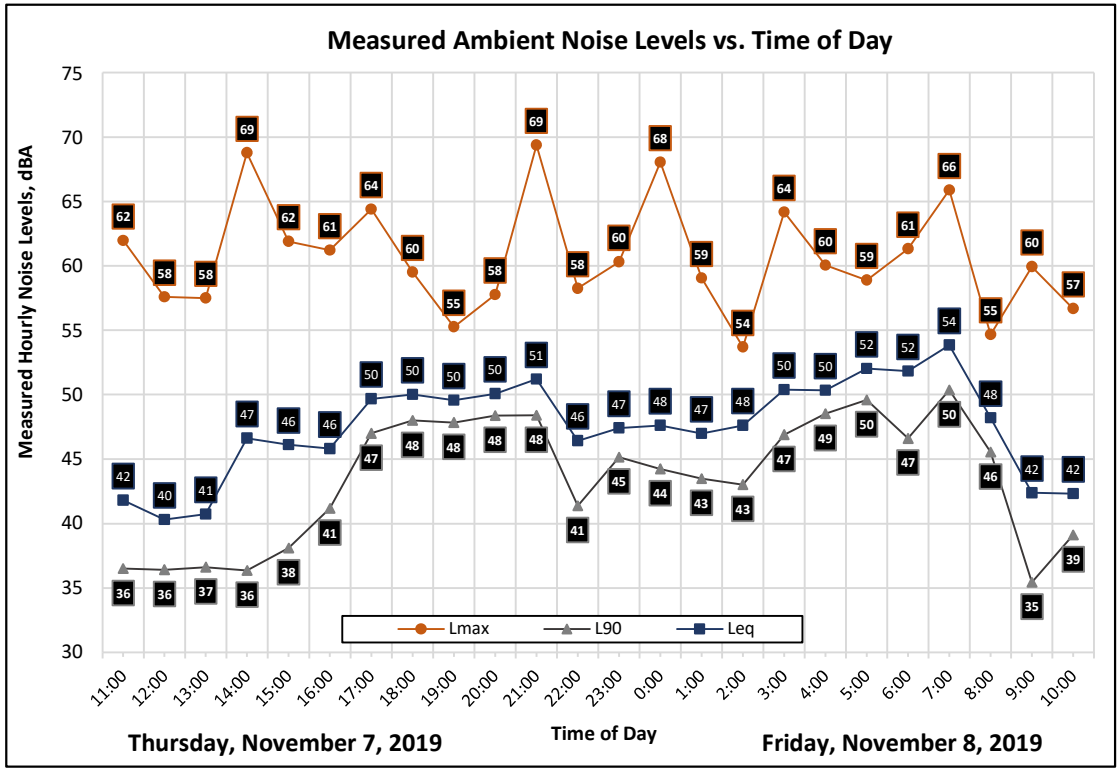



## Appendix B2: Continuous Noise Monitoring Results

**Site:** LT-2
**Project:** Tracy Costco Depot
**Location:** Southwestern Project Boundary
**Coordinates:** 37.7172131°, -121.5098727°
**Meter:** LDL 812-2
**Calibrator:** CAL200

| Date | Time | Measured Level, dBA | | | |
|---|---|---|---|---|---|
| | | $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{90}$ |
| Thursday, November 7, 2019 | 11:00 | 42 | 62 | 38 | 36 |
| Thursday, November 7, 2019 | 12:00 | 40 | 58 | 38 | 36 |
| Thursday, November 7, 2019 | 13:00 | 41 | 58 | 38 | 37 |
| Thursday, November 7, 2019 | 14:00 | 47 | 69 | 38 | 36 |
| Thursday, November 7, 2019 | 15:00 | 46 | 62 | 41 | 38 |
| Thursday, November 7, 2019 | 16:00 | 46 | 61 | 45 | 41 |
| Thursday, November 7, 2019 | 17:00 | 50 | 64 | 49 | 47 |
| Thursday, November 7, 2019 | 18:00 | 50 | 60 | 50 | 48 |
| Thursday, November 7, 2019 | 19:00 | 50 | 55 | 49 | 48 |
| Thursday, November 7, 2019 | 20:00 | 50 | 58 | 50 | 48 |
| Thursday, November 7, 2019 | 21:00 | 51 | 69 | 50 | 48 |
| Thursday, November 7, 2019 | 22:00 | 46 | 58 | 46 | 41 |
| Thursday, November 7, 2019 | 23:00 | 47 | 60 | 47 | 45 |
| Friday, November 8, 2019 | 0:00 | 48 | 68 | 46 | 44 |
| Friday, November 8, 2019 | 1:00 | 47 | 59 | 46 | 43 |
| Friday, November 8, 2019 | 2:00 | 48 | 54 | 47 | 43 |
| Friday, November 8, 2019 | 3:00 | 50 | 64 | 50 | 47 |
| Friday, November 8, 2019 | 4:00 | 50 | 60 | 50 | 49 |
| Friday, November 8, 2019 | 5:00 | 52 | 59 | 52 | 50 |
| Friday, November 8, 2019 | 6:00 | 52 | 61 | 51 | 47 |
| Friday, November 8, 2019 | 7:00 | 54 | 66 | 52 | 50 |
| Friday, November 8, 2019 | 8:00 | 48 | 55 | 47 | 46 |
| Friday, November 8, 2019 | 9:00 | 42 | 60 | 41 | 35 |
| Friday, November 8, 2019 | 10:00 | 42 | 57 | 41 | 39 |

| Statistics | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| Day Average | 48 | 61 | 44 | 42 |
| Night Average | 49 | 60 | 48 | 45 |
| Day Low | 40 | 55 | 38 | 35 |
| Day High | 54 | 69 | 52 | 50 |
| Night Low | 46 | 54 | 46 | 41 |
| Night High | 52 | 68 | 52 | 50 |
| Ldn | 56 | Day % | | 56 |
| CNEL | 56 | Night % | | 44 |



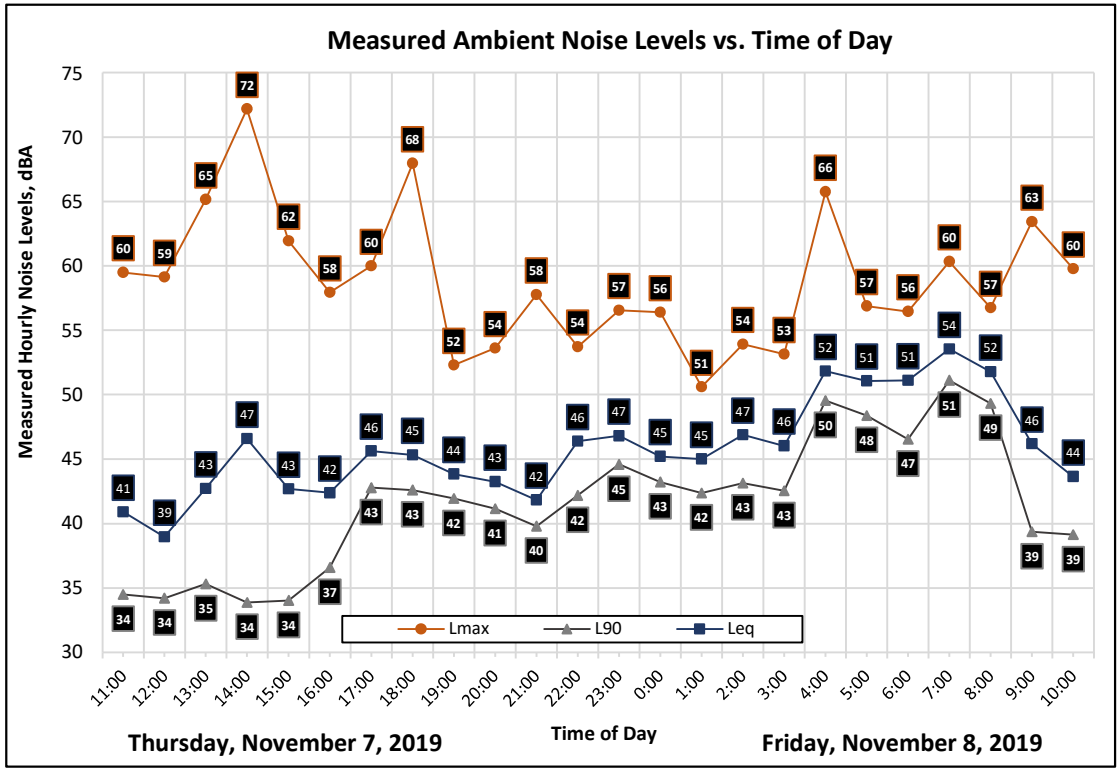


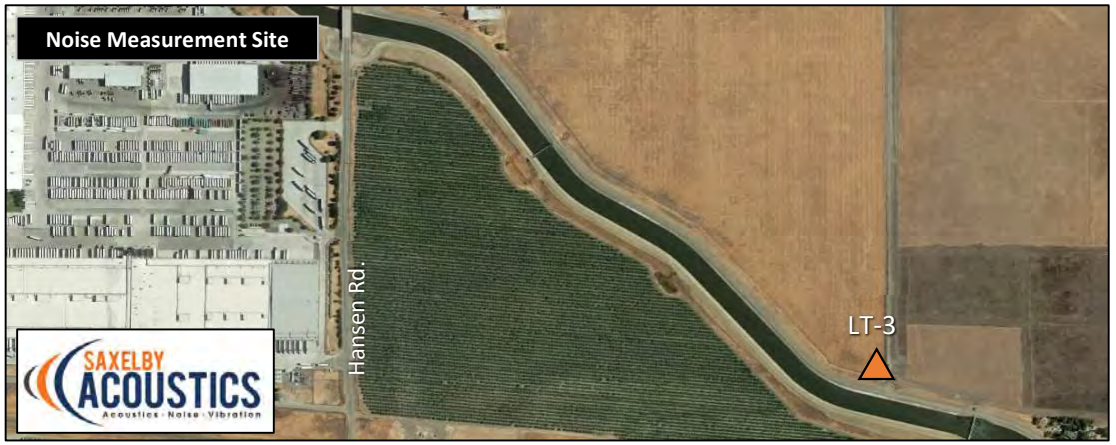

## Appendix B3: Continuous Noise Monitoring Results

**Site:** LT-3
**Project:** Tracy Costco Depot
**Location:** Southeastern Project Boundary
**Coordinates:** 37.7129822°, -121.5039416°
**Meter:** LDL 812-1
**Calibrator:** CAL200

| Date | Time | Measured Level, dBA | | | |
|---|---|---|---|---|---|
| | | $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{90}$ |
| Thursday, November 7, 2019 | 11:00 | 41 | 60 | 36 | 34 |
| Thursday, November 7, 2019 | 12:00 | 39 | 59 | 36 | 34 |
| Thursday, November 7, 2019 | 13:00 | 43 | 65 | 37 | 35 |
| Thursday, November 7, 2019 | 14:00 | 47 | 72 | 36 | 34 |
| Thursday, November 7, 2019 | 15:00 | 43 | 62 | 37 | 34 |
| Thursday, November 7, 2019 | 16:00 | 42 | 58 | 40 | 37 |
| Thursday, November 7, 2019 | 17:00 | 46 | 60 | 45 | 43 |
| Thursday, November 7, 2019 | 18:00 | 45 | 68 | 44 | 43 |
| Thursday, November 7, 2019 | 19:00 | 44 | 52 | 43 | 42 |
| Thursday, November 7, 2019 | 20:00 | 43 | 54 | 43 | 41 |
| Thursday, November 7, 2019 | 21:00 | 42 | 58 | 41 | 40 |
| Thursday, November 7, 2019 | 22:00 | 46 | 54 | 46 | 42 |
| Thursday, November 7, 2019 | 23:00 | 47 | 57 | 46 | 45 |
| Friday, November 8, 2019 | 0:00 | 45 | 56 | 45 | 43 |
| Friday, November 8, 2019 | 1:00 | 45 | 51 | 45 | 42 |
| Friday, November 8, 2019 | 2:00 | 47 | 54 | 47 | 43 |
| Friday, November 8, 2019 | 3:00 | 46 | 53 | 45 | 43 |
| Friday, November 8, 2019 | 4:00 | 52 | 66 | 51 | 50 |
| Friday, November 8, 2019 | 5:00 | 51 | 57 | 50 | 48 |
| Friday, November 8, 2019 | 6:00 | 51 | 56 | 51 | 47 |
| Friday, November 8, 2019 | 7:00 | 54 | 60 | 53 | 51 |
| Friday, November 8, 2019 | 8:00 | 52 | 57 | 51 | 49 |
| Friday, November 8, 2019 | 9:00 | 46 | 63 | 44 | 39 |
| Friday, November 8, 2019 | 10:00 | 44 | 60 | 41 | 39 |

| Statistics | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| Day Average | 47 | 61 | 42 | 40 |
| Night Average | 49 | 56 | 47 | 45 |
| Day Low | 39 | 52 | 36 | 34 |
| Day High | 54 | 72 | 53 | 51 |
| Night Low | 45 | 51 | 45 | 42 |
| Night High | 52 | 66 | 51 | 50 |
| Ldn | 55 | Day % | | 51 |
| CNEL | 55 | Night % | | 49 |



## Appendix B4 : Short Term Noise Monitoring Results

**Site:** ST-1
**Project:** Tracy Costco Depot
**Location:** Northwestern Boundary
**Coordinates:** 37.7217911°, -121.5109462°

**Meter:** LDL 831-1
**Calibrator:** CAL200

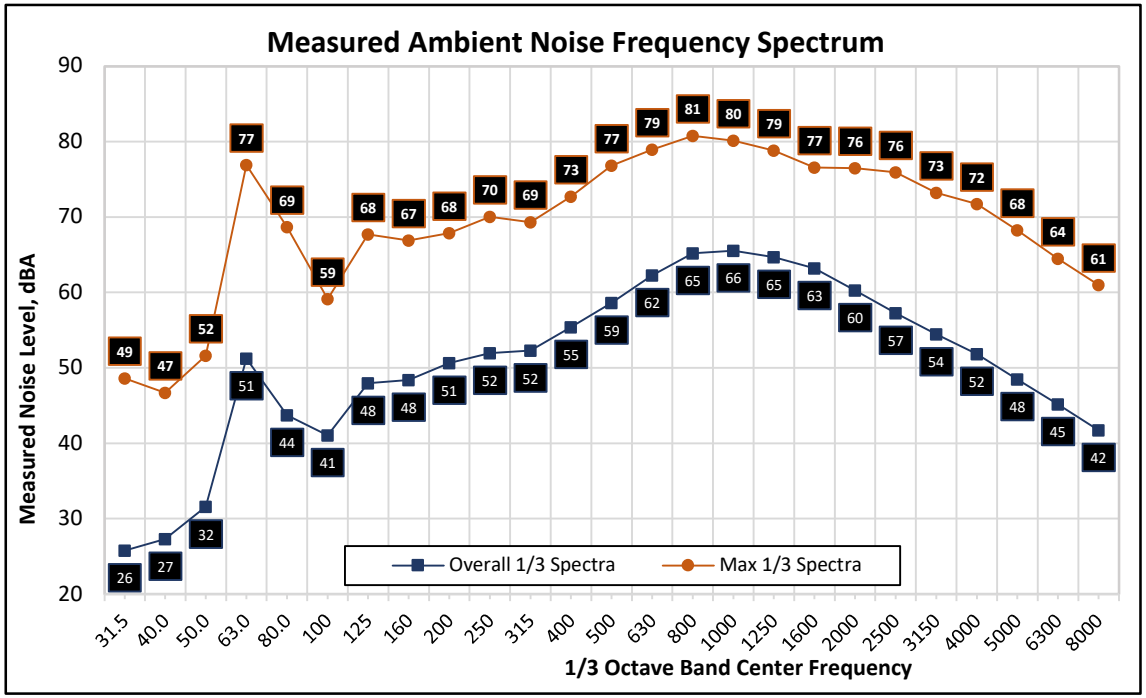
**Start:** 2019-11-07 12:18:26
**Stop:** 2019-11-07 12:28:26
**SLM:** Model 831
**Serial:** 3141

### Measurement Results, dBA

| | |
|---|---|
| **Duration:** | 0:10 |
| **$L_{eq}$:** | 72 |
| **$L_{max}$:** | 88 |
| **$L_{min}$:** | 39 |
| **$L_{50}$:** | 58 |
| **$L_{90}$:** | 41 |

### Notes

Primary noise source is traffic on W. Schulte Rd. Lmax from passing heavy trucks (RV, semi truck, fire truck).






# Appendix C: Traffic Noise Calculation Inputs and Results



## Appendix C-1
## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

**Project #:** 191010 Tracy Costco Depot
**Description:** Background
**Ldn/CNEL:** Ldn
**Hard/Soft:** Soft

| Segment | Roadway | Segment | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) | Contours (ft.) - No Offset 60 dBA | 65 dBA | 70 dBA | Level, dBA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Mountain House Pk | North of I-205 | 18,410 | 70 | 0 | 30 | 1.0% | 3.0% | 45 | 165 | 0 | 355 | 165 | 76 | 65.0 |
| 2 | Mountain House Pk | South of I-205 | 18,870 | 70 | 0 | 30 | 1.0% | 3.0% | 45 | 120 | 0 | 361 | 167 | 78 | 67.2 |
| 3 | Hansen Rd. | South of Old Schulte Rd. | 660 | 70 | 0 | 30 | 1.0% | 1.0% | 45 | 225 | 0 | 33 | 15 | 7 | 47.4 |
| 4 | Old Schulte Rd. | Handsen Rd to Bud Lyons Wy. | 4,630 | 70 | 0 | 30 | 1.0% | 10.0% | 50 | 840 | 0 | 233 | 108 | 50 | 51.6 |
| 5 | Old Schulte Rd. | West of S. Lammers Rd. | 9,840 | 70 | 0 | 30 | 1.0% | 10.0% | 50 | 600 | 0 | 385 | 179 | 83 | 57.1 |
| 6 | S. Lammers Rd. | North of Old Schulte Rd. | 10,400 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 85 | 0 | 224 | 104 | 48 | 66.3 |
| 7 | S. Lammers Rd. | South of Old Schulte Rd. | 13,460 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 100 | 0 | 266 | 124 | 57 | 66.4 |
| 8 | S. Lammers Rd. | South of Western Pacific Wy. | 9,370 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 110 | 0 | 209 | 97 | 45 | 64.2 |
| 9 | S. Lammers Rd. | South of Valpico Rd. | 1,490 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 115 | 0 | 61 | 28 | 13 | 55.9 |

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## Appendix C-2
## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

**Project #:** 191010 Tracy Costco Depot
**Description:** Background Plus Project
**Ldn/CNEL:** Ldn
**Hard/Soft:** Soft

| Segment | Roadway | Segment | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) | Contours (ft.) - No Offset 60 dBA | 65 dBA | 70 dBA | Level, dBA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Mountain House Pk | North of I-205 | 18,820 | 70 | 0 | 30 | 1.0% | 3.0% | 45 | 165 | 0 | 360 | 167 | 78 | 65.1 |
| 2 | Mountain House Pk | South of I-205 | 20,610 | 70 | 0 | 30 | 1.0% | 4.7% | 45 | 120 | 0 | 429 | 199 | 92 | 68.3 |
| 3 | Hansen Rd. | South of Old Schulte Rd. | 660 | 70 | 0 | 30 | 1.0% | 1.0% | 45 | 225 | 0 | 33 | 15 | 7 | 47.4 |
| 4 | Old Schulte Rd. | Handsen Rd to Bud Lyons Wy. | 6,100 | 70 | 0 | 30 | 1.0% | 22.5% | 50 | 840 | 0 | 402 | 186 | 87 | 55.2 |
| 5 | Old Schulte Rd. | West of S. Lammers Rd. | 10,690 | 70 | 0 | 30 | 1.0% | 10.0% | 50 | 600 | 0 | 406 | 189 | 88 | 57.5 |
| 6 | S. Lammers Rd. | North of Old Schulte Rd. | 10,570 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 85 | 0 | 227 | 105 | 49 | 66.4 |
| 7 | S. Lammers Rd. | South of Old Schulte Rd. | 14,140 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 100 | 0 | 275 | 128 | 59 | 66.6 |
| 8 | S. Lammers Rd. | South of Western Pacific Wy. | 10,050 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 110 | 0 | 219 | 102 | 47 | 64.5 |
| 9 | S. Lammers Rd. | South of Valpico Rd. | 1,530 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 115 | 0 | 62 | 29 | 13 | 56.0 |

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## Appendix C-3
## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

**Project #:** 191010 Tracy Costco Depot
**Description:** Cumulative
**Ldn/CNEL:** Ldn
**Hard/Soft:** Soft

| Segment | Roadway | Segment | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) | Contours (ft.) - No Offset 60 dBA | 65 dBA | 70 dBA | Level, dBA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Mountain House Pk | North of I-205 | 31,530 | 70 | 0 | 30 | 1.0% | 3.0% | 45 | 165 | 0 | 508 | 236 | 109 | 67.3 |
| 2 | Mountain House Pk | South of I-205 | 49,540 | 70 | 0 | 30 | 1.0% | 3.0% | 45 | 120 | 0 | 687 | 319 | 148 | 71.4 |
| 3 | Hansen Rd. | South of Old Schulte Rd. | 5,390 | 70 | 0 | 30 | 1.0% | 1.0% | 45 | 225 | 0 | 132 | 61 | 28 | 56.5 |
| 4 | Old Schulte Rd. | Handsen Rd to Bud Lyons Wy. | 10,580 | 70 | 0 | 30 | 1.0% | 10.0% | 50 | 840 | 0 | 404 | 187 | 87 | 55.2 |
| 5 | Old Schulte Rd. | West of S. Lammers Rd. | 10,620 | 70 | 0 | 30 | 1.0% | 10.0% | 50 | 600 | 0 | 405 | 188 | 87 | 57.4 |
| 6 | S. Lammers Rd. | North of Old Schulte Rd. | 31,480 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 85 | 0 | 469 | 218 | 101 | 71.1 |
| 7 | S. Lammers Rd. | South of Old Schulte Rd. | 33,600 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 100 | 0 | 490 | 227 | 106 | 70.3 |
| 8 | S. Lammers Rd. | South of Western Pacific Wy. | 33,100 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 110 | 0 | 485 | 225 | 104 | 69.7 |
| 9 | S. Lammers Rd. | South of Valpico Rd. | 30,840 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 115 | 0 | 463 | 215 | 100 | 69.1 |

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## Appendix C-4
## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

**Project #:** 191010 Tracy Costco Depot
**Description:** Cumulative Plus Project
**Ldn/CNEL:** Ldn
**Hard/Soft:** Soft

| Segment | Roadway | Segment | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) | Contours (ft.) - No Offset 60 dBA | 65 dBA | 70 dBA | Level, dBA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Mountain House Pk | North of I-205 | 31,940 | 70 | 0 | 30 | 1.0% | 3.0% | 45 | 165 | 0 | 512 | 238 | 110 | 67.4 |
| 2 | Mountain House Pk | South of I-205 | 50,700 | 70 | 0 | 30 | 1.0% | 3.1% | 45 | 120 | 0 | 703 | 326 | 151 | 71.5 |
| 3 | Hansen Rd. | South of Old Schulte Rd. | 5,580 | 70 | 0 | 30 | 1.0% | 1.0% | 45 | 225 | 0 | 135 | 63 | 29 | 56.7 |
| 4 | Old Schulte Rd. | Handsen Rd to Bud Lyons Wy. | 12,100 | 70 | 0 | 30 | 1.0% | 12.3% | 50 | 840 | 0 | 480 | 223 | 103 | 56.4 |
| 5 | Old Schulte Rd. | West of S. Lammers Rd. | 11,310 | 70 | 0 | 30 | 1.0% | 10.0% | 50 | 600 | 0 | 422 | 196 | 91 | 57.7 |
| 6 | S. Lammers Rd. | North of Old Schulte Rd. | 31,760 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 85 | 0 | 472 | 219 | 102 | 71.2 |
| 7 | S. Lammers Rd. | South of Old Schulte Rd. | 34,010 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 100 | 0 | 494 | 229 | 106 | 70.4 |
| 8 | S. Lammers Rd. | South of Western Pacific Wy. | 33,510 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 110 | 0 | 489 | 227 | 105 | 69.7 |
| 9 | S. Lammers Rd. | South of Valpico Rd. | 31,010 | 70 | 0 | 30 | 1.0% | 2.0% | 45 | 115 | 0 | 464 | 215 | 100 | 69.1 |

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# APPENDIX F

## Traffic Analysis

# MEMORANDUM

**From:** Frederik Venter, PE and Colin Ogilvie | Kimley-Horn and Associates

**To:** Robert Armijo, PE | City of Tracy

**Date:** September 12, 2022

**Re:** **Costco Direct Delivery Center Traffic Analysis**

---

## 1. Executive Summary

The proposed Costco Direct Delivery Center (Project) consists of two buildings totaling 1,782,317 square feet of warehouse space located south of Old Schulte Road.

The Project proposes three driveways along Old Schulte Road (two signals and one right-in, right-out).

The project will generate 401 AM and 87 PM peak hour trips. In the AM 30.8% and in the PM 21.7% will be trucks, respectively.

The following sections summarize the findings of this report:

*Traffic Review*

**VMT Analysis**

The proposed Costco distribution warehouse project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.4 VMT per Employee. The evaluation tool estimates that the Project would generate 24.8 VMT per Employee, and the Project exceeds the threshold by 164%.

**TDM Program**

This program recommends TDM measures that would individually reduce the Project's VMT and trips with the goal of obtaining a feasible maximum of 15% VMT reduction. **Table 1** lists the toolbox of potential TDM measures that could partially mitigate the Project's VMT impact. Maximum TDM reductions are provided for each TDM element. The applicant will select specific TDM measures in consultation with the City to mitigate the VMT impact.

This TDM program aims to achieve a feasible maximum of 15% VMT reduction, with the opportunity for 13% VMT reduction coming from the VMT Banking Fee Program as discussed after this section.

For the TDM program, the following TDM measures are being proposed:

1. Commuting Strategies– 1%
    a. Emergency Ride Home (ERH) Program: The Project will provide an occansional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available.
2. Shared Mobility Strategies – 1%
    a. Designated Parking for Car Share Vehicles: The Project will provide preferential parking in convient locations in terms of free or reduced parking fees, priority parking, or reserved parking for commuters who carpool, vanpool, ride-share, or use alternatively fueled vehicles.

**VMT Banking Fees**

The City of Tracy VMT Banking Fee Program is a programmatic approach to respond to the need for feasible VMT mitigation programs. Programmatic approaches that rely on collectively funding larger projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The VMT Banking Fee Program calculates the cost per VMT reduction as $633.11. Therefore, to achieve a the 13% reduction needed after implementation of the TDM program, the project would be responsible to pay $510,286.66. This is calculated as 13% being equivalent to a 3.224 VMT per employee reduction. Since there are 250 employees and each employee needs to reduce by 3.224 VMT at a cost of $633.11 per VMT the calculation is as follows:

*VMT Banking Fee = 250 employees x 3.224 VMT per employee x $633.11 per VMT = $510,286.66*

The VMT banking fee calculation has been provided in **Table 2**. In case that the VMT Banking Fee Program is not in place, the TDM program will need to achieve the full 15% reduction.

## Table 1 – TDM Measures

| Transportation Demand Management Measure | Description | Max VMT Reduction | Applicant Preferred Measure | VMT Reduction Applied |
|---|---|---|---|---|
| **Parking Strategies** | | | | |
| Reduce Parking Supply | Reduce the number of available parking spots provided to employees. | 1% | | 0% |
| Unbundle Parking | Remove free parking at the site, and charge employees for parking. The higher the cost of parking, the higher the reduction. | 1% | | 0% |
| Parking Cash-out | Provide employees a choice of forgoing current parking for a cash payment to be determined by the employer. The higher the cash payment and eligible employees, the higher the reduction. | 2% | | 0% |
| **Transit Strategies** | | | | |
| Transit Stops | Coordinate with local transit agency to provide bus stop near the site. Real time transportation information displays support on-the-go decision making to support sustainable trip making. | 1% | | 0% |
| Implement Neighborhood Shuttle | Implement project-operated or project-sponsored neighborhood shuttle serving residents, employees, and visitors of the project site | 2% | | 0% |
| Transit Subsidies | Involves the subsidization of transit fare for residents and employees of the project site. This strategy assumes transit service is already present in the project area.<br>Pays for employees to use local transit. This could either be a discounted ticket or a full-reimbursed transit ticket. | 2% | | 0% |
| **Communication & Information Strategies** | | | | |
| Travel Behavior Change Program | Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a web site that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. DIBS | 1% | | 0% |
| Promotions & Marketing | Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program. DIBS | 1% | | 0% |
| **Commuting Strategies** | | | | |
| Employer Sponsored Vanpool or Shuttle | Implementation of employer-sponsored employee vanpool or shuttle providing new opportunities for access to connect employees to the project site. | 2% | | 0% |
| Emergency Ride Home (ERH) Program | Provide an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. DIBS | 1% | x | 1% |
| Telecommuting Alternative work schedule | Four-Ten work schedule results in 20% weekly VMT reduction, 10% trip reduction equals 15% VMT reduction | 7% | | 0% |
| On-site Childcare | Provide on-site childcare to remove the need to drive a child to daycare at a separate location. | 1% | | 0% |
| **Shared Mobility Strategies** | | | | |
| Ride Share Program | Increase vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading | 2% | | 0% |

## Table 1 – TDM Measures

| Transportation Demand Management Measure | Description | Max VMT Reduction | Applicant Preferred Measure | VMT Reduction Applied |
|---|---|---|---|---|
| | and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Need a point person for the business on-site | | | |
| Employee/Employer Car Share | Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third-party vendor to extend membership-based service to an area, or implementing a project-specific fleet that supports the residents and employees on -site. | 1% | | 0% |
| | Provide an on-site car vehicle for employees to use for short trips. This allows for employees to run errands or travel for lunch. | 1% | | 0% |
| Designated Parking Spaces for Car Share Vehicles | Reserved car share spaces closer to the building entrance. | 1% | x | 1% |
| **Bicycle Infrastructure Strategies** | | | | |
| Bike Share Program | Participate in a bike share program/On site bike share program | 1% | | 0% |
| Implement/Improve On-street Bicycle Facility | Implement or provides funding for improvements to corridors and crossings for bike networks identified within a one-half mile buffer area of the project boundary, to support safe and comfortable bicycle travel. | 1% | | 0% |
| Include Bike Parking Per City Code | Implement short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations | 1% | | 0% |
| Include Secure Bike Parking and Showers | Implement additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel. | 1% | | 0% |
| Bicycle Repair Station / Services | On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation. | 1% | | 0% |
| **Neighborhood Enhancement Strategies** | | | | |
| Traffic Calming Improvements | Implement traffic calming improvements on streets and intersections throughout and around the project site. | 1% | | 0% |
| Pedestrian Network Improvements | Implement pedestrian network improvements throughout and around the project site that encourages people to walk. | 2% | | 0% |
| **Miscellaneous Strategies** | | | | |
| Virtual Care Strategies for Hospitals | Implement options for virtual care for health services for hospitals. | 2% | | 0% |
| On-Site Affordable Housing | Provide a percentage of on-site affordable housing for employees that is less than 100%. | 1% | | 0% |
| Job Creation Land Use (e.g. Office) | Provide offices or other job creation land use. Applies to housing projects. | 3% | | 0% |

**Table 2 – VMT Banking Fees Calculations**

| | |
|---|---|
| Project Building Area (ksf) | 1,745.1 |
| Employees per ksf | |
| Project Employees | 250 |
| Project VMT/EMP | 24.8 |
| Project Total Employee VMT | 6,200.0 |
| Project VMT/EMP Difference | 164% |
| TDM % | 2% |
| Banking Fee % | 13% |
| Project Total Employee VMT Reduction for Fee Calculation | 806.0 |
| Project Total Employee VMT/EMP Reduction for Fee Calculation | 3.224 |
| **Banking Fee $** | **$ 510,286.66** |

**Background Plus Project**

Deficiencies in LOS operations, exacerbated or caused by the project, will either be fully or partially eliminated by implementing the following improvements for Background conditions. Background conditions include Existing plus approved project traffic on the study road network. All improvements listed were also identified in the Cordes Phase 2nd Consistency Analysis (June 2020) except for Intersection #11 which is triggered by the Costco project.

- Intersection #1 - International Parkway & I-205 Westbound Ramps (AM Peak Hour)
  - Restripe westbound off-ramp to provide two left-turn lanes and one shared through/right lane and optimize signal timings per Cordes Ranch Specific Plan Final EIR TRANS-1 mitigation measure.
  - AM intersection operations improve from an LOS F to a LOS A.
- Intersection #3 - International Parkway & Old Schulte Road (AM and PM Peak Hours)
  - Per the *Final Traffic Operations Analysis Report (FTOAR) For the Interstate 580/International Parkway/Patterson Pass Road Interchange in Tracy, CA*, a diverging diamond interchange should be constructed at Intersections #4 & #5. The FTOAR recommended an additional northbound right turn at Intersection #3 and to restripe the existing eastbound outside shared through/right lane to be a dedicated eastbound right turn.
  - Refer to the FTOAR for more information regarding LOS improvements.
- Intersection #4 - International Parkway & I-580 Westbound Ramps (AM and PM Peak Hours)
  - A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term.
  - Refer to the FTOAR for more information regarding LOS improvements.
- Intersection #5 - International Parkway & I-580 Eastbound Ramps (AM and PM Peak Hours)

  - A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term.
  - Refer to the FTOAR for more information regarding LOS improvements.
- Intersection #6 - Hansen Road & Old Schulte Road (AM Peak Hour)
  - Add one additional westbound and eastbound through lane at the intersection to establish a 4-lane facility. Old Schulte Road will remain a 2-lane facility over the Delta-Mendota Canal Bridge.
  - AM intersection operations improve from LOS E to LOS C.
- Intersection #11 – Lammers Road & Old Schulte Road (AM Peak Hour)
  - Provide an overlap phase for the eastbound right turn.
  - AM intersection operations improve from LOS E to LOS D.
- Intersection #12 - Lammers Road & Western Pacific Way (AM Peak Hour)
  - Signalize and construct a northbound right-turn and southbound left-turn lanes plus the median of the future widening.
  - AM intersection operations improve from LOS F to LOS C.
- Intersection #13 - Lammers Road & Valpico Road (AM Peak Hour)
  - Signalize intersection and construct a southbound left-turn lane. It is anticipated that widening to a four-lane roadway will occur from Old Schulte Road to Valpico Road with subsequent intersection improvements.
  - AM intersection operations improve from LOS F to LOS C
- The project shall, at a minimum, provide emergency access to the future Hansen Road. It is anticipated that the property immediately west of the Project site (APN 209-23-025) may develop in the near future and that Hansen Road will be extended to Old Schulte Road.

Table 3 provides a summary of improvements as well as the Costco Obligations for the Background Plus Project Conditions.

**Cumulative Plus Project**

No additional improvements have been identified for Cumulative Conditions, The Project will, however, pay the City TIF fees.

## Table 3 – Costco Obligations (Background Plus Project Conditions)

| Costco Intersection # | Intersection /Location | Peak Hour | Background Plus Project Conditions | | |
|---|---|---|---|---|---|
| | | | Improvement | Recommended Costco Improvement? | Costco Project Obligation |
| 1 | International Pkwy & I-205 WB Ramps | AM | Restripe westbound off-ramp to provide two left-turn lanes and one shared through/right lane and optimize signal timings per Cordes Ranch Specific Plan Final EIR TRANS-1 mitigation measure. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco shall pay a fair share contribution towards improvements. |
| 3 | International Pkwy & Old Schulte Rd | AM & PM | Per the *Final Traffic Operations Analysis Report (FTOAR) For the Interstate 580/International Parkway/Patterson Pass Road Interchange in Tracy, CA*, a diverging diamond interchange should be constructed at Intersections #4 & #5. The FTOAR recommended an additional northbound right turn at Intersection #3 and to restripe the existing eastbound outside shared through/right lane to be a dedicated eastbound right turn. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco shall pay a fair share contribution towards improvements. |
| 4 | International Pkwy & I-580 WB | AM & PM | A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term. | Impact Fees | Pay TIF |
| 5 | International Pkwy & I-580 EB | AM & PM | A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term. | Impact Fees | Pay TIF |
| 6[1] | Hansen Road & Old Schulte Rd | AM | Add one additional westbound and eastbound through lane at the intersection to establish a 4-lane facility. Old Schulte Road will remain a 2-lane facility over the Delta-Mendota Canal Bridge. | Y | Costco to implement |
| 11 | Lammers Rd & Old Schulte Rd | AM | Provide an overlap phase for the eastbound right turn. | Y | Costco to implement |
| 12[1] | Lammers Rd & Western Pacific Way | AM | Signalize and construct a northbound right-turn and southbound left-turn lanes plus the median of the future widening. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco may pay a fair share contribution towards improvements. |
| 13 | Lammers Rd & Valpico Rd | AM | Signalize intersection and construct a southbound left-turn lane. It is anticipated that widening to a four-lane roadway will occur from Old Schulte Road to Valpico Road with subsequent intersection improvements. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco may pay a fair share contribution towards improvements. |

Notes:

1. Costco will construct improvement if not already implemented by another development. This improvement is anticipated to be included in the City of Tracy Transportation Master Plan (TMP) Fee Program Update. If included, Costco could receive reimbursement for improvements within the fee program.
2. Kimley-Horn traffic study identified TIF, this is not reflected in the conditions.

*Engineering Review*

**Table 4** provides the summary of the engineering comments for the Project.

**Table 4 – Engineering Review Summary**

| Section | Recommendations/Comments |
|---|---|
| Driveway Access Review | • Driveway #1 - Revise striping to the following: 1 left turn and 1 through/right turn lane.<br>• Driveway #2 - Provide Stop (R1-1), Right Turn Only (R3-5R), and One Way (R6-1) signage.<br>• Driveway #3 - A left turn lane and a right turn pocket are needed for the signal.<br>• Emergency vehicle access(es) may be required off Hansen Road. |
| Internal Circulation Review | • Approximately 100 feet is provided between Old Schulte Road and the internal drive aisle. This is only enough space for 4 passenger car vehicles or 1 STAA and 1 passenger car vehicle per lane. Since this is the only location where a passenger car can perform a left turn out of the site, this is not adequate during the shift change peaks. To alleviate congestion at this point, it is recommended to provide an eastbound U-turn lane (that could potentially convert to a future left turn lane) at the Old Schulte Road and Project Driveway #3 signalized intersection.<br>• At Project Driveway #1, the northern internal crosswalk should be removed as this will conflict with vehicles entering and exiting the Project. This crossing should occur at the signal instead or at the southern internal crosswalk.<br>• Provide a three way stop at the Project Driveway #1 internal intersection with the inbound movement as the free movement.<br>• No project detail is known for the eastern adjacent parcel that will share Project Driveway #3. The cross access shown will be reviewed in the future, once a development application is submitted for the adjacent parcel.<br>• Provide clear signage and/or pavement markings for trucks entering Project Driveway #3 that designates security versus bypass lanes.<br>• Provide truck turning templates at reverse curve within Project Driveway #3. |
| Vehicle Turning Templates | • STAA trucks are unable to perform northbound right turn at Driveways #1. Design modifications to the proposed curb are required to allow STAA trucks to perform necessary movements to access the site.<br>• STAA trucks are unable to perform eastbound and northbound right turns at Driveways #3. Design modifications to the proposed curb are required to allow STAA trucks to perform necessary movements to access the site.<br>• A westbound left turn must be provided at Driveway #3 and it must accommodate a STAA truck turning template. |
| External Network Review | • Provide more detail on the transitions between existing conditions on both the east and west end of the Project limits.<br>• Provide the striping at the intersection of Old Schulte Road and Project Driveway #3. This approach must include a westbound left turn pocket that can accommodate a CA-STAA truck.<br>• Revise the signing and striping for the southbound movement at Old Schulte Road and Bud Lyons Way. Provide one left turn and one through/right lane.<br>• The Westbound right turn lane at the intersection of Old Schulte Road and Bud Lyons is existing and should be shown on the plan set.<br>• Provide eastbound shoulder stripe.<br>• Lengthen the westbound left turn lane at Project Driveway #1 to accommodate 375 feet of deceleration and 150 feet of storage.<br>• Emergency vehicles access(es) may be required off Hansen Road. In addition, the City typically requires all street frontage improvements to be constructed by the Project developer. |

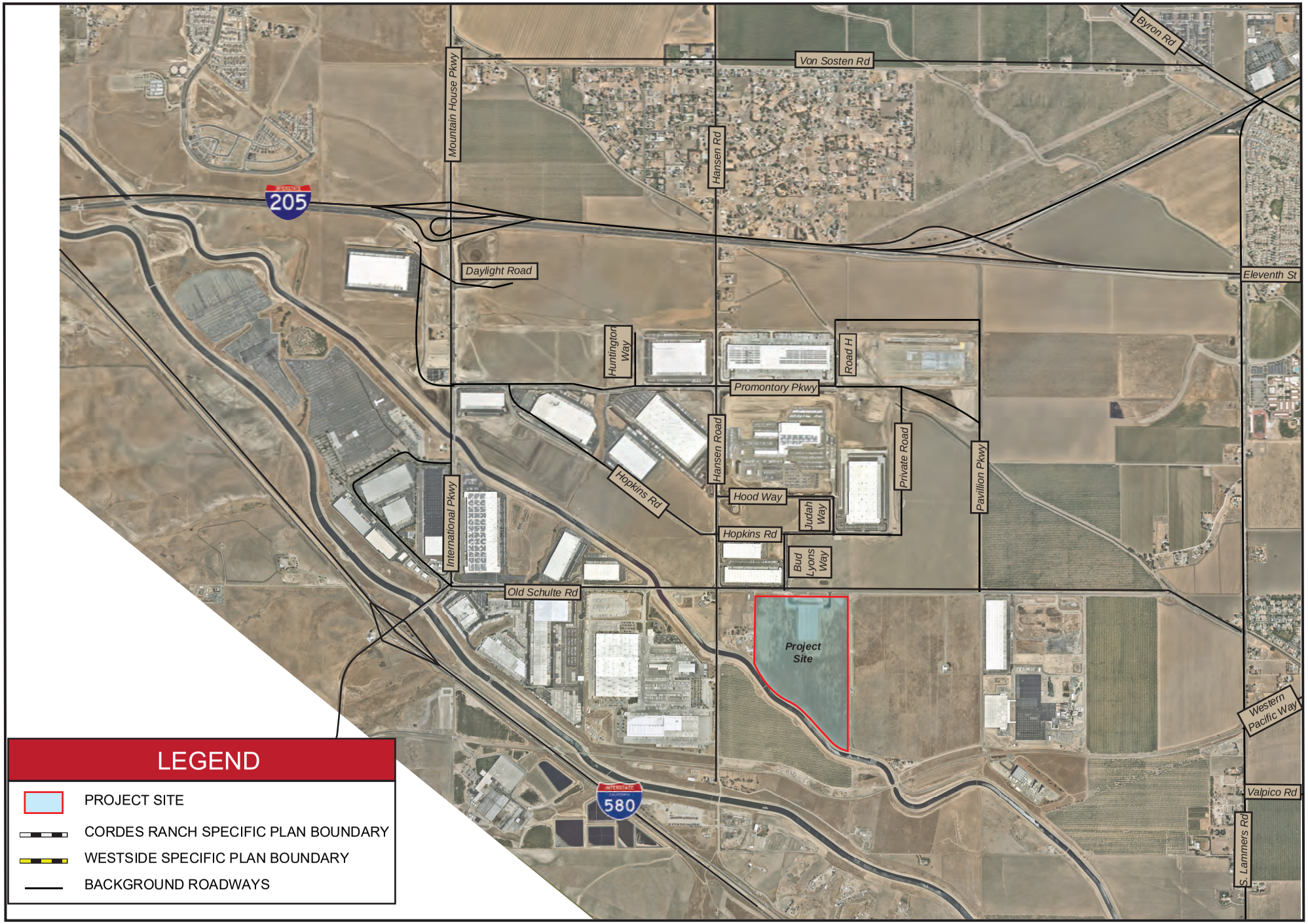
## 2. Introduction

This memorandum presents a traffic review of the Costco Direct Delivery Center (Project) located south of Old Schulte Road (West Schulte Road) and north of the proposed Hansen Road Extension in Tracy, California. The Project consists of two warehouse buildings:

- Building 1: 543,326 Square Feet
- Building 2: 1,201,727 Square Feet
- Total: 1,745,053 Square Feet

**Figure 1** provides a Project vicinity map. The Project is located on agricultural land in the City of Tracy Sphere of Influence. Adjacent development includes industrial uses in the County of San Joaquin and Cordes Ranch. Regional access to the site is via I-205 and I-580 via the Mountain House and Patterson Pass interchanges, respectively. Additional industrial development is also occurring to the east of the Project site, and the future Westside Specific Plan area is located to the northeast of the site. The Project will be annexed into the City.

The Project site plan is shown in **Figure 2**. The Project proposes three access points along Old Schulte Road (two signals and one right-in, right-out) and none along the future Hansen Road.




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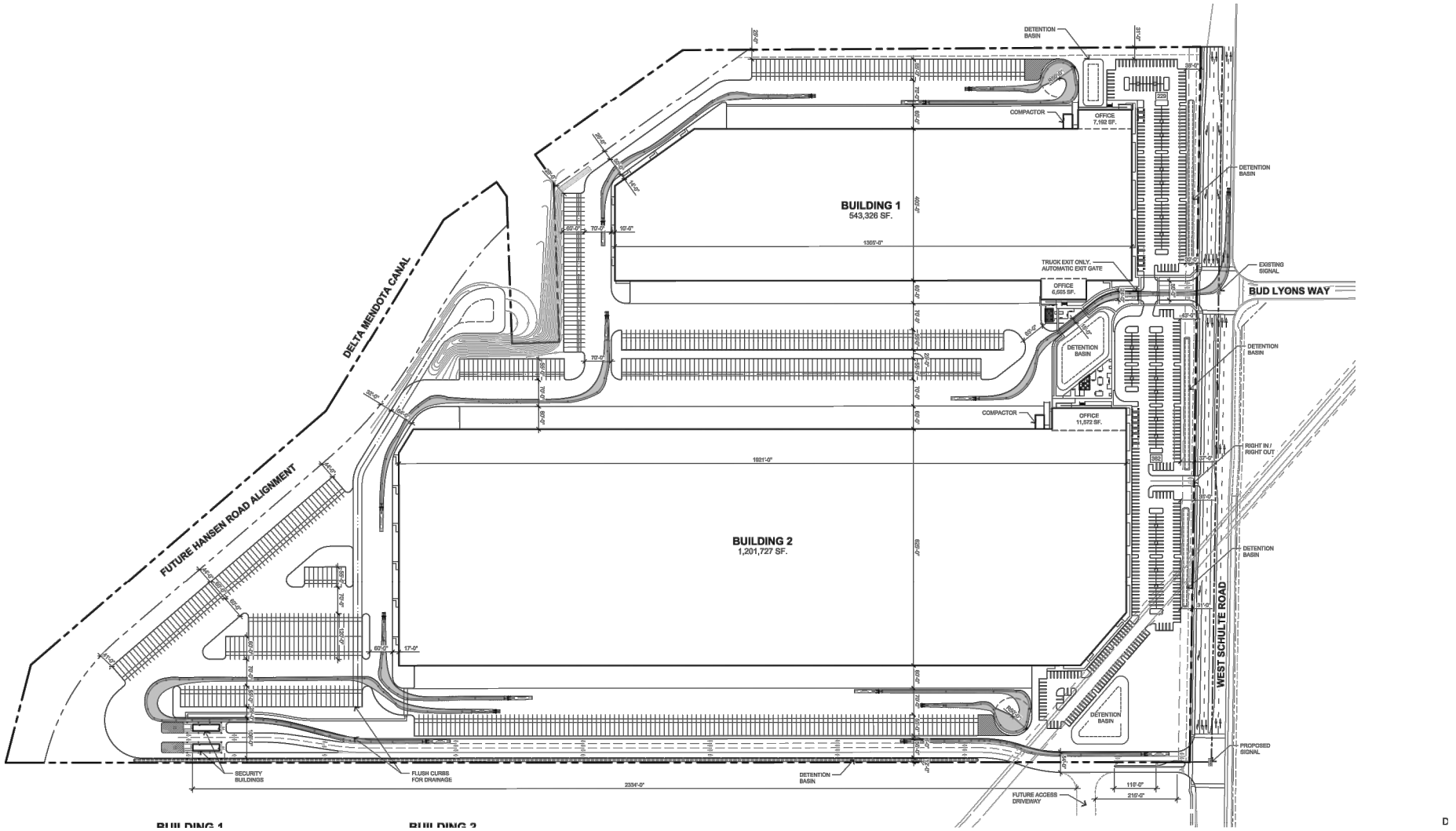
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Figure 1

Project Vicinity Map

Costco Depot Traffic Analysis

December 2021




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Figure 2

Project Site Plan

December 2021

Tracy Costco Direct Delivery Center

## 3. VMT Analysis

*VMT Calculations*

In 2018, the California state legislature, in approving Senate Bill (SB) 743, directed the Office of Planning and Research to develop guidelines for assessing transportation impacts based on vehicle miles traveled, or VMT. In response to SB 743, CEQA and its implementing guidelines (CEQA Guidelines) were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts. As described in CEQA Guidelines Section 15064.3(a):

*Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.*

This section of the Guidelines continues to set forth the criteria for analyzing transportation impacts. Currently, the City is studying their own thresholds, but none have been adopted.

In 2013, SB 743 was signed into law by California Governor Jerry Brown with a goal of reducing Greenhouse Gas (GHG) emissions, promoting the development of infill land use projects and multimodal transportation networks, and to promote a diversity of land uses within developments. One significant outcome resulting from this statue is the removal of automobile delay and congestion, commonly known as Level of Service (LOS), as a basis for determining significant transportation impacts under the California Environmental Quality Act (CEQA).

The Governor's Office of Planning and Research (OPR) has documented recommended analysis guidelines for SB 743 in its *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) which provides for Vehicle Miles Traveled (VMT) as the principal measure to replace LOS for determining significant transportation impacts. VMT is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. OPR selected VMT, in part, because jurisdictions are already familiar with this metric. VMT is already used in CEQA to study other potential impacts such as Greenhouse Gases (GHG), air quality, and energy impacts and is used in planning for regional Sustainable Communities Strategies (SCS).

VMT also allows for an analysis of a project's impact throughout the City rather than only in the vicinity of the proposed project, allowing for a better understanding of the full extent of a project's transportation-related impact. It should be noted that SB 743 still allows the City of Tracy to use LOS for other planning purposes outside the scope of CEQA.

Understanding how the local roadway network functions from an engineering standpoint is still critical to local land use agencies to monitor traffic flow, identify safety issues, establish fees and manage congestion. However, for the purposes of evaluating environmental impacts under CEQA, the new regulations have removed congestion from the range of required subjects analyzed within CEQA documents.

The proposed Costco Direct Delivery Center project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.4 VMT per Employee. The evaluation

tool estimates that the Project would generate 24.8 VMT per Employee, and the Project exceeds the threshold by 164%.

Per the City's VMT threshold and SB 743 guidelines, the Project causes a significant transportation impact. For projects that would cause a VMT impact, VMT reduction strategies such as introducing transportation demand management (TDM), or additional multimodal infrastructure can be implemented to reasonably mitigate the VMT impact which is estimated from research literature and case studies.

*Potential Mitigations*

The Project exceeds the City threshold by 164% and this reduction is not feasible. The California Air Pollution Control Officers Association (CAPCOA) indicates that up to 15% of VMT reduction can reasonably be achieved. The Project has the option to "purchase" additional VMT from the VMT banking fee above 15%. For the purpose of this report, a maximum of 15% is assumed.

**TDM Program**

This program recommends TDM measures that would individually reduce the Project's VMT and trips with the goal of obtaining a feasible maximum of 15% VMT reduction. **Table 5** lists the toolbox of potential TDM measures that could partially mitigate the Project's VMT impact. Maximum TDM reductions are provided for each TDM element. The applicant will select specific TDM measures in consultation with the City to partially mitigate the VMT impact.

This TDM program aims to achieve a feasible maximum of 15% VMT reduction, with the opportunity for 13% VMT reduction coming from the VMT Banking Fee Program as discussed after this section. In the case that the VMT Banking Fee is not in place, the TDM program will need to achieve the full 15% reduction.

For the TDM program, the following TDM measures are being proposed:

1. Commuting Strategies– 1%
    a. Emergency Ride Home (ERH) Program: The Project will provide an occansional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available.
2. Shared Mobility Strategies – 1%
    a. Designated Parking for Car Share Vehicles: The Project will provide preferential parking in convient locations in terms of free or reduced parking fees, priority parking, or reserved parking for commuters who carpool, vanpool, ride-share, or use alternatively fueled vehicles.

**VMT Banking Fees**

The City of Tracy VMT Banking Fee Program is a programmatic approach to respond to the need for feasible VMT mitigation programs. Programmatic approaches that rely on collectively funding larger projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation

improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The VMT Banking Fee Program calculates the cost per VMT reduction as $633.11. Therefore, to achieve a the 13% reduction needed after implementation of the TDM program, the project would be responsible to pay $510,286.66. This is calculated as 13% being equivalent to a 3.224 VMT per employee reduction. Since there are 250 employees and each employee pneeds to reduce by 3.224 VMT at a cost of $633.11 per VMT the calculation is as follows:

*VMT Banking Fee = 250 employees x 3.224 VMT per employee x $633.11 per VMT = $510,286.66*

The VMT banking fee calculation has been provided in **Table 6**.

**Table 5 – TDM Measures**

| Transportation Demand Management Measure | Description | Max VMT Reduction | Applicant Preferred Measure | VMT Reduction Applied |
|---|---|---|---|---|
| **Parking Strategies** | | | | |
| Reduce Parking Supply | Reduce the number of available parking spots provided to employees. | 1% | | 0% |
| Unbundle Parking | Remove free parking at the site, and charge employees for parking. The higher the cost of parking, the higher the reduction. | 1% | | 0% |
| Parking Cash-out | Provide employees a choice of forgoing current parking for a cash payment to be determined by the employer. The higher the cash payment and eligible employees, the higher the reduction. | 2% | | 0% |
| **Transit Strategies Strategies** | | | | |
| Transit Stops | Coordinate with local transit agency to provide bus stop near the site. Real time transportation information displays support on-the-go decision making to support sustainable trip making. | 1% | | 0% |
| Implement Neighborhood Shuttle | Implement project-operated or project-sponsored neighborhood shuttle serving residents, employees, and visitors of the project site | 2% | | 0% |
| Transit Subsidies | Involves the subsidization of transit fare for residents and employees of the project site. This strategy assumes transit service is already present in the project area.<br>Pays for employees to use local transit. This could either be a discounted ticket or a full-reimbursed transit ticket. | 2% | | 0% |
| **Communication & Information Strategies** | | | | |
| Travel Behavior Change Program | Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a web site that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. DIBS | 1% | | 0% |
| Promotions & Marketing | Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program. DIBS | 1% | | 0% |
| **Commuting Strategies** | | | | |
| Employer Sponsored Vanpool or Shuttle | Implementation of employer-sponsored employee vanpool or shuttle providing new opportunities for access to connect employees to the project site. | 2% | | 0% |

## Table 5 – TDM Measures

| Transportation Demand Management Measure | Description | Max VMT Reduction | Applicant Preferred Measure | VMT Reduction Applied |
|---|---|---|---|---|
| Emergency Ride Home (ERH) Program | Provide an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. DIBS | 1% | x | 1% |
| Telecommuting Alternative work schedule | Four-Ten work schedule results in 20% weekly VMT reduction, 10% trip reduction equals 15% VMT reduction | 7% | | 0% |
| On-site Childcare | Provide on-site childcare to remove the need to drive a child to daycare at a separate location. | 1% | | 0% |
| **Shared Mobility Strategies** | | | | |
| Ride Share Program | Increase vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Need a point person for the business on-site | 2% | | 0% |
| Employee/Employer Car Share | Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third-party vendor to extend membership-based service to an area, or implementing a project-specific fleet that supports the residents and employees on -site. | 1% | | 0% |
| | Provide an on-site car vehicle for employees to use for short trips. This allows for employees to run errands or travel for lunch. | 1% | | 0% |
| Designated Parking Spaces for Car Share Vehicles | Reserved car share spaces closer to the building entrance. | 1% | x | 1% |
| **Bicycle Infrastructure Strategies** | | | | |
| Bike Share Program | Participate in a bike share program/On site bike share program | 1% | | 0% |
| Implement/Improve On-street Bicycle Facility | Implement or provides funding for improvements to corridors and crossings for bike networks identified within a one-half mile buffer area of the project boundary, to support safe and comfortable bicycle travel. | 1% | | 0% |
| Include Bike Parking Per City Code | Implement short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations | 1% | | 0% |
| Include Secure Bike Parking and Showers | Implement additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel. | 1% | | 0% |
| Bicycle Repair Station / Services | On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation. | 1% | | 0% |
| **Neighborhood Enhancement Strategies** | | | | |
| Traffic Calming Improvements | Implement traffic calming improvements on streets and intersections throughout and around the project site. | 1% | | 0% |
| Pedestrian Network Improvements | Implement pedestrian network improvements throughout and around the project site that encourages people to walk. | 2% | | 0% |
| **Miscellaneous Strategies** | | | | |
| Virtual Care Strategies for Hospitals | Implement options for virtual care for health services for hospitals. | 2% | | 0% |
| On-Site Affordable Housing | Provide a percentage of on-site affordable housing for employees that is less than 100%. | 1% | | 0% |
| Job Creation Land Use (e.g. Office) | Provide offices or other job creation land use. Applies to housing projects. | 3% | | 0% |

**Table 6 – VMT Banking Fees Calculations**

| | |
|---|---|
| Project Building Area (ksf) | 1,745.1 |
| Employees per ksf | |
| Project Employees | 250 |
| Project VMT/EMP | 24.8 |
| Project Total Employee VMT | 6,200.0 |
| Project VMT/EMP Difference | 164% |
| TDM % | 2% |
| Banking Fee % | 13% |
| Project Total Employee VMT Reduction for Fee Calculation | 806.0 |
| Project Total Employee VMT/EMP Reduction for Fee Calculation | 3.224 |
| **Banking Fee $** | **$ 510,286.66** |

## 4. Analysis Methodology

*Study Intersections*

The following intersections were analyzed for this study:

1. International Pkwy & I-205 WB Ramps
2. International Pkwy & I-205 EB Ramps
3. International Pkwy & Old Schulte Rd
4. International Pkwy & I-580 WB Ramps
5. International Pkwy & I-580 EB Ramps
6. Hansen Rd & Old Schulte Rd
7. Bud Lyons Wy/Project Driveway #1 & Old Schulte Rd
8. Project Driveway #2 & Old Schulte Rd
9. Project Driveway #3 & Old Schulte Rd
10. Pavillion Pkwy & Old Schulte Rd
11. Lammers Rd & Old Schulte Rd
12. Lammers Rd & Western Pacific Wy
13. Lammers Rd & Valpico Rd

These intersections were selected based on the City threshold established in the City of Tracy Transportation Master Plan and the General Plan. The intersection analysis will not be used for CEQA purposes but only for conditions of approval for implementing engineering improvements.

*Study Conditions*

The following scenarios were analyzed to determine if the Project causes study intersections to degrade to an unacceptable level of service (LOS):

- **Background Conditions** – represents the following:
    - Existing traffic counts
        - May 2019 traffic counts

        - One supplemental count at Old Schulte Road and Bud Lyons Way was collected on November 19, 2020 from 5:00 AM to 8:00 AM and 3:00 PM to 6:00 PM while the COVID-19 pandemic and associated shelter in place restrictions were in effect. The industrial facilities near the count location were operational and counts were reviewed against pre-pandemic volumes and deemed acceptable to use for this study.
    - Plus Approved but unconstructed projects' traffic volumes
        - Cordes Ranch Scheme 170A Transportation Impact Analysis dated November 1, 2017
        - Cordes Ranch 2nd Consistency Analysis (Phase 1K) Traffic Study Memorandum dated June 30, 2020
- **Background Plus Project Conditions** – represents Background Conditions plus traffic generated by the proposed Project
- **Cumulative Conditions** – represents the following:
    - Future 2035 volumes derived from the City of Tracy Travel Demand Model, excluding the Project site traffic
    - Plus Project trips from the Cordes Ranch 2nd Consistency Analysis (Phase 1K) Traffic Study Memorandum dated June 30th, 2020
- **Cumulative Plus Project Conditions** – represents Cumulative Conditions along with traffic generated by the proposed Project

## 5. Background Conditions

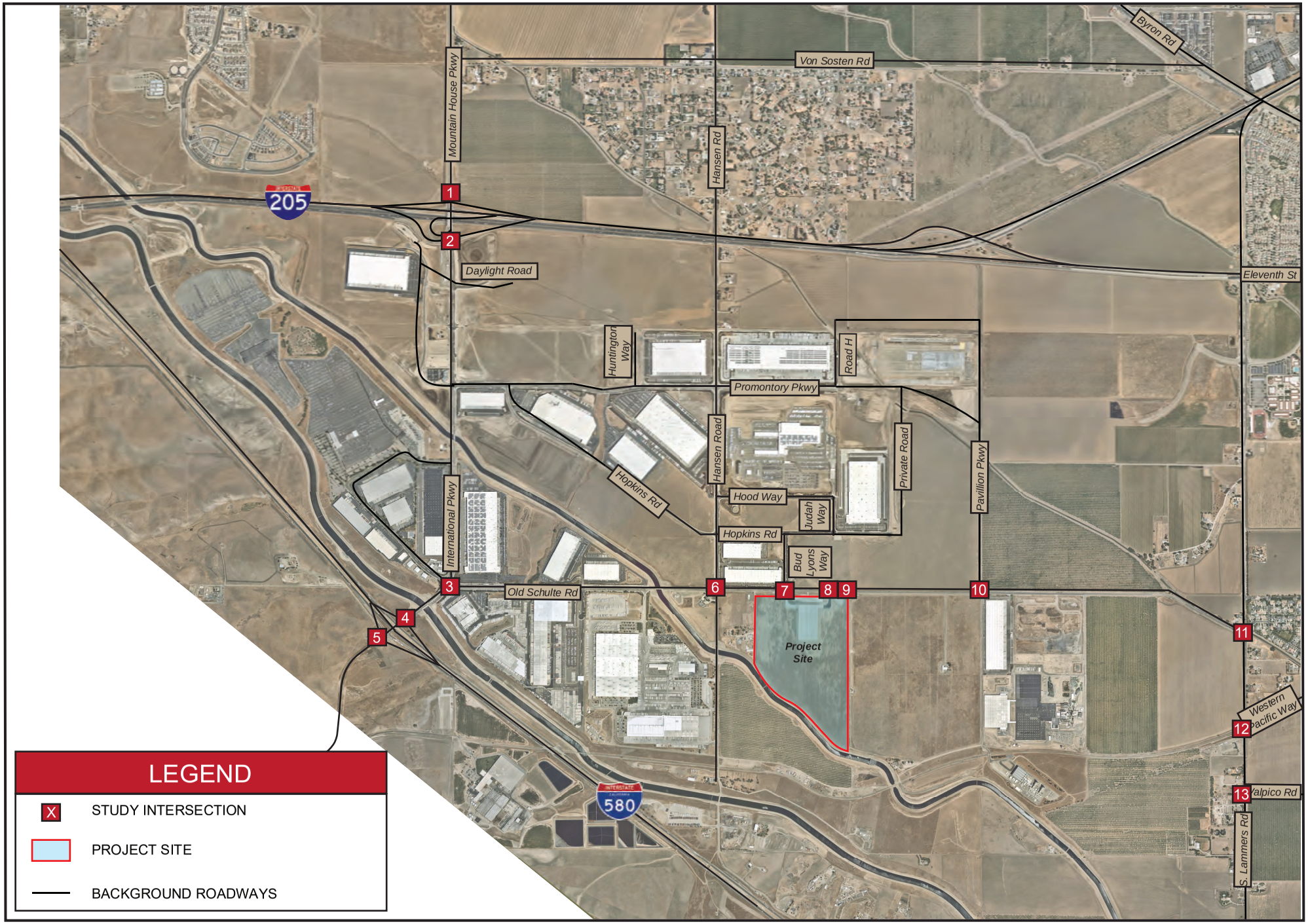
Background Conditions are based on Existing Conditions traffic volumes plus traffic generated by approved but unconstructed projects. Background Conditions also assumed an updated roadway network reflecting the Cordes Ranch Phase 1K street improvement plan.

The Background Conditions roadway network is shown in **Figure 3**. The Background Conditions lane geometry is shown in **Figure 4** and traffic volumes are shown in **Figure 5**.

Results of the Background Conditions level of service analysis are presented in **Table 7**. All intersections operated at acceptable levels of service except for the following:

- Intersection #1 - International Pkwy & I-205 WB Ramps (AM Peak Hour)
- Intersection #3 - International Pkwy & Old Schulte Rd (AM and PM Peak Hours)
- Intersection #4 - International Pkwy & I-580 WB Ramps (AM and PM Peak Hours)
- Intersection #5 - International Pkwy & I-580 EB Ramps (AM and PM Peak Hours)
- Intersection #6 - Hansen Rd & Old Schulte Rd (AM Peak Hour)
- Intersection #7 - Bud Lyons Wy/Project Driveway #1 & Old Schulte Rd (AM Peak Hour)
- Intersection #10 - Pavillion Pkwy & Old Schulte Rd (AM Peak Hour)
- Intersection #12 - Lammers Rd & Western Pacific Wy (AM Peak Hour)
- Intersection #13 - Lammers Rd & Valpico Rd (AM Peak Hour)

Analysis output sheets for Background Conditions are provided in the **Appendix**.




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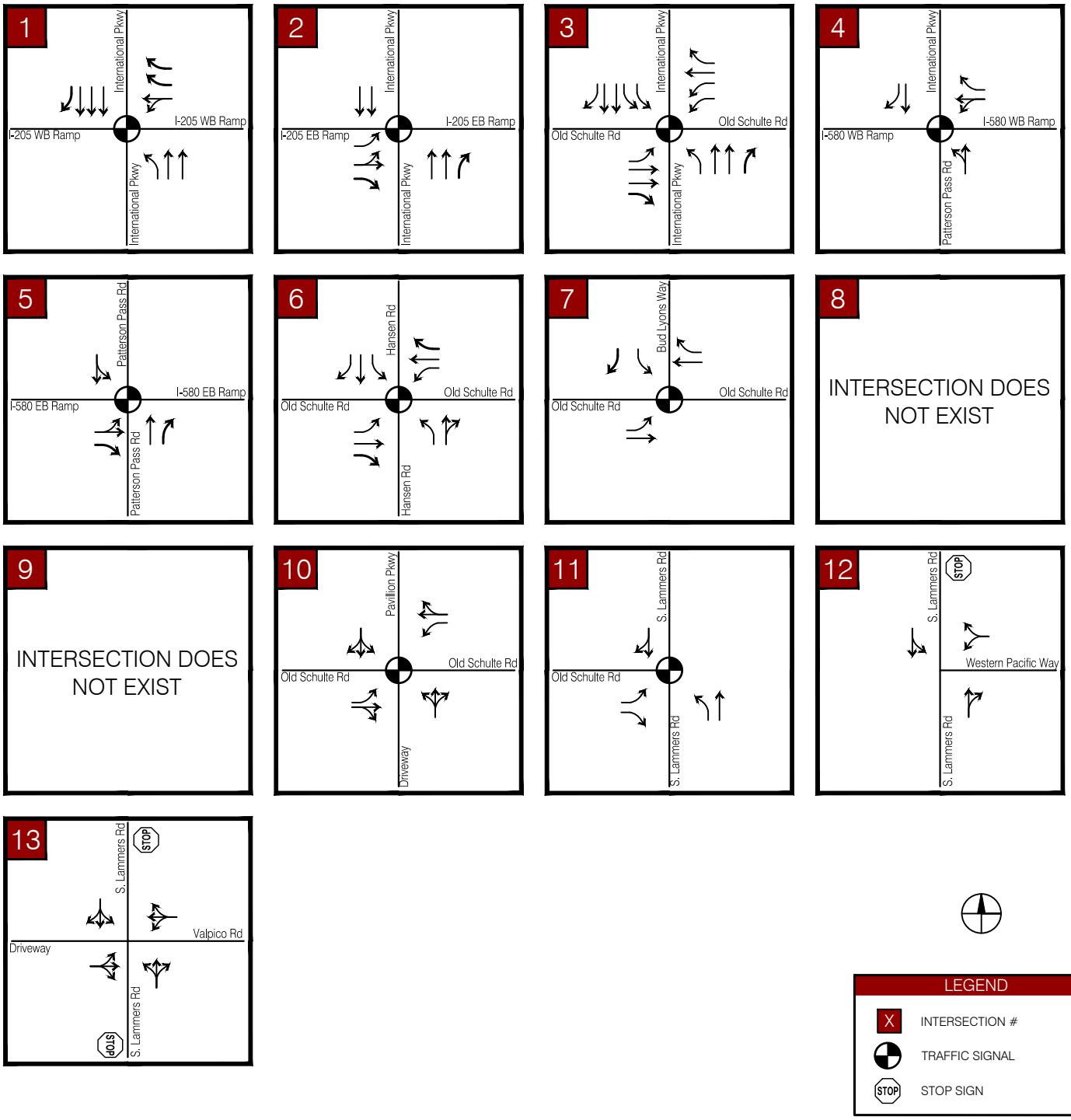
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Figure 3

Background Conditions Overview Map

Costco Depot Traffic Analysis

December 2021




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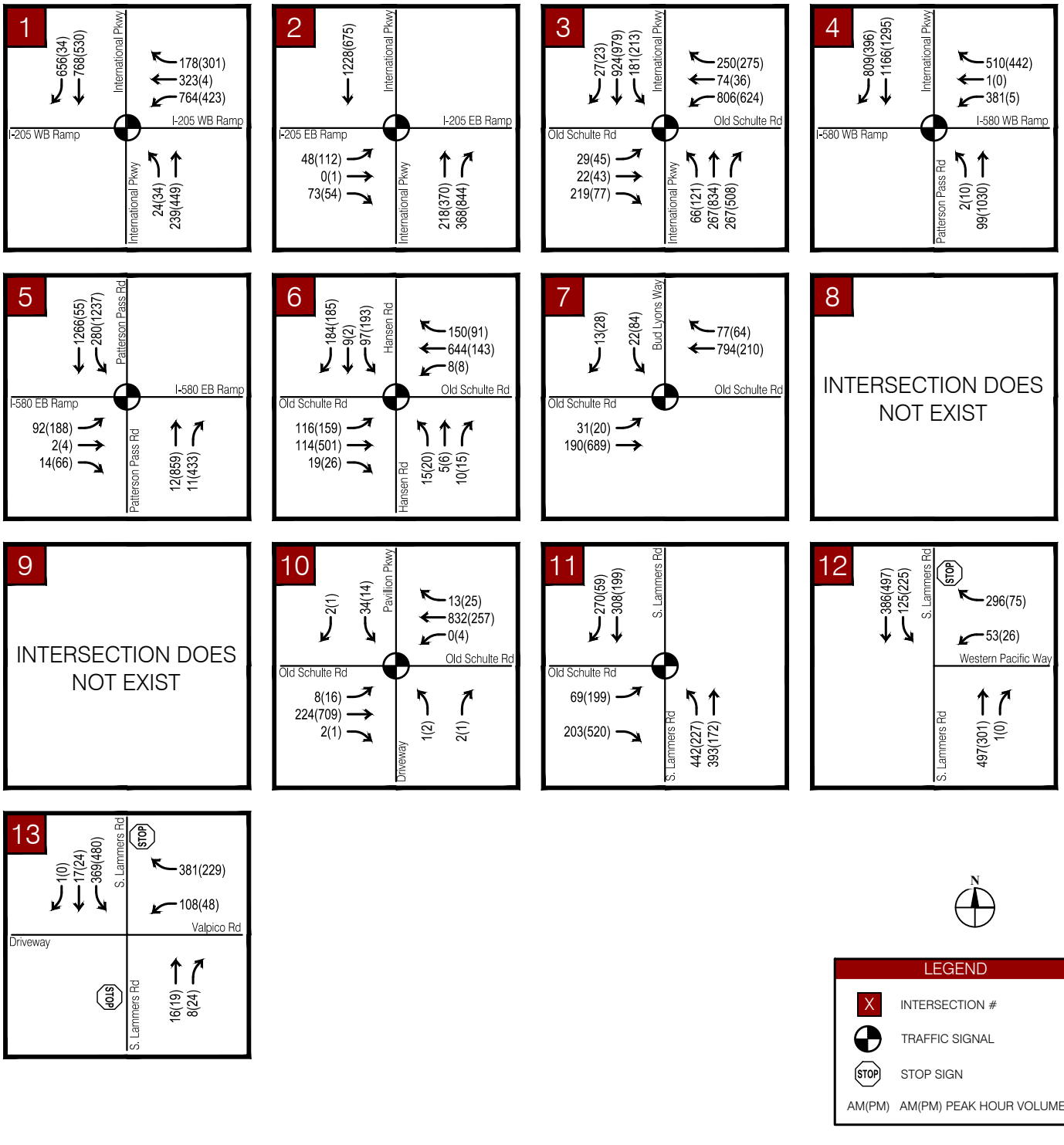
December 2021

Figure 4

Background Conditions

Lane Geometry and Traffic Control

Tracy Costco Direct Delivery Center




Kimley»Horn

December 2021

Figure 5

Background Conditions

Peak Hour Volumes

Tracy Costco Direct Delivery Center

## Table 7 – Background Conditions LOS Summary Results

| # | Intersection | Agency | Control | Background Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | **-** | **229.2** | **F** | **-** | 13.4 | B |
| 2 | International Pkwy & I-205 EB Ramps | Caltrans | Signal | - | 6.1 | A | - | 12.5 | B |
| 3 | International Pkwy & Old Schulte Rd | Tracy | Signal | **-** | **146.9** | **F** | **-** | **150.9** | **F** |
| 4 | International Pkwy & I-580 WB Ramps | Caltrans | Signal | **-** | **369.7** | **F** | **-** | **427.4** | **F** |
| 5 | International Pkwy & I-580 EB Ramps | Caltrans | Signal | **-** | **160.8** | **F** | **-** | **424.1** | **F** |
| 6 | Hansen Road & Old Schulte Rd | Tracy | Signal | **-** | **58.0** | **E** | - | 37.0 | D |
| 7 | Bud Lyons Wy/Project Dwy #1 & Old Schulte Rd | Tracy | Signal | **-** | **91.4** | **F** | - | 9.4 | A |
| 8 | Project Dwy #2 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | |
| | Worst Approach | | | | | | | | |
| 9 | Project Dwy #3 & Old Schulte Rd | Tracy | - | Intersection Does Not Exit | | | | | |
| 10 | Pavillion Pkwy & Old Schulte Rd | Tracy | Signal | - | 19.9 | B | - | 11.9 | B |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | 52.9 | D | - | 32.6 | C |
| 12 | Western Pacific Wy & Old Schulte Rd | Tracy | TWSC | **-** | **-** | **-** | - | - | - |
| | Worst Approach | | | **WB** | **114.6** | **F** | WB | 24.1 | C |
| 13 | Lammers Rd & Valpico Rd | Tracy | TWSC | **-** | **-** | **-** | - | - | - |
| | Worst Approach | | | **WB** | **92.3** | **F** | WB | 26.8 | D |

Note:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

## 6. Trip Generation, Distribution, and Assignment

*Trip Generation*

Trip generation for the proposed Costco development was calculated using the E-Commerce trip generation rates provided by Kittleson's *Tracy Costco Depot Transportation Impact Analysis Report* (August 28, 2017). These rates were then split into passenger car and truck trips based on ITE guidance for high-cube and warehousing facilities. These rates were compared against the City trip rates and ITE trip rates. The e-commerce rates from Costco are higher than the City and ITE trip rates.

The proposed Project is anticipated to generate 401 AM peak hour (377 IN / 24 OUT) and 87 PM peak hour (19 IN / 68 OUT) gross trips.

**Table 8 - Trip Generation**

| Land Uses | Project Size | AM PEAK HOUR | | | | PM PEAK HOUR | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total Peak Hour | IN | / | OUT | Total Peak Hour | IN | / | OUT |
| **Trip Generation Rates** | | | | | | | | | |
| **Project Use** | | | | | | | | | |
| Costco E-commerce Warehouse[1] | - KSF | 0.23 | 94% | / | 6% | 0.05 | 21% | / | 79% |
| **Trips Generated** | | | | | | | | | |
| **Building 1** | **543.326 KSF** | **125** | **118** | **/** | **7** | **27** | **6** | **/** | **21** |
| *Passenger Cars[2]* | | *86* | *81* | */* | *5* | *21* | *5* | */* | *16* |
| *Trucks[2]* | | *39* | *37* | */* | *2* | *6* | *1* | */* | *5* |
| **Building 2** | **1,201.727 KSF** | **276** | **259** | **/** | **17** | **60** | **13** | **/** | **47** |
| *Passenger Cars[2]* | | *190* | *179* | */* | *11* | *47* | *10* | */* | *37* |
| *Trucks[2]* | | *86* | *80* | */* | *6* | *13* | *3* | */* | *10* |
| ***TOTAL*** | | ***401*** | ***377*** | ***/*** | ***24*** | ***87*** | ***19*** | ***/*** | ***68*** |
| ***Passenger Cars*** | | ***276*** | ***260*** | ***/*** | ***16*** | ***68*** | ***15*** | ***/*** | ***53*** |
| ***Trucks*** | | ***125*** | ***117*** | ***/*** | ***8*** | ***19*** | ***4*** | ***/*** | ***15*** |

***NOTES***

1. Trip generation provided by Kittleson's *Tracy Costco Depot Transportation Impact Analysis Report* (August 28, 2017).

2. ITE's *High-Cube Warehouse Vehicle Trip Generation Analysis*, 2016. The percentage of passenger car vehicles for Short-Term Storage, Transload, & Cold Storage is the following:
Daily: 67.8%
AM: 69.2%
PM: 78.3%

*Trip Distribution and Assignment*

**Project Background Conditions**

Trips were distributed along the roadway network based on the Cordes Ranch EIR. The following provides the passenger car distribution for Project Background Conditions:

- 23% to/from the east along I-580
- 3% to/from the west along I-580
- 2% to/from the west along I-205

- 15% to/from the north along Mountain House Parkway
- 26% to/from the east along I-205
- 6% to/from the north along Lammers Road
- 23% to/from the east along Valpico Road
- 2% to/from the south along Lammers Road

The following provides the assumed truck distribution that was provided by Kittelson:

- 37% to/from the east along I-580
- 19% to/from the west along I-580
- 11% to/from the west along I-205
- 33% to/from the east along I-205

Refer to **Figure 6** and **Figure 7** for the Project Background Conditions passenger car trip distribution and assignment, respectively. Refer to **Figure 8** and **Figure 9** for the Project Background Conditions truck trip distribution and assignment, respectively.

**Project Cumulative Conditions**

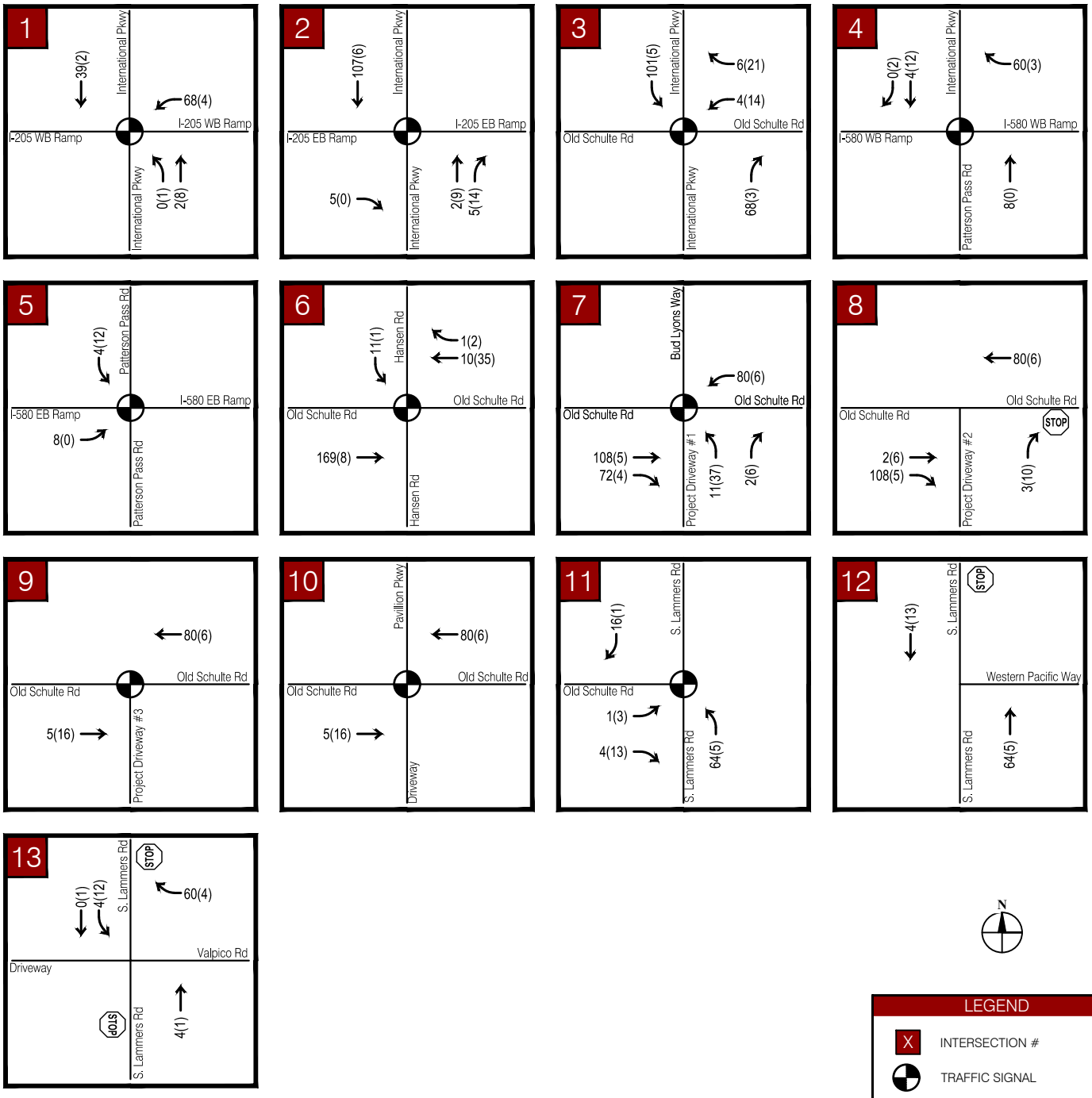
The following provides the passenger car distribution derived from the City's 2035 travel demand model for Project Cumulative Conditions:

- 12% to/from the east along I-580
- 3% to/from the west along I-580
- 2% to/from the west along I-205
- 15% to/from the north along Mountain House Parkway
- 26% to/from the east along I-205
- 10% to/from the north along Lammers Road
- 10% to/from the east along Promontory Parkway
- 9% to/from the east along Valpico Road
- 6% to/from the south along Lammers Road
- 7% to/from the east along Hansen Road

The assumed truck distribution remained the same between Project Background and Project Cumulative Conditions. Refer to **Figure 10** and **Figure 11** for the Project Cumulative Conditions passenger car trip distribution and assignment, respectively. Refer to **Figure 12** and **Figure 13** for the Project Cumulative Conditions truck trip distribution and assignment, respectively. Trips for the Project Cumulative Conditions are based on the trip generation provided in **Table 8**.




Figure 6
Passenger Car Project Trip Distribution
Background Plus Project Conditions




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Figure 7

Passenger Car Background Project Assignment

Background Plus Project Conditions

Tracy Costco Direct Delivery Center



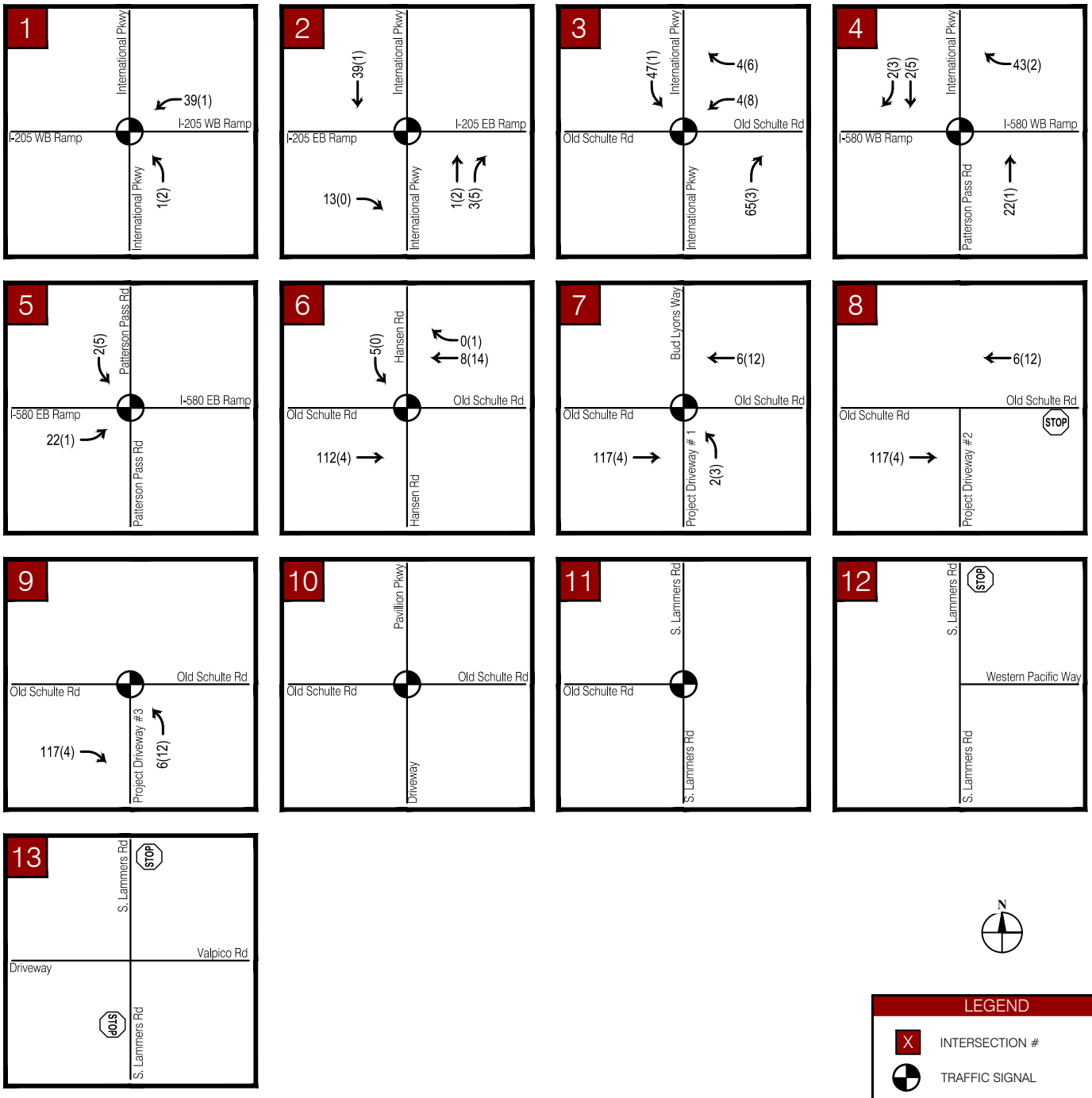

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NOT TO SCALE

Figure 8
Truck Project Trip Distribution
Background Plus Project Conditions

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Costco Depot Traffic Analysis




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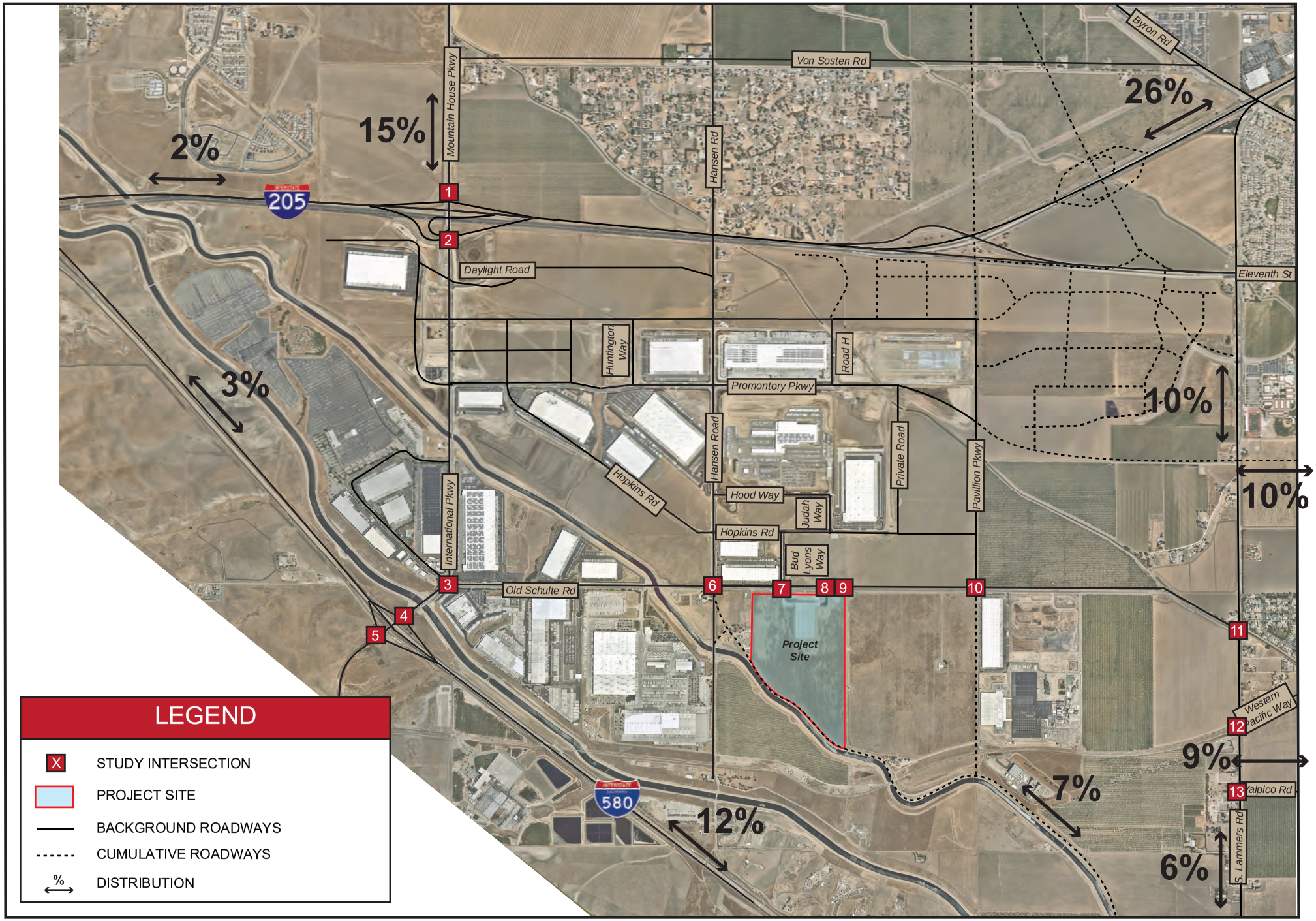
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Figure 9

Truck Background Project Assignment

Background Plus Project Conditions

Tracy Costco Direct Delivery Center



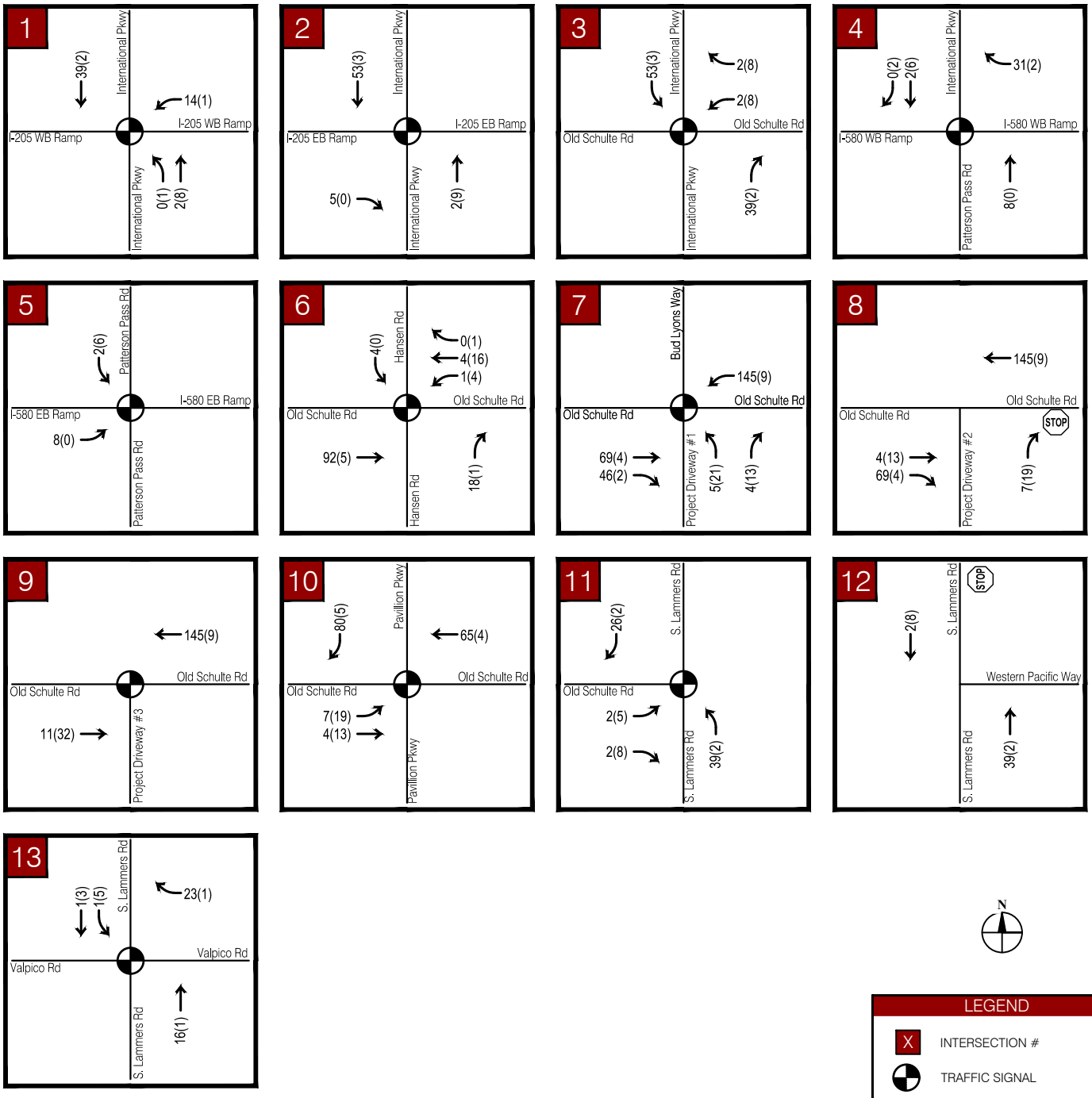

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Figure 10
Passenger Car Project Trip Distribution
Cumulative Plus Project Conditions

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Costco Depot Traffic Analysis




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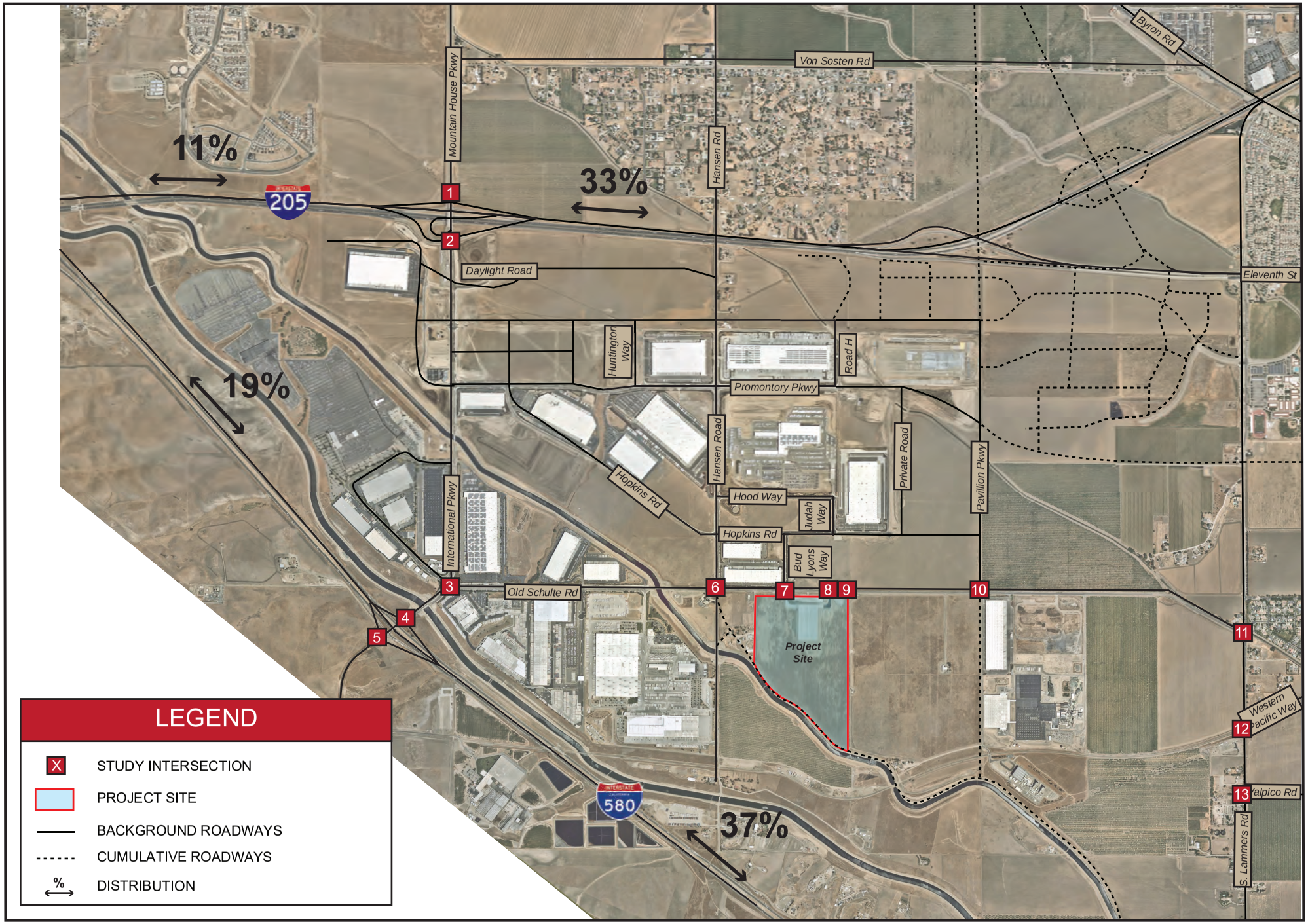
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Figure 11

Passenger Car Cumulative Project Assignment

Cumulative Plus Project Conditions

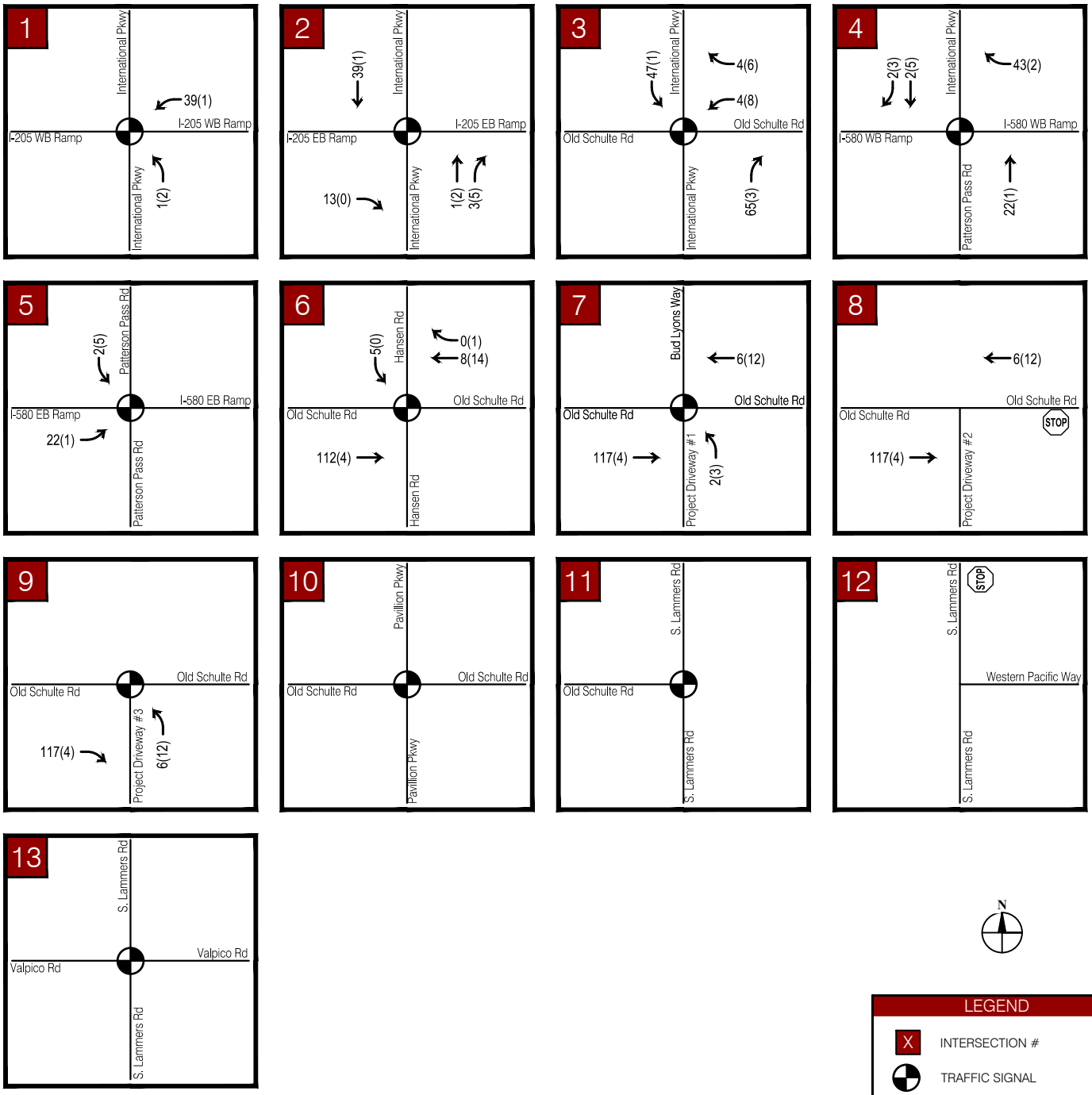
Tracy Costco Direct Delivery Center




Kimley»Horn

NOT TO SCALE

Figure 12
Truck Project Trip Distribution
Cumulative Plus Project Conditions




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Figure 13

Truck Cumulative Project Assignment

Cumulative Plus Project Conditions

Tracy Costco Direct Delivery Center

## 7. Background Plus Project Conditions

Background Plus Project Conditions are based on Background Conditions traffic volumes plus traffic generated by the proposed Project. The roadway network is based on Background Conditions plus improvements anticipated to be constructed by the Project:

- Widen Old Schulte Road to four through lanes along the Project's frontage
- Add south leg and eastbound right turn lane and westbound left turn lane at Project Driveway #1
- Add new signalized intersection, eastbound right turn lane and westbound left turn lane at Project Driveway #3

The Background Plus Project Conditions roadway network is shown in **Figure 14** and the volumes are shown in **Figure 15**.

Results of the Background Plus Project Conditions levels of service analysis are presented in **Table 9**. Travel patterns on Old Schulte Road are peak period based (i.e. westbound in the morning and eastbound in the evening). The Project primarily adds traffic in the opposing, non-peak, direction during the peak periods. The following intersections operated at unacceptable levels of service and recommended improvements have been provided:

- Intersection #1 - International Pkwy & I-205 WB Ramps (AM Peak Hour)
    - Restripe westbound off-ramp to provide two left-turn lanes and one shared through/right lane and optimize signal timings per Cordes Ranch Specific Plan Final EIR TRANS-1 mitigation measure.
- Intersection #3 - International Pkwy & Old Schulte Rd (AM and PM Peak Hours)
    - Per the *Final Traffic Operations Analysis Report (FTOAR) For the Interstate 580/International Parkway/Patterson Pass Road Interchange in Tracy, CA*, a diverging diamond interchange should be constructed at Intersections #4 & #5. The FTOAR recommended an additional northbound right turn at Intersection #3 and to restripe the existing eastbound outside shared through/right lane to be a dedicated eastbound right turn.
- Intersection #4 - International Pkwy & I-580 WB Ramps (AM and PM Peak Hours)
    - A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term.
- Intersection #5 - International Pkwy & I-580 EB Ramps (AM and PM Peak Hours)
    - A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term.
- Intersection #6 - Hansen Rd & Old Schulte Rd (AM Peak Hour)
    - Add one additional westbound and eastbound through lane at the intersection to establish a 4-lane facility. Old Schulte Road will remain a 2-lane facility over the Delta-Mendota Canal Bridge.
- Intersection #11 – Lammers Rd & Old Schulte Rd (AM Peak Hour)
    - Provide an overlap phase for the eastbound right turn.

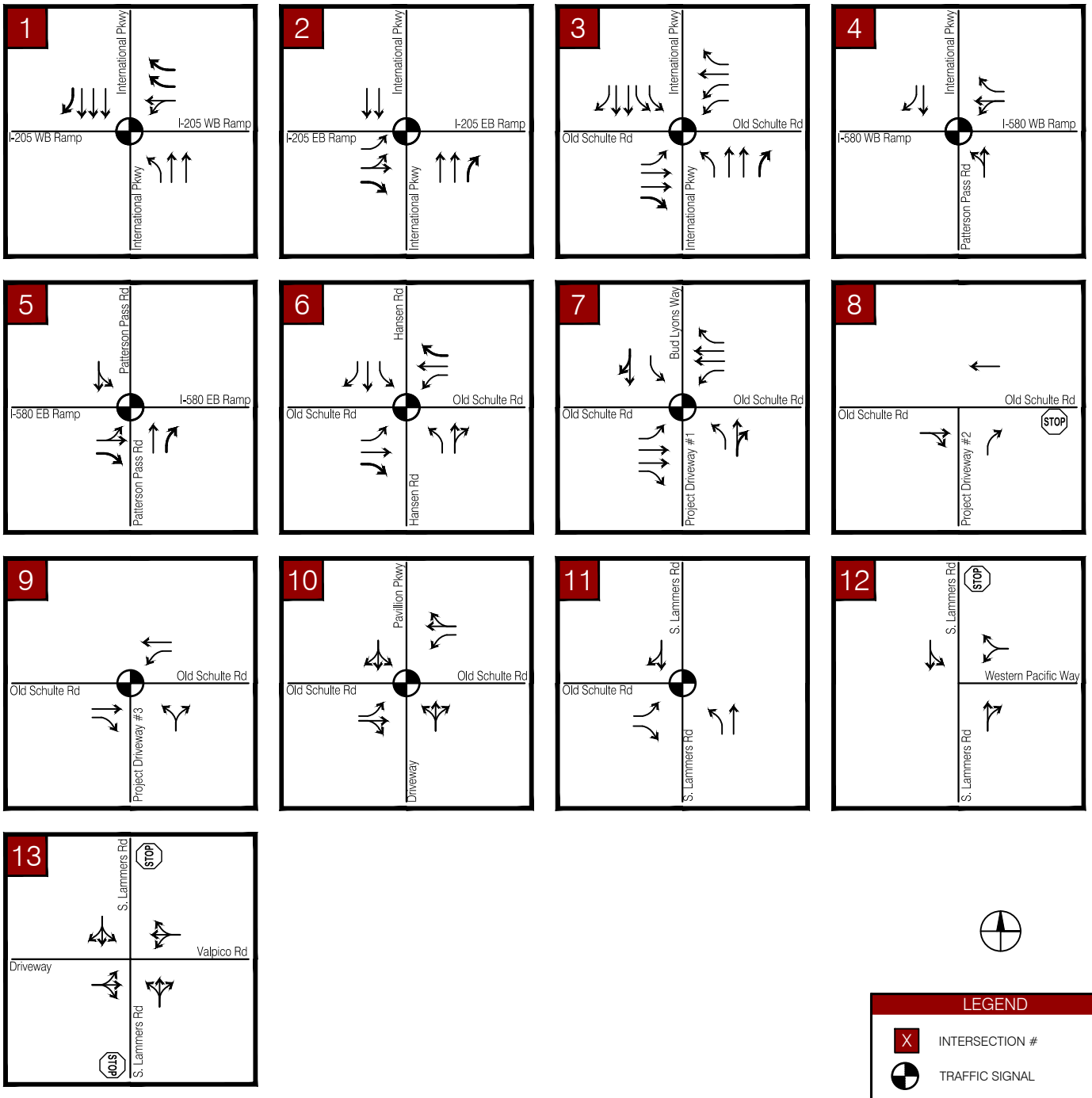
- Intersection #12 - Lammers Rd & Western Pacific Wy (AM Peak Hour)
    - Signalize and construct a northbound right-turn and southbound left-turn lanes plus the median of the future widening.
- Intersection #13 - Lammers Rd & Valpico Rd (AM Peak Hour)
    - Signalize intersection and construct a southbound left-turn lane. It is anticipated that widening to a four-lane roadway will occur from Old Schulte Road to Valpico Road with subsequent intersection improvements.
- The project shall, at a minimum, provide emergency access to the future Hansen Road. It is anticipated that the properties west of the Project site may develop in the near future and that Hansen Road will be extended to Old Schulte Road.

All recommended improvements match those from the Cordes Ranch 2nd Consistency Analysis (June, 2020) except at Intersection #11. No improvements were required at Intersection #11 in the Cordes Ranch 2nd Consistency Analysis during Background Conditions; therefore, the improvements provided for Intersection #11 would be an interim solution until the cumulative intersection geometry is constructed.

It should be noted that for some intersections, the reported delay improved with the addition of the project trips. The reason for this occurrence is because the trips were predominately added to the through lane movements, which had a lower movement delay than the average intersection delay, and thereby decreases the overall average delay.

Analysis output sheets for Background Plus Project and Background Plus Project (Improvements) are provided in the **Appendix**.

**Table 11** provides Costco project obligations for the Background Plus Project Conditions.




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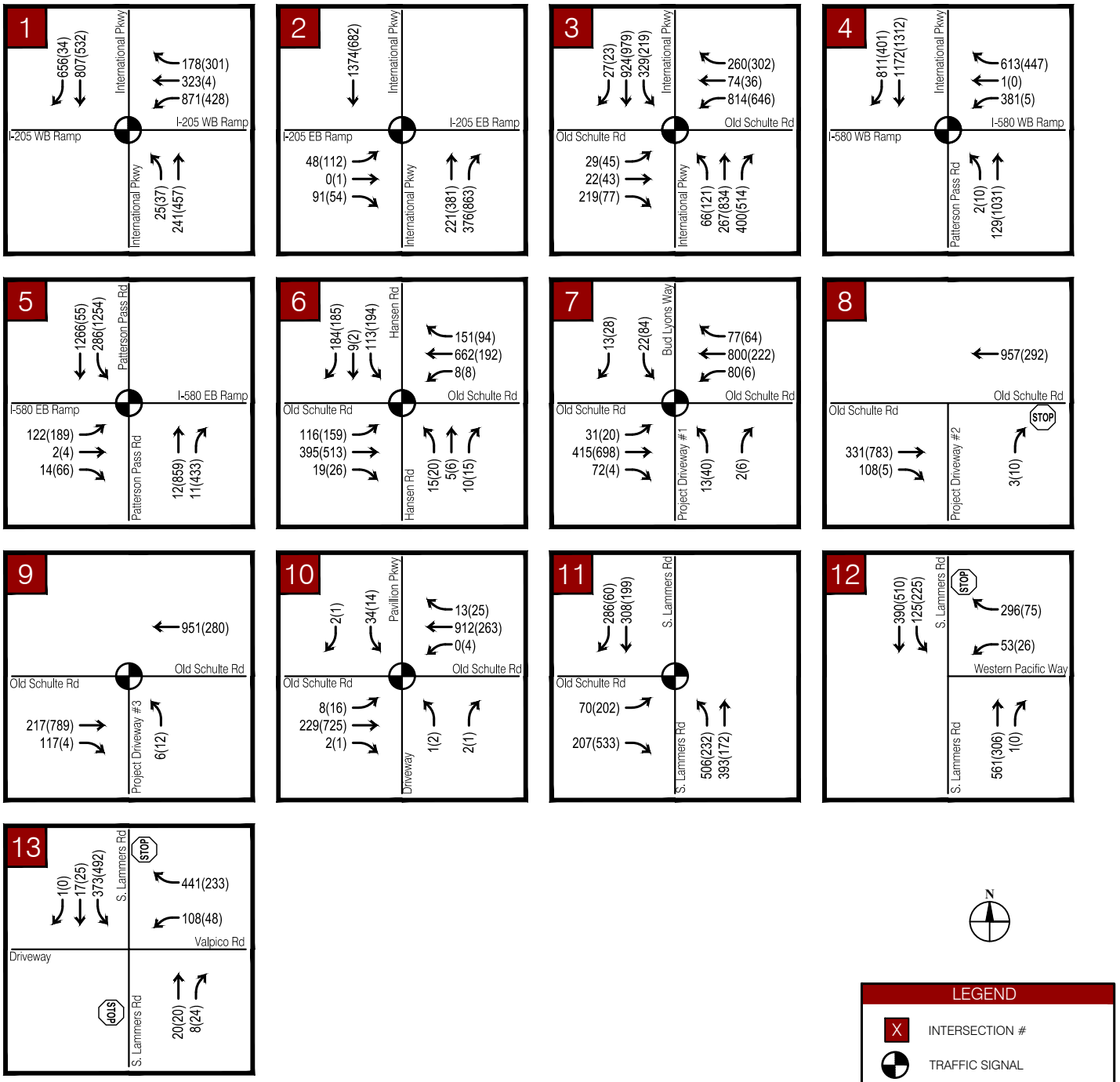
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Figure 14

Background Plus Project

Lane Geometry and Traffic Control

Tracy Costco Direct Delivery Center




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Figure 15

Background Plus Project

Peak Hour Volumes

Tracy Costco Direct Delivery Center

## Table 9 – Background Plus Project Conditions LOS Summary

| # | Intersection | Agency | Control | Background Conditions | | | | | | Background Plus Project Conditions | | | | | | Project Impact? (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | | AM Peak | | | PM Peak | | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS | MVMT | Delay | LOS | MVMT | Delay | LOS | |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | - | **229.2** | **F** | - | 13.4 | B | - | **268.9** | **F** | - | 13.7 | B | **Y** |
| 2 | International Pkwy & I-205 EB Ramps | Caltrans | Signal | - | 6.1 | A | - | 12.5 | B | - | 6.8 | A | - | 13.5 | B | - |
| 3 | International Pkwy & Old Schulte Rd | Tracy | Signal | - | **146.9** | **F** | - | **150.9** | **F** | - | **171.5** | **F** | - | **166.6** | **F** | **Y** |
| 4 | International Pkwy & I-580 WB Ramps | Caltrans | Signal | - | **369.7** | **F** | - | **427.4** | **F** | - | **369.6** | **F** | - | **437.1** | **F** | **Y** |
| 5 | International Pkwy & I-580 EB Ramps | Caltrans | Signal | - | **160.8** | **F** | - | **424.1** | **F** | - | **162.6** | **F** | - | **433.4** | **F** | **Y** |
| 6 | Hansen Road & Old Schulte Rd | Tracy | Signal | - | **58.0** | **E** | - | 37.0 | D | - | **56.5** | **E** | - | 37.7 | D | N |
| 7 | Bud Lyons Wy/Project Dwy #1 & Old Schulte Rd | Tracy | Signal | - | **91.4** | **F** | - | 9.4 | A | - | 27.2 | C | - | 25.2 | C | N |
| 8 | Project Dwy #2 & Old Schulte Rd | Tracy | TWSC | Intersection Does Not Exist | | | | | | - | - | - | - | - | - | N |
| | Worst Approach | | | | | | | | | NB | 9.7 | A | NB | 11.3 | B | |
| 9 | Project Dwy #3 & Old Schulte Rd | Tracy | Signal | Intersection Does Not Exit | | | | | | - | 6.4 | A | - | 3.5 | A | N |
| 10 | Pavillion Pkwy & Old Schulte Rd | Tracy | Signal | - | 19.9 | B | - | 11.9 | B | - | 15.9 | B | - | 12.2 | B | |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | 52.9 | D | - | 32.6 | C | - | **66.9** | **E** | - | 34.7 | C | **Y** |
| 12 | Western Pacific Wy & Old Schulte Rd | Tracy | TWSC | - | - | - | - | - | - | - | - | - | - | - | - | **Y** |
| | Worst Approach | | | **WB** | **114.6** | **F** | WB | 24.1 | C | **WB** | **162.5** | **F** | WB | 25.2 | D | |
| 13 | Lammers Rd & Valpico Rd | Tracy | TWSC | - | - | - | - | - | - | - | - | - | - | - | - | **Y** |
| | Worst Approach | | | **WB** | **92.3** | **F** | WB | 26.8 | D | **WB** | **122.4** | **F** | WB | 29.0 | D | |

Note:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

6 An impact is determined if the intersection delay increases by more than 5 seconds

Table 10 – Background Plus Project (Improvements) Conditions LOS Summary

| # | Intersection | Agency | Control | Background Plus Project Conditions | | | | | | Improvement Control | Background Plus Project (Improvements) Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | | | AM Peak | | | PM Peak | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS | | MVMT | Delay | LOS | MVMT | Delay | LOS |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | - | **268.9** | **F** | - | 13.7 | B | Signal | - | 9.8 | A | - | 7.2 | A |
| 3 | International Pkwy & Old Schulte Rd | Tracy | Signal | - | **171.5** | **F** | - | **166.6** | **F** | - | **Refer to FTOAR for improvements** | | | | | |
| 4 | International Pkwy & I-580 WB Ramps | Caltrans | Signal | - | **369.6** | **F** | - | **437.1** | **F** | | | | | | | |
| 5 | International Pkwy & I-580 EB Ramps | Caltrans | Signal | - | **162.6** | **F** | - | **433.4** | **F** | | | | | | | |
| 6 | Hansen Road & Old Schulte Rd | Tracy | Signal | - | **56.5** | **E** | - | 37.7 | D | Signal | - | 25.7 | C | - | 27.7 | C |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | **66.9** | **E** | - | 34.7 | C | Signal | - | 48.2 | D | - | 21.5 | C |
| 12 | Western Pacific Way & W. Schulte Rd | Tracy | TWSC | - | - | - | - | - | - | Signal | - | 24.2 | C | - | 8.6 | A |
| | Worst Approach | | | **WB** | **162.5** | **F** | WB | 25.2 | D | | | | | | | |
| 13 | Lammers Rd & Valpico Rd | Tracy | TWSC | - | - | - | - | - | - | Signal | - | 32.6 | C | - | 16.8 | B |
| | Worst Approach | | | **WB** | **122.4** | **F** | WB | 29.0 | D | | | | | | | |

Notes:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

6 An impact is determined if the intersection delay increases by more than 5 seconds

## Table 11 – Costco Obligations (Background Plus Project Conditions)

| Costco Intersection # | Intersection /Location | Peak Hour | Background Plus Project Conditions | | |
|---|---|---|---|---|---|
| | | | Improvement | Recommended Costco Improvement? | Costco Project Obligation |
| 1 | International Pkwy & I-205 WB Ramps | AM | Restripe westbound off-ramp to provide two left-turn lanes and one shared through/right lane and optimize signal timings per Cordes Ranch Specific Plan Final EIR TRANS-1 mitigation measure. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco shall pay a fair share contribution towards improvements. |
| 3 | International Pkwy & Old Schulte Rd | AM & PM | Per the *Final Traffic Operations Analysis Report (FTOAR) For the Interstate 580/International Parkway/Patterson Pass Road Interchange in Tracy, CA*, a diverging diamond interchange should be constructed at Intersections #4 & #5. The FTOAR recommended an additional northbound right turn at Intersection #3 and to restripe the existing eastbound outside shared through/right lane to be a dedicated eastbound right turn. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco shall pay a fair share contribution towards improvements. |
| 4 | International Pkwy & I-580 WB | AM & PM | A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term. | Impact Fees | Pay TIF |
| 5 | International Pkwy & I-580 EB | AM & PM | A diverging diamond interchange is in the PSE design phase. The City of Tracy and Caltrans are going through design approvals to have the new interchange constructed in the near term. | Impact Fees | Pay TIF |
| 6[1] | Hansen Road & Old Schulte Rd | AM | Add one additional westbound and eastbound through lane at the intersection to establish a 4-lane facility. Old Schulte Road will remain a 2-lane facility over the Delta-Mendota Canal Bridge. | Y | Costco to implement |
| 11 | Lammers Rd & Old Schulte Rd | AM | Provide an overlap phase for the eastbound right turn. | Y | Costco to implement |
| 12[1] | Lammers Rd & Western Pacific Way | AM | Signalize and construct a northbound right-turn and southbound left-turn lanes plus the median of the future widening. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco may pay a fair share contribution towards improvements. |
| 13 | Lammers Rd & Valpico Rd | AM | Signalize intersection and construct a southbound left-turn lane. It is anticipated that widening to a four-lane roadway will occur from Old Schulte Road to Valpico Road with subsequent intersection improvements. | Y | Costco will construct improvements if not already implemented by another development and may collect contributions from future benefitting developments. If improvement is already constructed, Costco may pay a fair share contribution towards improvements. |

Notes:

1. Costco will construct improvement if not already implemented by another development. This improvement is anticipated to be included in the City of Tracy Transportation Master Plan (TMP) Fee Program Update. If included, Costco could receive reimbursement for improvements within the fee program.
2. Kimley-Horn traffic study identified TIF, this is not reflected in the conditions.

## 8. Cumulative Conditions

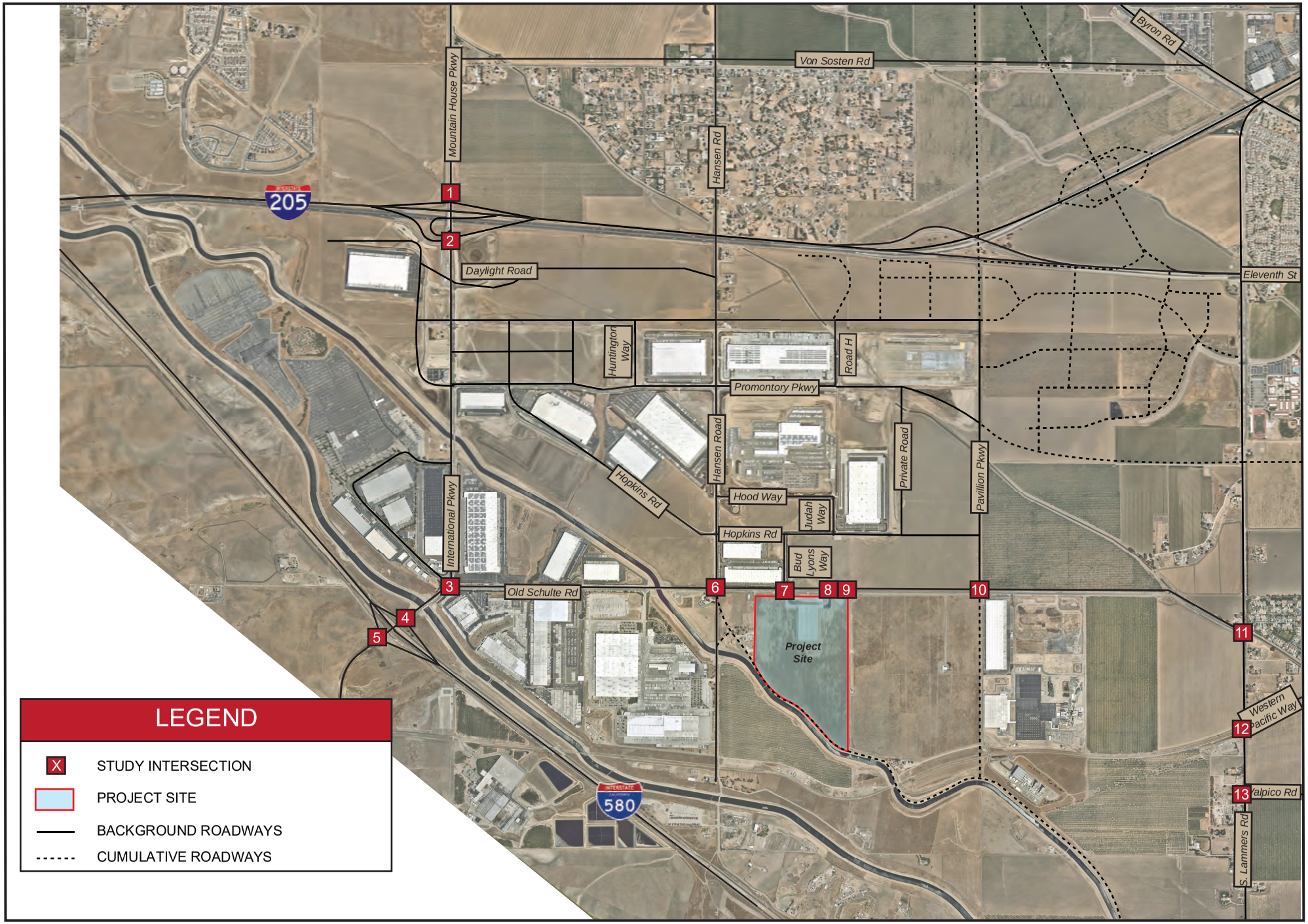
Cumulative Conditions represent 2035 conditions, aligning with the City of Tracy Transportation Master Plan's Horizon Year. The Cumulative Conditions roadway network is shown in **Figure 16**. Cumulative traffic volumes were developed based on recently updated model plots from City of Tracy travel demand forecast model, reflecting the latest development assumptions for the Cordes Ranch and Westside Specific Plan areas, but with the Project volumes removed from the network. Cumulative 2035 link volumes were converted to turning movement volumes using a traffic modeling standard process commonly referred to as the Furness method. The Furness method uses an iterative process to derive future turning movement volumes based on future year roadway link volumes an initial estimate of turning percentage, obtained from existing intersection turning movement counts if available. Intersection lane geometry was based on the Transportation Master Plan and the latest I-205/International Pkwy and I-580/International Pkwy interchange conceptual plans. The Cumulative Conditions lane geometry is shown in **Figure 17** and the volumes are shown in **Figure 18**.

Results of the Cumulative Conditions level of service analysis are presented in **Table 12.** The following intersections operated at unacceptable levels of service:

- Intersection #6 – Hansen Rd & Old Schulte Rd (PM Peak Hour)
- Intersection #10 – Pavilion Pkwy & Old Schulte Rd (PM Peak Hour)
- Intersection #13 - Lammers Rd & Valpico Rd (PM Peak Hour)

Analysis output sheets for Cumulative Conditions are provided in the **Appendix**.

It should be noted that Intersections #3, #4 and #5 were not analyzed for Cumulative Conditions due to extensive analysis conducted and summarized in the FTOAR.




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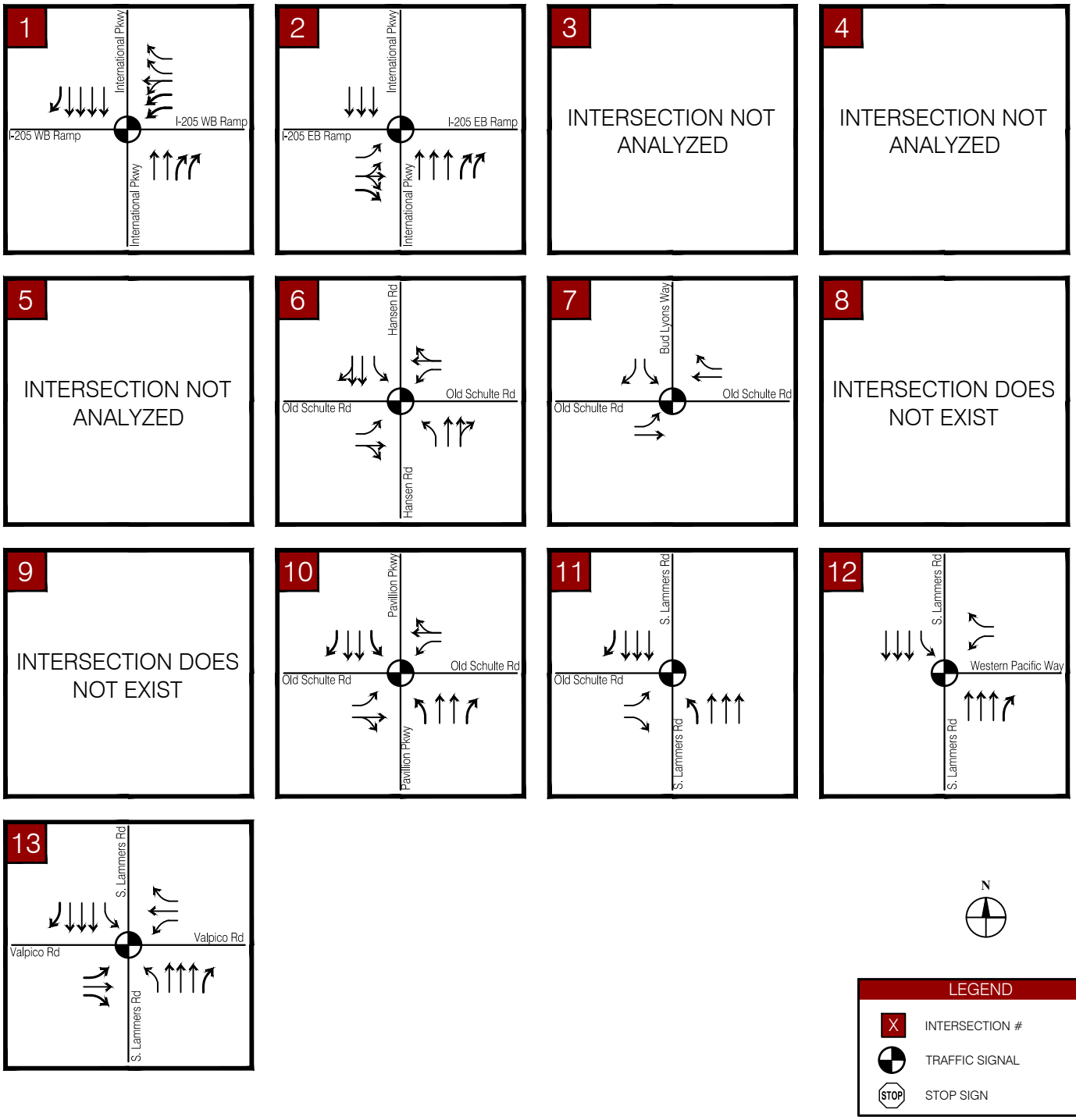
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Figure 16

Cumulative Conditions Overview Map

December 2021

Costco Depot Traffic Analysis




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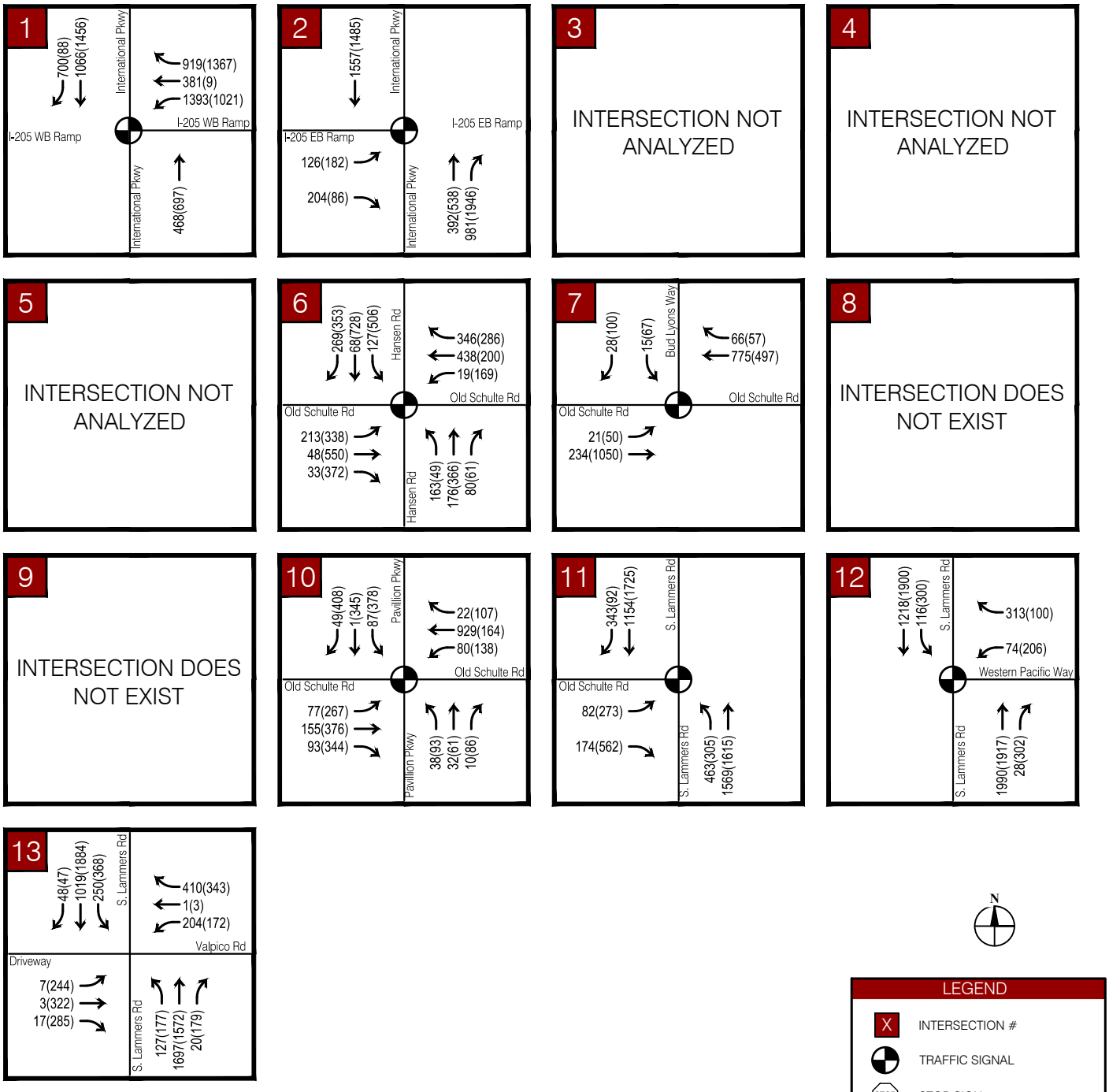
December 2021

Figure 17

Cumulative Conditions

Lane Geometry and Traffic Control

Tracy Costco Direct Delivery Center




Kimley»Horn

Figure 18

Cumulative Conditions

Peak Hour Volumes

December 2021

Tracy Costco Direct Delivery Center

## Table 12 – Cumulative Conditions LOS Summary

| # | Intersection | Agency | Control | Cumulative Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | - | 13.1 | B | - | 9.6 | A |
| 2 | International Pkwy & I-205 EB Ramps | Caltrans | Signal | - | 7.1 | A | - | 21.6 | C |
| 3 | International Pkwy & Old Schulte Rd | **Refer to FTOAR analysis** | | | | | | | |
| 4 | International Pkwy & I-580 WB Ramps | | | | | | | | |
| 5 | International Pkwy & I-580 EB Ramps | | | | | | | | |
| 6 | Hansen Road & Old Schulte Rd | Tracy | Signal | - | 46.1 | D | **-** | **67.0** | **E** |
| 7 | Bud Lyons Way/Project Dwy #1 & Old Schulte Rd | Tracy | Signal | - | 22.2 | C | - | 52.0 | D |
| 8 | Project Dwy #2 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | |
| | Worst Approach | | | | | | | | |
| 9 | Project Dwy #3 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | |
| 10 | Pavillion Pkwy & Old Schulte Rd | Tracy | Signal | - | 36.3 | D | **-** | **65.7** | **E** |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | 15.1 | B | - | 37.9 | D |
| 12 | Lammers Rd & Western Pacific Way | Tracy | Signal | - | 16.4 | B | - | 14.4 | B |
| 13 | Lammers Rd & Valpico Rd | Tracy | Signal | - | 41.1 | D | **-** | **64.1** | **E** |

Note:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

## 9. Cumulative Plus Project Conditions

Cumulative Plus Project Conditions are based on Cumulative Conditions traffic volumes plus traffic generated by the proposed Project.

Cumulative Plus Project geometries are shown in **Figure 14** and volumes are shown in **Figure 15**.

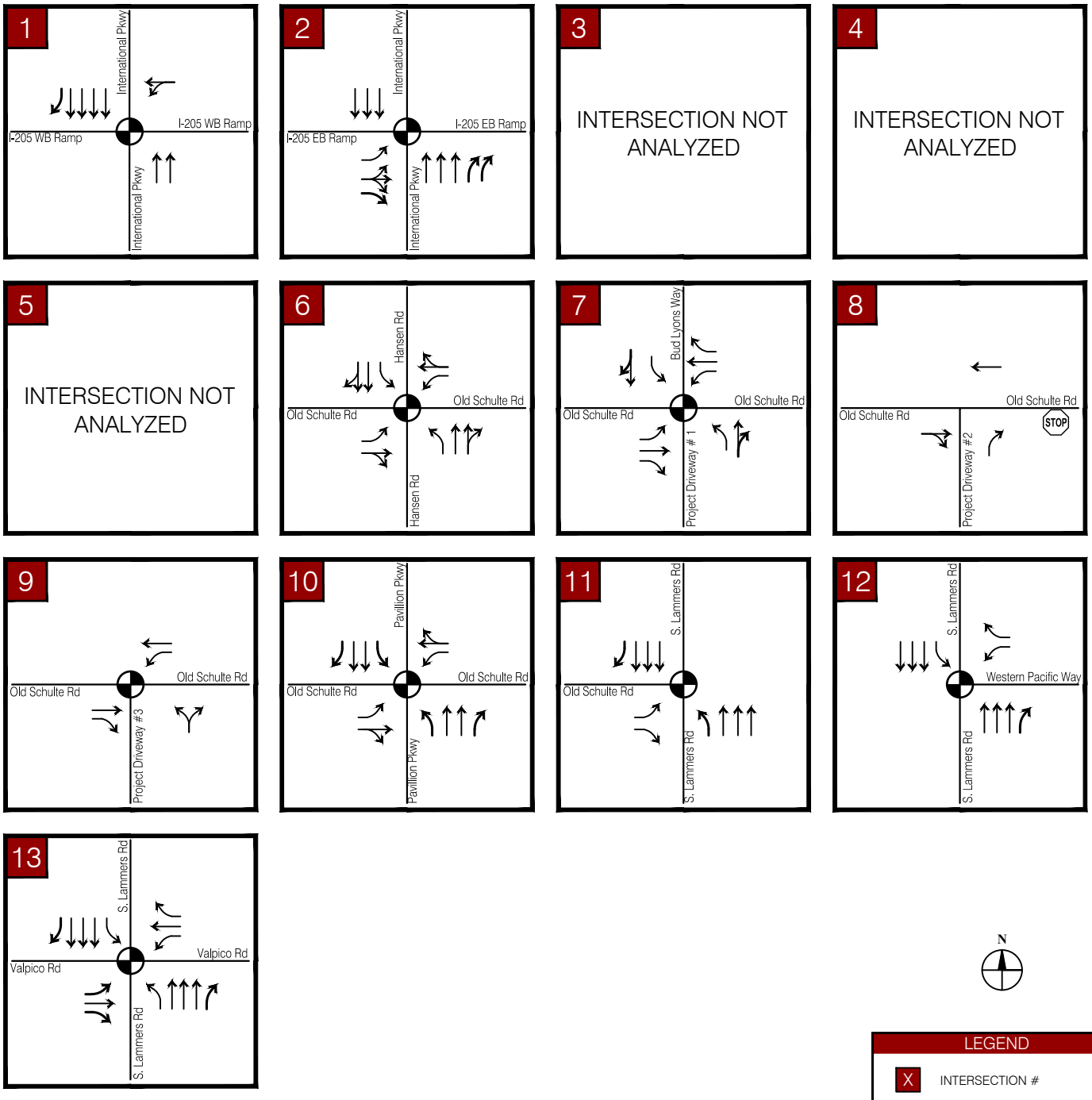
Results of the Cumulative Plus Project Conditions levels of service analysis are presented in **Table 13**. All intersections operated at acceptable levels of service except for the following intersections:

- Intersection #6 – Hansen Rd & Old Schulte Rd (PM Peak Hour)
- Intersection #10 – Pavilion Pkwy & Old Schulte Rd (PM Peak Hour)
- Intersection #13 - Lammers Rd & Valpico Rd (PM Peak Hour)

The Cumulative Conditions analysis does not indicate that the Project deteriorates the LOS or causes delay to increase by more than 5 seconds per the City threshold at any study intersection, and thus, no project improvements are required over and above those identified in Background conditions. The project shall, however, pay the City Traffic Impact Fees to offset cumulative incremental deterioration of operating conditions on the City road network.

Analysis output sheets are provided in the **Appendix**.

It should be noted that Intersections #3, #4 and #5 were not analyzed for Cumulative Conditions due to extensive analysis conducted and summarized in the FTOAR.




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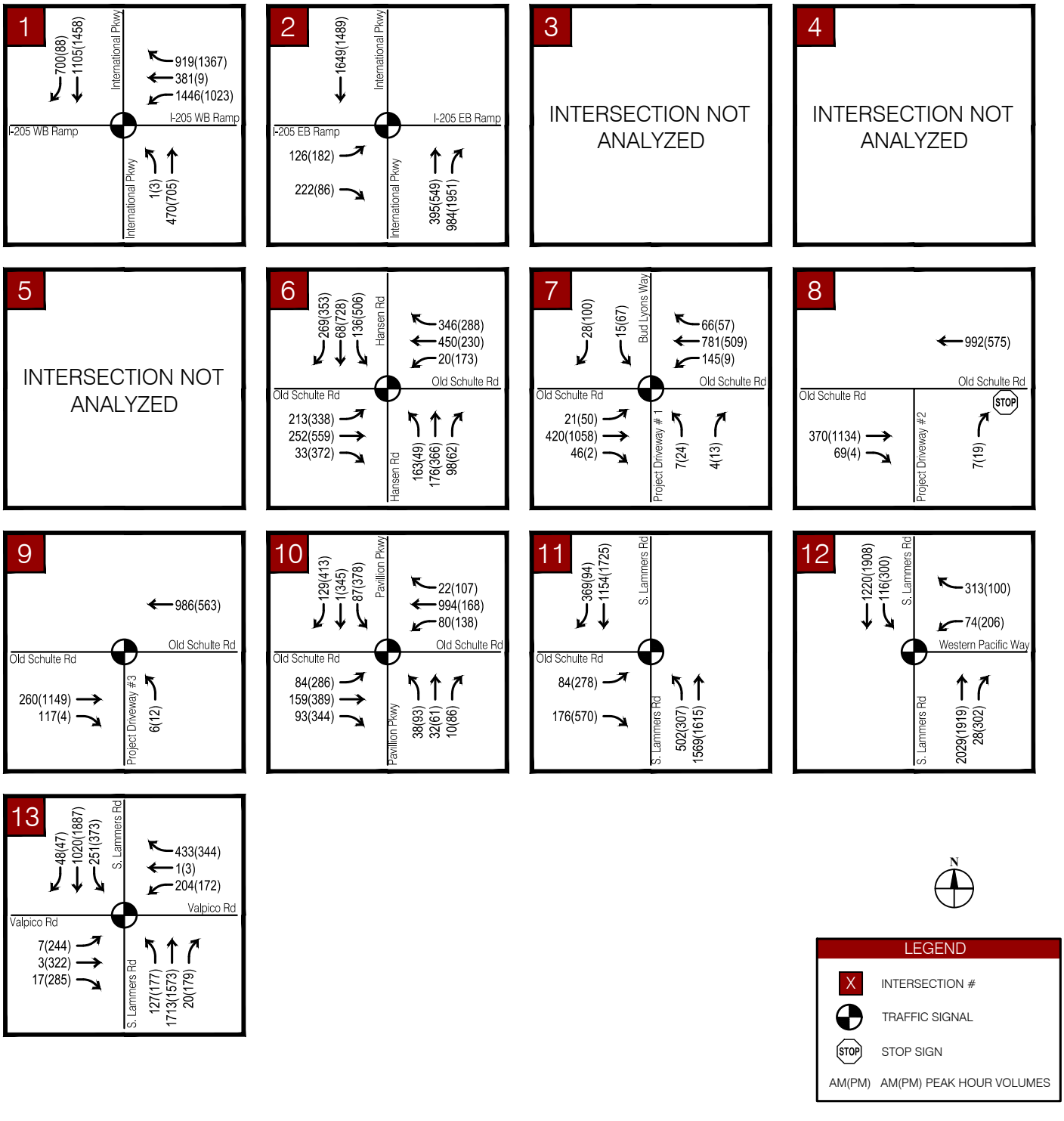
December 2021

Figure 19

Cumulative Plus Project Conditions

Lane Geometry and Traffic Control

Tracy Costco Direct Delivery Center




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December 2021

Figure 20

Cumulative Plus Project Conditions

Peak Hour Volumes

Tracy Costco Direct Delivery Center

## Table 13 – Cumulative Plus Project Conditions LOS Summary

| # | Intersection | Agency | Control | Cumulative Conditions | | | | | | Cumulative Plus Project Conditions | | | | | | Project Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak | | | PM Peak | | | AM Peak | | | PM Peak | | | |
| | | | | MVMT | Delay | LOS | MVMT | Delay | LOS | MVMT | Delay | LOS | MVMT | Delay | LOS | |
| 1 | International Pkwy & I-205 WB Ramps | Caltrans | Signal | - | 13.1 | B | - | 9.6 | A | - | 13.9 | B | - | 9.6 | A | - |
| 2 | International Pkwy & I-205 EB Ramps | Caltrans | Signal | - | 7.1 | A | - | 21.6 | C | - | 7.4 | A | - | 21.9 | C | - |
| 3 | International Pkwy & Old Schulte Rd | **Refer to FTOAR analysis** | | | | | | | | | | | | | | |
| 4 | International Pkwy & I-580 WB Ramps | | | | | | | | | | | | | | | |
| 5 | International Pkwy & I-580 EB Ramps | | | | | | | | | | | | | | | |
| 6 | Hansen Rd & Old Schulte Rd | Tracy | Signal | - | 46.1 | D | **-** | **67.0** | **E** | - | 46.3 | D | **-** | **67.9** | **E** | N |
| 7 | Bud Lyons Wy/Project Dwy #1 & Old Schulte Rd | Tracy | Signal | - | 22.2 | C | - | 52.0 | D | - | 32.2 | C | - | 17.1 | B | - |
| 8 | Project Dwy #2 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | | - | - | - | - | - | - | - |
| | Worst Approach | | | | | | | | | NB | 9.8 | A | NB | 13.8 | B | |
| 9 | Project Dwy #3 & Old Schulte Rd | Tracy | - | Intersection Does Not Exist | | | | | | - | 4.7 | A | - | 3.2 | A | - |
| 10 | Pavillion Pkwy & Old Schulte Rd | Tracy | Signal | - | 36.3 | D | **-** | **65.7** | **E** | - | 44.6 | D | **-** | **67.7** | **E** | N |
| 11 | Lammers Rd & Old Schulte Rd | Tracy | Signal | - | 15.1 | B | - | 37.9 | D | - | 16.9 | B | - | 38.6 | D | - |
| 12 | Lammers Rd & Western Pacific Wy | Tracy | Signal | - | 16.4 | B | - | 14.4 | B | - | 16.7 | B | - | 14.4 | B | - |
| 13 | Lammers Rd & Valpico Rd | Tracy | Signal | - | 41.1 | D | **-** | **64.1** | **E** | - | 46.0 | D | **-** | **64.6** | **E** | N |

Note:

1 Analysis performed using HCM 6 methodologies

2 Delay indicated in seconds/vehicle

3 Caltrans level of service (LOS) standard is C/D. City of Tracy LOS standard is D except that LOS E acceptable within 1/4-mile of freeway interchanges (#3).

4 Intersections that fall below Caltrans or City standards are shaded and shown in **bold**.

5 AWSC = All-Way Stop Control, TWCS = Two-Way Stop Control, Signal = Signal Control

6 An impact is determined if the intersection delay increases by more than 5 seconds

## 10. Driveway Access Review

The Project proposes three driveways along Old Schulte Road. **Table 14** provides a summary of the recommendations for each driveway.

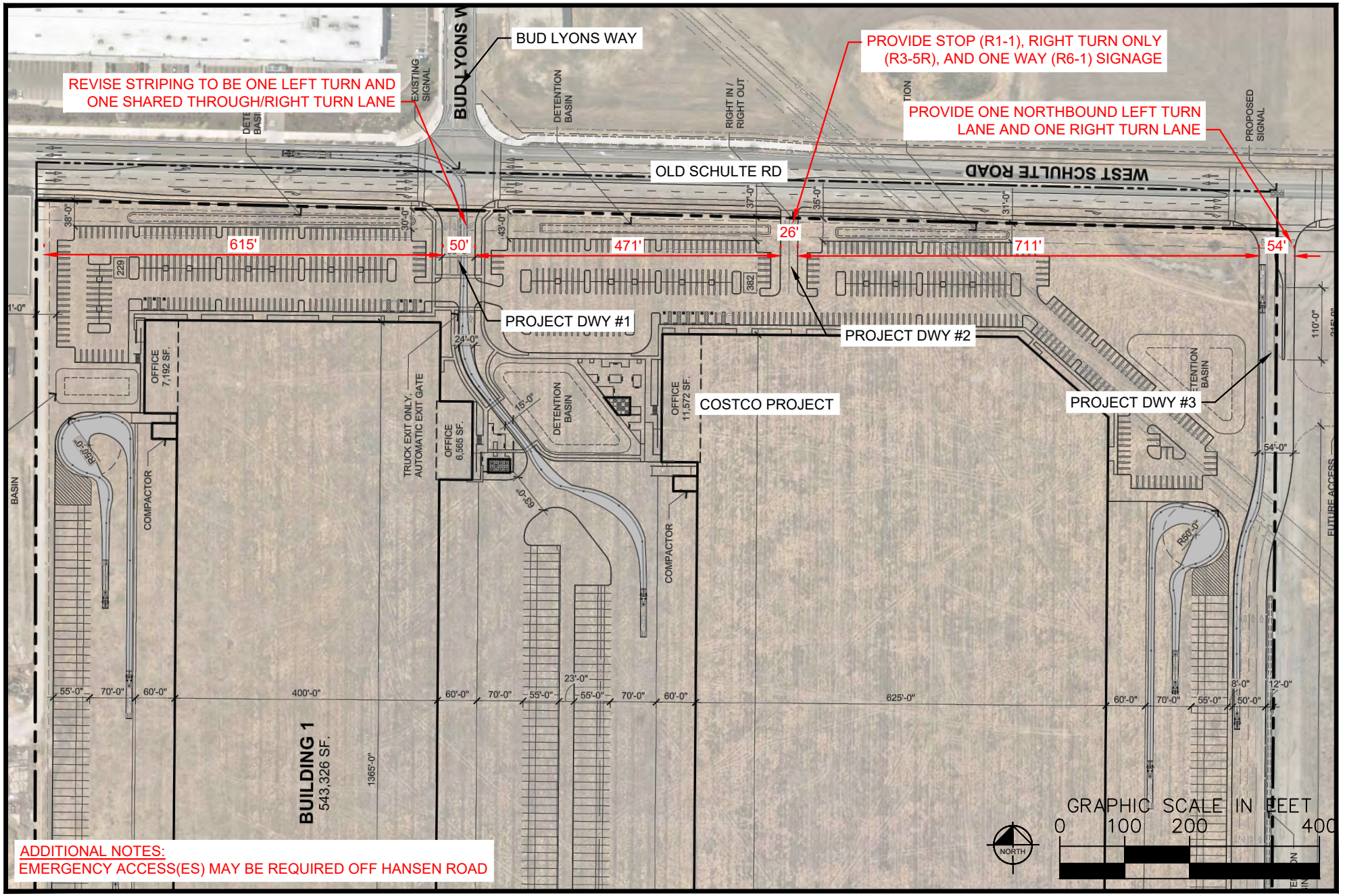
**Table 14 – Driveway Access Review**

| # | Width | Proposed Control | Proposed Access | Proposed Vehicle Type | Recommendations/Comments |
|---|---|---|---|---|---|
| 1 | 50’ | Signal | Full | Cars & Trucks Out | • Revise striping to the following: 1 left turn and 1 through/right turn lane. |
| 2 | 26’ | SSSC | RIRO | Cars | • Provide Stop (R1-1), Right Turn Only (R3-5R), and One Way (R6-1) signage. |
| 3 | 54’ | Signal | Full | Trucks In & Out | • A left turn lane and a right turn pocket are needed for the signal. |
| Additional Notes | | | | | • Emergency vehicle access(es) may be required off Hansen Road. |

Notes:
1. SSSC = Side Street Stop Control
2. RIRO = Right In / Right Out Access; Full = Full Access

**Figure 21** illustrates the driveway spacing, widths, and recommendations. **Figure 22** shows the signal spacings along Old Schulte Road between existing and proposed signals. The proposed Project signals provide sufficient spacings.

See the Vehicle Turning Templates section for a review of passenger cars and trucks at the Project driveways and the External Network Review section for a review of the Project frontage and turn lanes required at Project driveways and intersections.

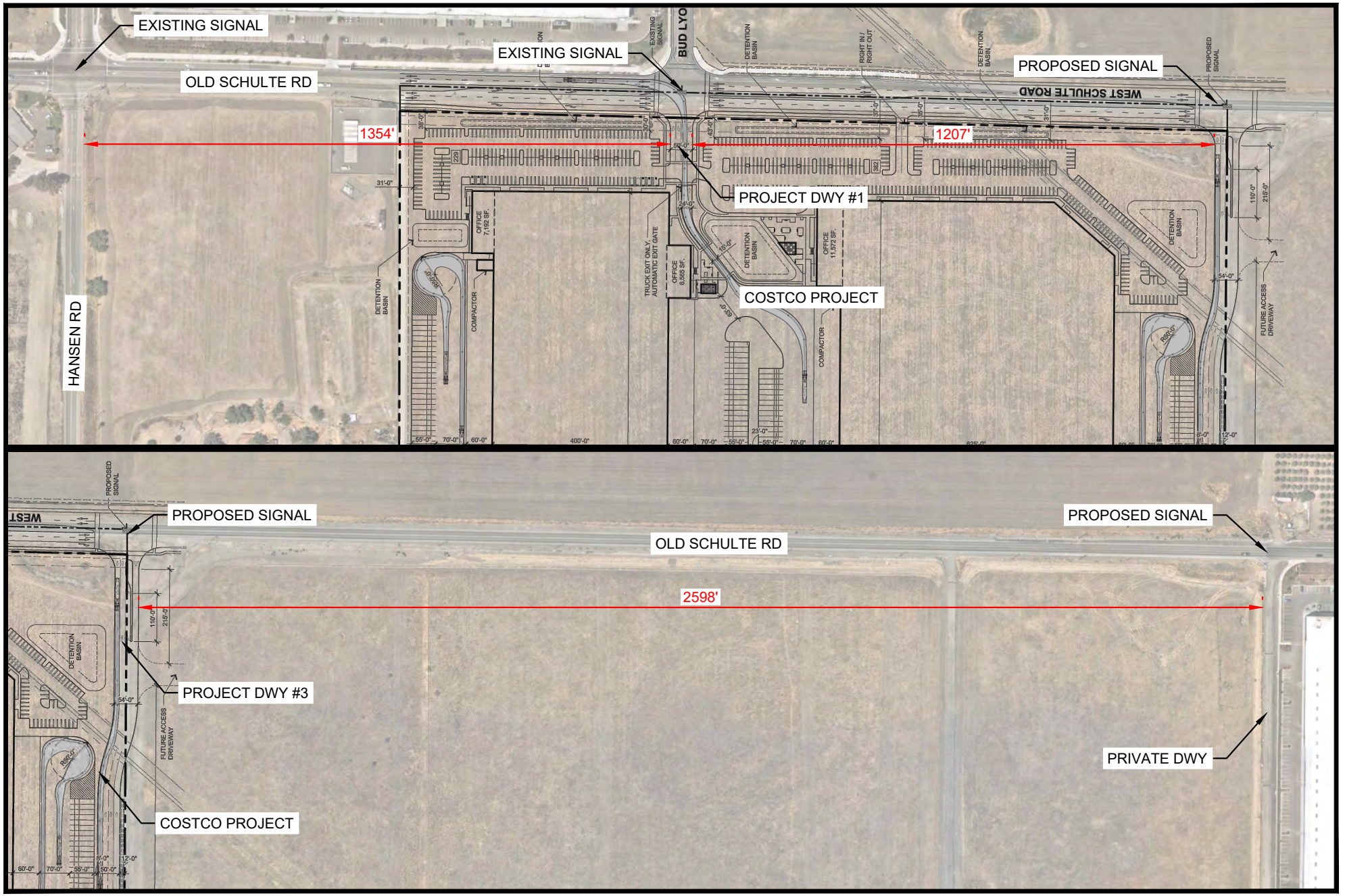



ADDITIONAL NOTES:
EMERGENCY ACCESS(ES) MAY BE REQUIRED OFF HANSEN ROAD

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December 2021

Figure 21
Driveway Access Review
Costco Site Plan Review
Tracy Costco Direct Delivery Center




GRAPHIC SCALE IN FEET
0 150 300 600

Figure 22
Signal Spacing Review
Costco Site Plan Review
Tracy Costco Direct Delivery Center

December 2021

## 11. Internal Circulation Review

*Truck Gate Queuing Review*

An internal truck gate queuing analysis was performed to determine if the proposed truck entrance at Project Driveway #3 can adequately accommodate queuing on-site without spilling onto Old Schulte Road. The Project site proposes three entrance lanes and one exit lane. All trucks entering the site will enter at Project Driveway #3.

Two queueing analysis scenarios were analyzed:

1. All three lanes stopping at the security buildings
2. Two lanes stopping at the security buildings and one lane bypassing the security buildings.
    a. The expectation is that Costco Direct Delivery Center will have means of identifying certain trucks that will allow those trucks to avoid stopping at the security buildings when entering.

Operations at the existing Costco distribution warehouse located on Old Schulte Road west of the Project site were observed in November 2020 from 10:35 AM to 11:30 AM. The existing site has one bypass lane and two service lanes. From this observation, it was recorded that each truck was processed at a rate of 170 seconds per truck (approximately 3 minutes per truck). It was also recorded that approximately 50% of entering trucks use the bypass lane.

The following assumptions were used to calculate the truck entrance queuing:

- Uniform arrival rate
- 3-minute service time per truck that stops at a security building
- 2,300 feet per lane of available storage
- To determine an initial queue and off-peak hour queuing, ITE's Time of Day Distribution was utilized to estimate what percentage of the peak hour trips would occur during the off peaks. Trucks entering the site would be distributed as follows during the three peak hours of queue analysis:
    - 30% of the peak hour trips would arrive in the hour just before the peak hour
    - 70% of the peak hour trips would arrive in the hour just after the peak hour
    - 50% of the peak hour trips would arrive in the following hour
- 50% of truck trips will utilize the bypass lane (Scenario 2 only)

See the **Appendix** for queuing calculations. The expected queue per scenario is the following:

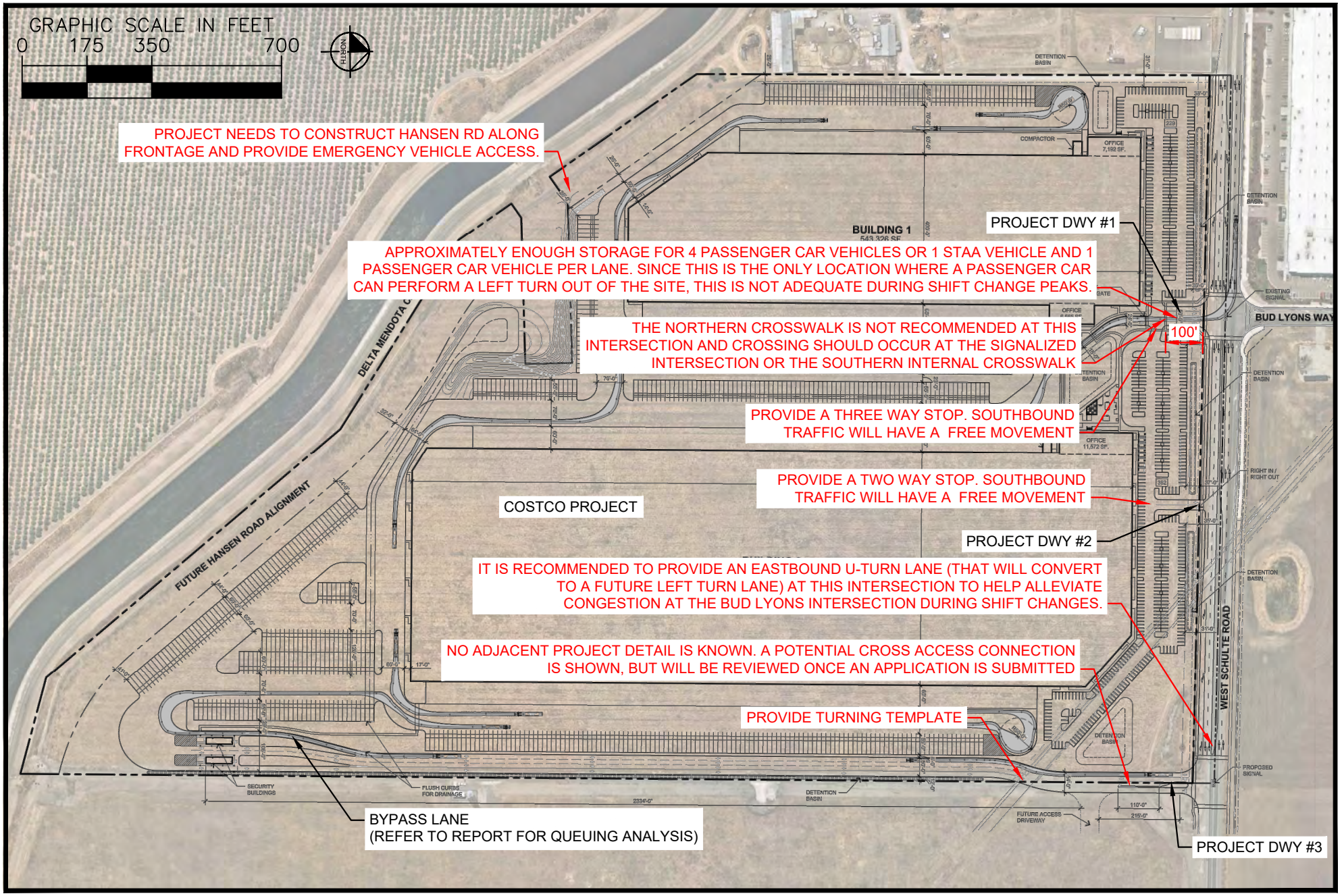
- Scenario 1 (no bypass lane) – 2,100 ft
- Scenario 2 (with bypass lane) – 750 ft

The analysis indicates that the vehicle storage for full gate control, Scenario 1, is marginally sufficient. If one bypass lane is provided, the storage is adequate.

*Site Plan Comments*

A review of the internal circulation has been provided in **Figure 23**. The following summarizes the comments:

- Approximately 100 feet is provided between Old Schulte Road and the internal drive aisle. This is only enough space for 4 passenger car vehicles or 1 STAA and 1 passenger car vehicle per lane. Since this is the only location where a passenger car can perform a left turn out of the site, this is not adequate during the shift change peaks. To alleviate congestion at this point, it is recommended to provide an eastbound U-turn lane (that could potentially convert to a future left turn lane) at the Old Schulte Road and Project Driveway #3 signalized intersection.
- At Project Driveway #1, the northern internal crosswalk should be removed as this will conflict with vehicles entering and exiting the Project. This crossing should occur at the signal instead or at the southern internal crosswalk.
- Provide a three way stop at the Project Driveway #1 internal intersection with the inbound movement as the free movement.
- No project detail is known for the eastern adjacent parcel that will share Project Driveway #3. The cross access shown will be reviewed in the future, once a development application is submitted for the adjacent parcel.
- Provide clear signage and/or pavement markings for trucks entering Project Driveway #3 that designates security versus bypass lanes.
- Provide truck turning templates at reverse curve within Project Driveway #3.




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Figure 23
Internal Circulation Review
Costco Site Plan Review
Tracy Costco Direct Delivery Center

## 12. Vehicle Turning Templates

The following design vehicles were analyzed at each Project driveway:

1. Passenger Car
2. STAA Truck

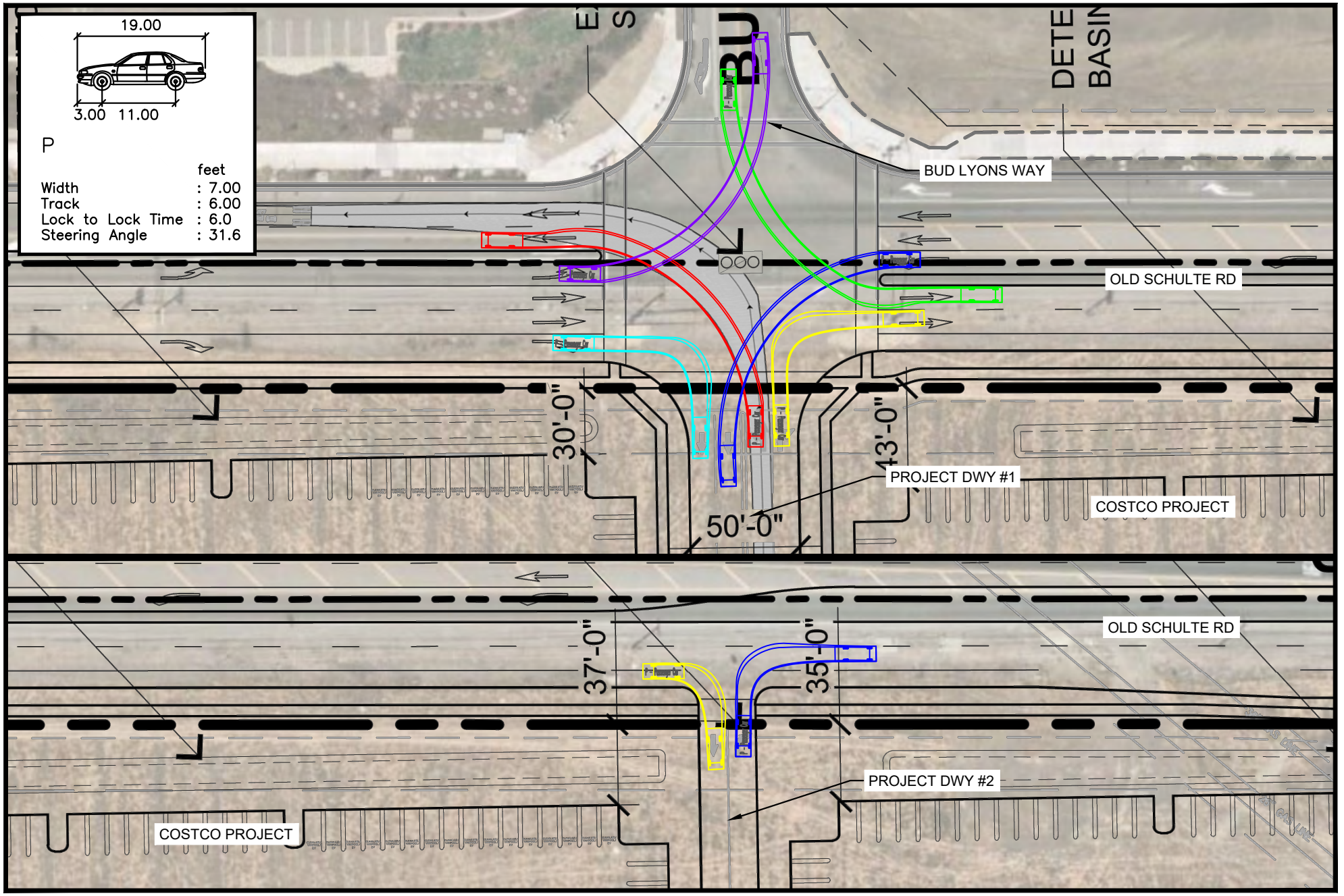
It is anticipated that passenger cars will only access the site from Driveways #1 and #2. It is anticipated that STAA trucks will only exit the site at Driveway #1 but can fully access the site at Driveway #3.

**Figure 24** illustrates the passenger car turning templates and **Figure 25** illustrates the STAA truck turning templates.

It was determined that a passenger car can access the site with no turning conflicts.

The following comments have been provided for the STAA turning templates:

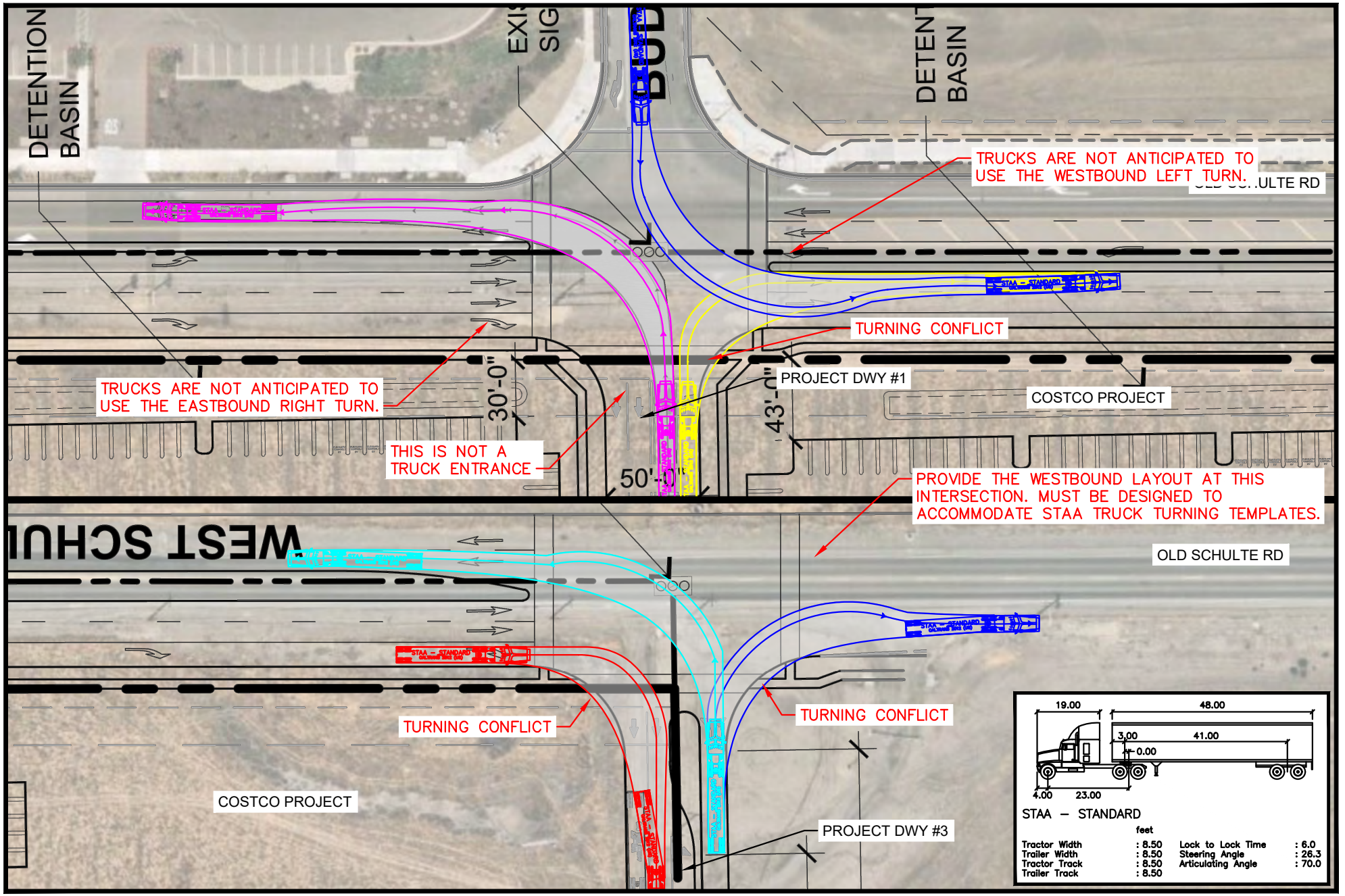
- STAA trucks are unable to perform northbound right turn at Driveway #1. Design modifications to the proposed curb are required to allow STAA trucks to perform necessary movements to access the site.
- STAA trucks are unable to perform eastbound and northbound right turns at Driveway #3. Design modifications to the proposed curb are required to allow STAA trucks to perform necessary movements to access the site.
- A westbound left turn must be provided at Driveway #3 and it must accommodate a STAA truck turning template.




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Figure 24
Passenger Car Turning Templates
Costco Site Plan Review
Tracy Costco Direct Delivery Center

December 2021




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NORTH

GRAPHIC SCALE IN FEET
0 35 70 140

Figure 25
STAA Truck Turning Template
Costco Site Plan Review
Tracy Costco Direct Delivery Center

December 2021

## 13. External Network Review

The Project frontage was reviewed per the City of Tracy TMP 4-Lane Parkway cross section provided in **Figure 26**.

**Figure 26 – 4-Lane Parkway TMP Cross Section**

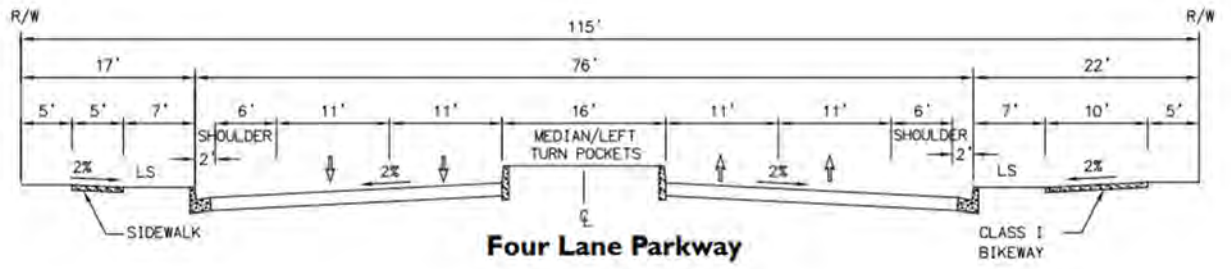
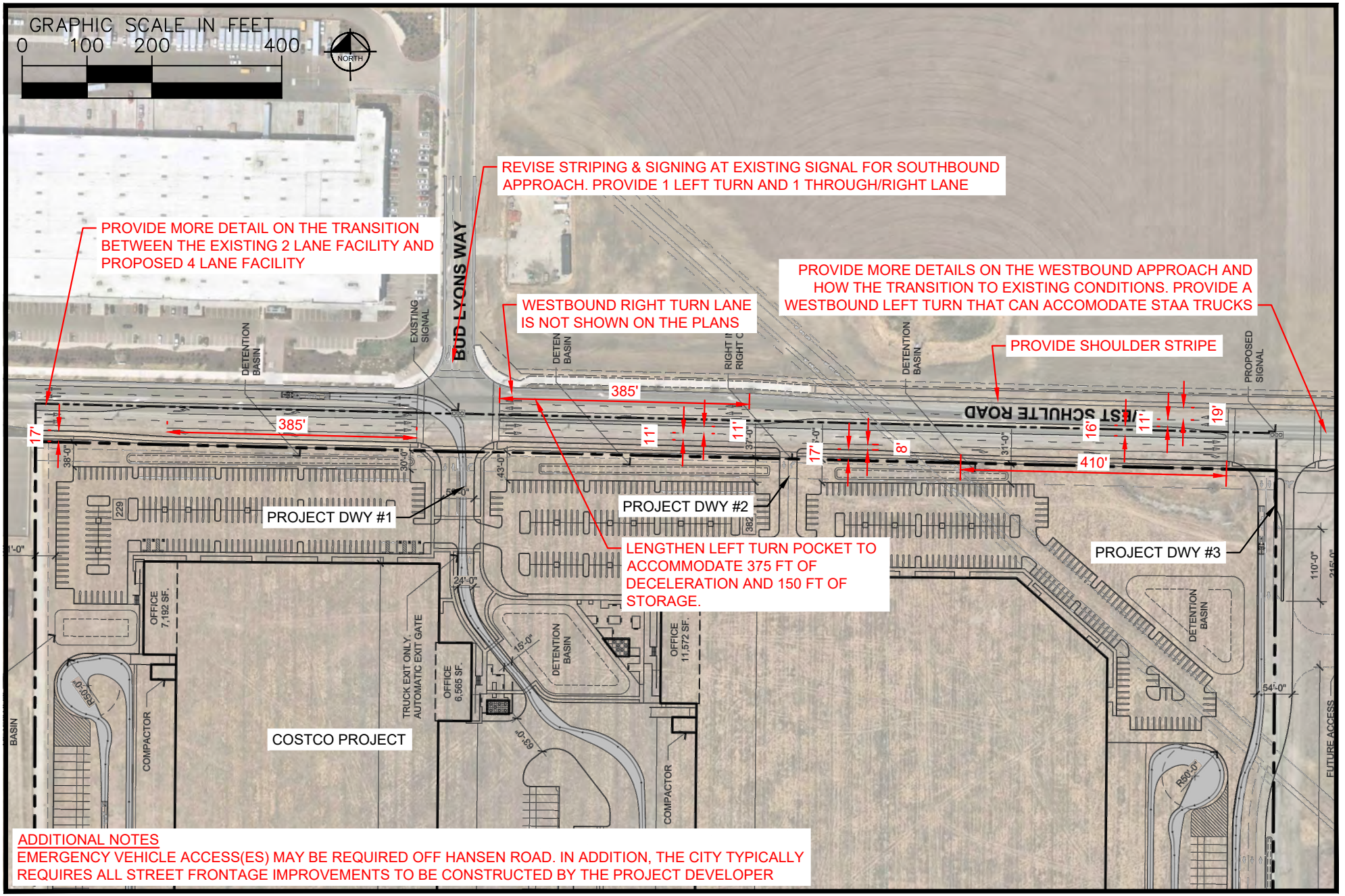



**Figure 27** illustrates the external network comments. The following summarizes the comments:

- Provide more detail on the transitions between existing conditions on both the east and west end of the Project limits.
- Provide the striping at the intersection of Old Schulte Road and Project Driveway #3. This approach must include a westbound left turn pocket that can accommodate a CA-STAA truck.
- Revise the signing and striping for the southbound movement at Old Schulte Road and Bud Lyons Way. Provide one left turn and one through/right lane.
- The Westbound right turn lane at the intersection of Old Schulte Road and Bud Lyons is existing and should be shown on the plan set.
- Provide eastbound shoulder stripe.
- Lengthen the westbound left turn lane at Project Driveway #1 to accommodate 375 feet of deceleration and 150 feet of storage.
- Emergency vehicle access(es) may be required off Hansen Road. In addition, the City typically requires all street frontage improvements to be constructed but the Project developer.




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December 2021

Figure 27
External Network Review
Costco Site Plan Review
Tracy Costco Direct Delivery Center

## 14. Merge Analysis on Westbound Old Schulte Road East of the Delta-Mendota Canal Bridge

A review of the Old Schulte Road roadway widening at the Delta-Mendota Canal Bridge was conducted to determine if queues from the merge would spill back into the Hansen Road and Old Schulte Road intersection.

Currently, the Delta-Mendota Canal Bridge is a two-lane facility and is located on Old Schulte Road just east of the Costco Development. The purpose of this study is to determine if the Delta-Mendota Canal Bridge widening is required by Phase 1 or the full Costco development.

*Queuing Analysis*

Queuing analysis was completed using SimTraffic 11 and the average of 5 seedings were utilized, consistent with industry practice. The following conditions were analyzed:

- Background Conditions without bridge widening
- Background Plus Phase 1 Conditions (without bridge widening)
- Background Plus Costco Buildout Conditions (without bridge widening)

For this analysis only the AM peak hour were analyzed because it was determined that the deficiency occurred in the westbound direction during the AM peak hour in the previous study.

For information on volumes utilized for this analysis refer to the Costco Direct Delivery Center Traffic Analysis (June 2022).

The following improvement has been assumed:

- Widening of Old Schulte Road
    - Widen Old Schulte Road to a four-lane facility from 295 feet west of Hansen Road to the eastern boundary of the Costco Project.

The distance from the Delta-Mendota Canal Bridge to the Hansen Road and Old Schulte Road intersection is approximately 900 feet. According to the Caltrans Highway Design Manual (HDM), the necessary lane merge distance for a 45 MPH road (design speed of 55 MPH) with 11-foot wide lanes is equivalent to 605 feet (55 MPH * 11 feet) of merge distance required. Therefore, the lane merge must occur approximately 295 feet west of the intersection of Hansen Road and Old Schulte Road.

**Figure 28** provides an illustration of the HDM requirements.

**Table 15** provides the 95$^{th}$ percentile queueing analysis for the Project. **Table 16** provides the maximum queueing analysis for the Project.

From the analysis it was determined that the 95$^{th}$ percentile queues for Phase 1 and the full Costco development would not extend into the intersepction. The maximum queues were provided for informational purposes and it was determined that the maximum queues could extend into the intersection; however, standard practice is to utilize the 95$^{th}$ percentile queue for analysis. Small flucations in traffic (increase) would result in the westbound 95$^{th}$ percentile queues extending into the Hansen Road and Old Schulte Road intersection.

Therefore, this analysis shows that the Costco development is not triggering the widening of the Delta-Mendota Canal Bridge for Background Plus Project Conditions. It was concluded from the queuing analysis, that the widening of the Delta-Mendota Canal Bridge is imminent.

**Table 15 – 95th Percentile Queueing Analysis**

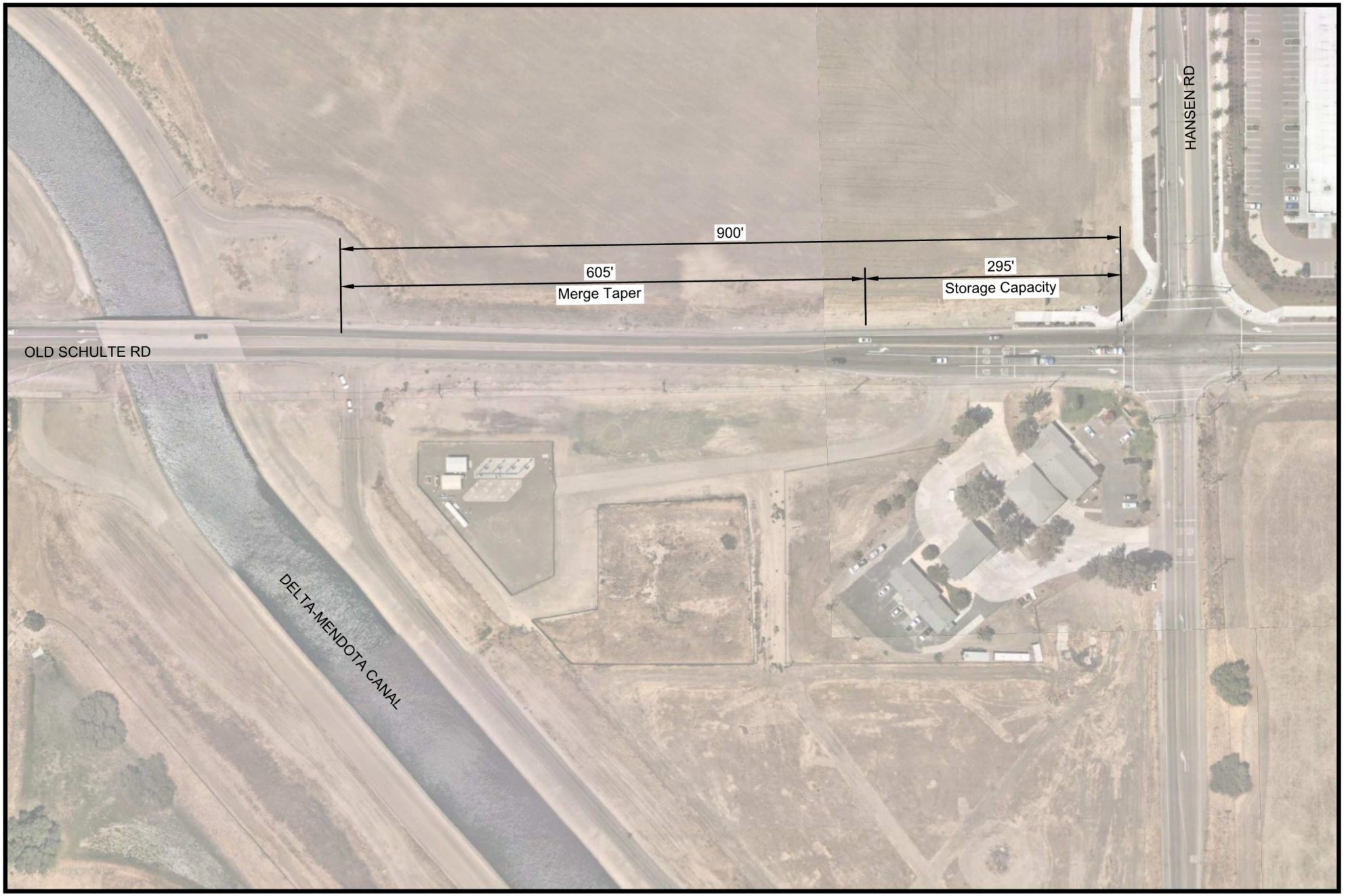
| Scenario | Available Queue Capacity | AM Westbound 95th Percentile Queue | | 95th Percentile Queue Acceptable? (Y/N) |
|---|---|---|---|---|
| | | Lane 1 | Lane 2 | |
| Background Conditions | 295 ft | 148 ft | 69 ft | Y |
| Background Plus Phase 1 Conditions (without bridge widening) | | 174 ft | 71 ft | Y |
| Background Plus Costco Development Conditions (without bridge widening) | | 165 ft | 100 ft | Y |

Notes
1. Simtraffic Simulations results are averaged from 5 simulations

**Table 16 – Maximum Queueing Analysis**

| Scenario | Available Queue Capacity | AM Westbound Maximum Queue | | Maximum Queue Acceptable? (Y/N) |
|---|---|---|---|---|
| | | Lane 1 | Lane 2 | |
| Background Conditions | 295 ft | 232 ft | 122 ft | Y |
| Background Plus Phase 1 Conditions (without bridge widening) | | **304 ft** | 143 ft | **N** |
| Background Plus Costco Development Conditions (without bridge widening) | | **309 ft** | 270 ft | **N** |

Notes
1. Simtraffic Simulations results are averaged from 5 simulations




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July 2022

Figure 28

Queue Capacity

Tracy Costco Direct Delivery Center

## 15. Appendix

A. Project Site Plan

B. Traffic Counts

C. Background Conditions Synchro Outputs

D. Background Plus Project Conditions Synchro Outputs

E. Background Plus Project Conditions (Mitigated) Synchro Outputs

F. Cumulative Conditions Synchro Outputs

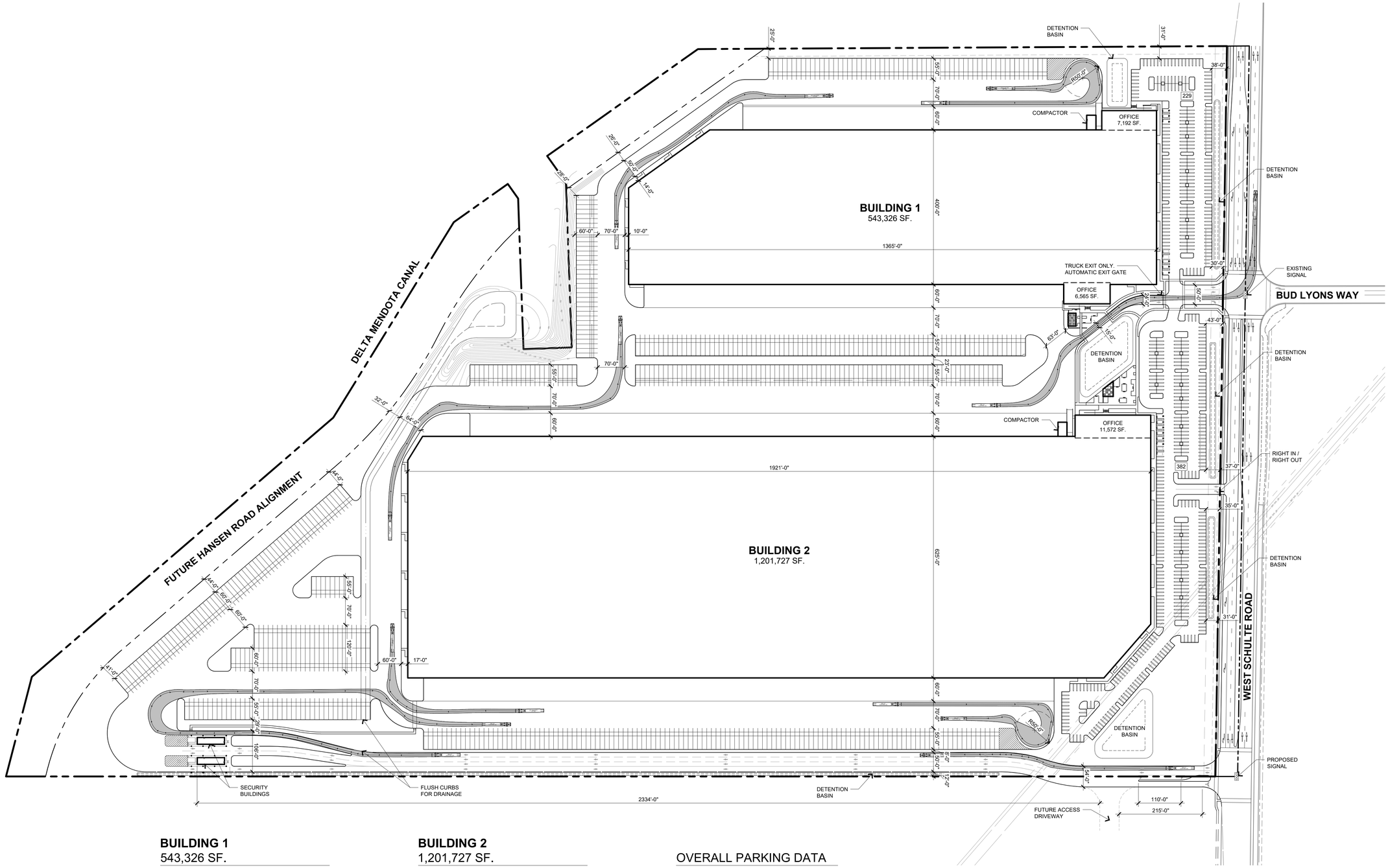
G. Cumulative Plus Project Conditions Synchro Outputs

H. Cumulative Plus Project (Mitigated) Conditions Synchro Outputs

I. Truck Queuing Analysis

J. Old Schulte Road Merge Simtraffic Analysis

**A. Project Site Plan**




## BUILDING 1
543,326 SF.

| | |
|---|---|
| 1/1000 s.f. for First 20,000 s.f. of Building Area: | 20 Stalls |
| 1/2000 s.f. for 20,000-40,000 s.f. of Building Area: | +10 Stalls |
| 1/4000 s.f. for Remaining s.f. of Building Area. Remaining Warehouse Building Area (489,569 s.f.) | +123 Stalls |
| 1/250 s.f. for the Office Building Area (13,757 s.f.): | +56 Stalls |
| **Total Required Parking:** | **209 Stalls** |
| **Total Proposed Parking:** | **229 Stalls** |
| **Total Proposed Truck/Trailer Parking:** | **204 Stalls** |

## BUILDING 2
1,201,727 SF.

| | |
|---|---|
| 1/1000 s.f. for First 20,000 s.f. of Building Area: | 20 Stalls |
| 1/2000 s.f. for 20,000-40,000 s.f. of Building Area: | +10 Stalls |
| 1/4000 s.f. for Remaining s.f. of Building Area. Remaining Warehouse Building Area (1,150,155 s.f.): | +288 Stalls |
| 1/250 s.f. for the Office Building Area (11,572 s.f.): | +47 Stalls |
| **Total Required Parking:** | **365 Stalls** |
| **Total Proposed Parking:** | **382 Stalls** |
| **Total Proposed Truck/Trailer Parking:** | **371 Stalls** |

## OVERALL PARKING DATA

| | |
|---|---|
| Required 9' Wide Standard Parking Stalls: | 517 Stalls |
| Required Accessible Parking Stalls: | 12 Stalls |
| Required Clean Air / Vanpool / EV Parking Stalls: (Including EV Accessible Parking Stalls) | 45 Stalls |
| **Total Required Parking:** | **574 Stalls** |
| **Total Proposed Parking:** | **611 Stalls** |

DBA # P.281

DB+A
DAVID BABCOCK + ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD., SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

# COSTCO FACILITIES

## CONCEPT SITE PLAN 13.0

0 30' 60' 120' 240'

SCALE 1"=120'

June 2, 2021

NORTH

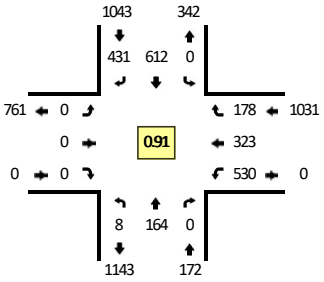
SHEET 1 of 1

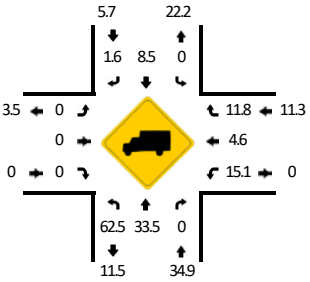
**B. Traffic Counts**

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

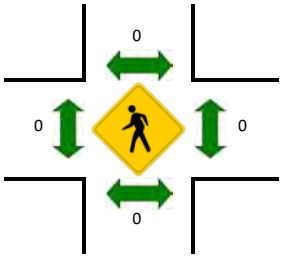
**LOCATION:** Mountain House Pkwy -- I-205 WB Ramps | **QC JOB #:** 14993001
**CITY/STATE:** San Joaquin, CA | **DATE:** Thu, May 23 2019

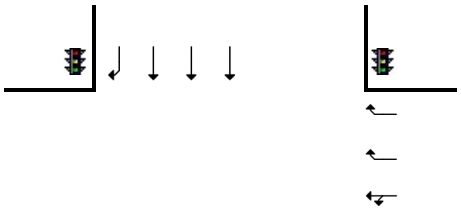
**Peak-Hour: 7:00 AM -- 8:00 AM**
**Peak 15-Min: 7:00 AM -- 7:15 AM**

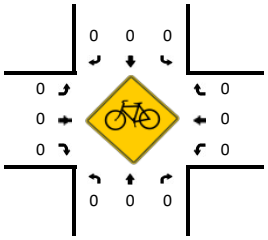


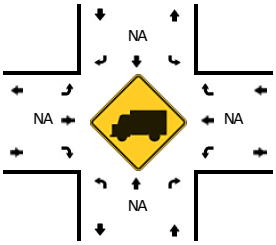



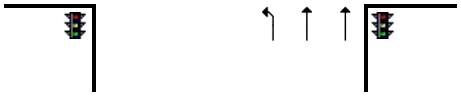

Quality Counts
DATA THAT DRIVES COMMUNITIES

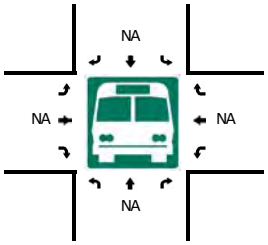











| 5-Min Count Period Beginning At | Mountain House Pkwy (Northbound) | | | | Mountain House Pkwy (Southbound) | | | | I-205 WB Ramps (Eastbound) | | | | I-205 WB Ramps (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 1 | 8 | 0 | 0 | 0 | 63 | 67 | 0 | 0 | 0 | 0 | 0 | 27 | 21 | 13 | 0 | 200 | |
| 7:05 AM | 0 | 11 | 0 | 0 | 0 | 51 | 56 | 0 | 0 | 0 | 0 | 0 | 39 | 27 | 13 | 0 | 197 | |
| 7:10 AM | 0 | 14 | 0 | 0 | 0 | 60 | 63 | 0 | 0 | 0 | 0 | 0 | 46 | 25 | 13 | 0 | 221 | |
| 7:15 AM | 1 | 9 | 0 | 0 | 0 | 68 | 38 | 0 | 0 | 0 | 0 | 0 | 44 | 19 | 9 | 0 | 188 | |
| 7:20 AM | 1 | 10 | 0 | 0 | 0 | 36 | 36 | 0 | 0 | 0 | 0 | 0 | 41 | 24 | 13 | 0 | 161 | |
| 7:25 AM | 1 | 20 | 0 | 0 | 0 | 45 | 23 | 0 | 0 | 0 | 0 | 0 | 57 | 33 | 12 | 0 | 191 | |
| 7:30 AM | 0 | 12 | 0 | 1 | 0 | 60 | 14 | 0 | 0 | 0 | 0 | 0 | 45 | 31 | 20 | 0 | 183 | |
| 7:35 AM | 1 | 15 | 0 | 0 | 0 | 34 | 26 | 0 | 0 | 0 | 0 | 0 | 52 | 31 | 10 | 0 | 169 | |
| 7:40 AM | 0 | 13 | 0 | 0 | 0 | 57 | 28 | 0 | 0 | 0 | 0 | 0 | 43 | 27 | 11 | 0 | 179 | |
| 7:45 AM | 2 | 16 | 0 | 0 | 0 | 53 | 22 | 0 | 0 | 0 | 0 | 0 | 34 | 27 | 20 | 0 | 174 | |
| 7:50 AM | 0 | 18 | 0 | 0 | 0 | 43 | 31 | 0 | 0 | 0 | 0 | 0 | 44 | 33 | 32 | 0 | 201 | |
| 7:55 AM | 0 | 18 | 0 | 0 | 0 | 42 | 27 | 0 | 0 | 0 | 0 | 0 | 58 | 25 | 12 | 0 | 182 | 2246 |
| 8:00 AM | 1 | 10 | 0 | 0 | 0 | 56 | 29 | 0 | 0 | 0 | 0 | 0 | 46 | 19 | 15 | 0 | 176 | 2222 |
| 8:05 AM | 1 | 14 | 0 | 0 | 0 | 40 | 25 | 0 | 0 | 0 | 0 | 0 | 45 | 40 | 20 | 0 | 185 | 2210 |
| 8:10 AM | 0 | 7 | 0 | 0 | 0 | 46 | 17 | 0 | 0 | 0 | 0 | 0 | 50 | 13 | 23 | 0 | 156 | 2145 |
| 8:15 AM | 0 | 14 | 0 | 0 | 0 | 41 | 12 | 0 | 0 | 0 | 0 | 0 | 33 | 6 | 25 | 0 | 131 | 2088 |
| 8:20 AM | 0 | 15 | 0 | 0 | 0 | 38 | 18 | 0 | 0 | 0 | 0 | 0 | 29 | 3 | 16 | 0 | 119 | 2046 |
| 8:25 AM | 0 | 6 | 0 | 0 | 0 | 28 | 14 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 13 | 0 | 103 | 1958 |
| 8:30 AM | 0 | 11 | 0 | 0 | 0 | 35 | 11 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 15 | 0 | 93 | 1868 |
| 8:35 AM | 1 | 16 | 0 | 0 | 0 | 35 | 13 | 0 | 0 | 0 | 0 | 0 | 21 | 1 | 18 | 0 | 105 | 1804 |
| 8:40 AM | 0 | 10 | 0 | 0 | 0 | 34 | 6 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 21 | 0 | 95 | 1720 |
| 8:45 AM | 0 | 13 | 0 | 0 | 0 | 40 | 13 | 0 | 0 | 0 | 0 | 0 | 27 | 1 | 20 | 0 | 114 | 1660 |
| 8:50 AM | 0 | 4 | 0 | 0 | 0 | 28 | 5 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 16 | 0 | 72 | 1531 |
| 8:55 AM | 0 | 16 | 0 | 0 | 0 | 53 | 8 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 16 | 0 | 113 | 1462 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 4 | 132 | 0 | 0 | 0 | 696 | 744 | 0 | 0 | 0 | 0 | 0 | 448 | 292 | 156 | 0 | 2472 |
| Heavy Trucks | 4 | 48 | 0 | | 0 | 96 | 4 | | 0 | 0 | 0 | | 100 | 12 | 20 | | 284 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

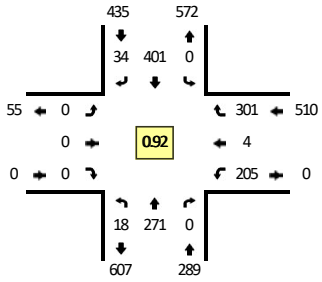
Type of peak hour being reported: Intersection Peak

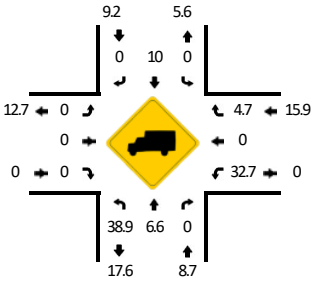
Method for determining peak hour: Total Entering Volume

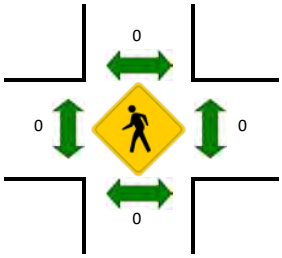
**LOCATION:** Mountain House Pkwy -- I-205 WB Ramps
**CITY/STATE:** San Joaquin, CA

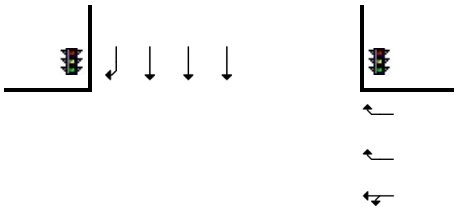
**QC JOB #:** 14993002
**DATE:** Thu, May 23 2019

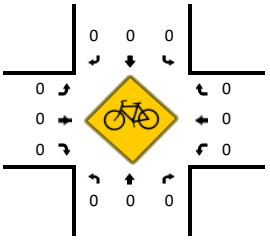
**Peak-Hour: 4:00 PM -- 5:00 PM**
**Peak 15-Min: 4:25 PM -- 4:40 PM**

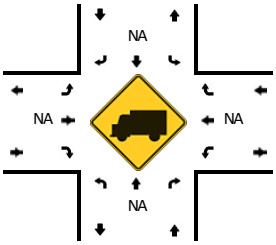


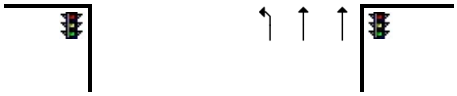



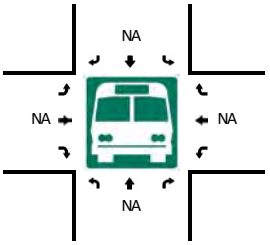








| 5-Min Count Period Beginning At | Mountain House Pkwy (Northbound) | | | | Mountain House Pkwy (Southbound) | | | | I-205 WB Ramps (Eastbound) | | | | I-205 WB Ramps (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 1 | 13 | 0 | 0 | 0 | 27 | 2 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 33 | 0 | 99 | |
| 4:05 PM | 1 | 26 | 0 | 0 | 0 | 46 | 1 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 18 | 0 | 100 | |
| 4:10 PM | 3 | 30 | 0 | 0 | 0 | 43 | 3 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 23 | 0 | 117 | |
| 4:15 PM | 1 | 16 | 0 | 0 | 0 | 38 | 4 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 23 | 0 | 95 | |
| 4:20 PM | 1 | 24 | 0 | 0 | 0 | 23 | 4 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 26 | 0 | 95 | |
| 4:25 PM | 1 | 19 | 0 | 0 | 0 | 37 | 3 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 32 | 0 | 109 | |
| 4:30 PM | 2 | 19 | 0 | 0 | 0 | 38 | 3 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 25 | 0 | 102 | |
| 4:35 PM | 1 | 35 | 0 | 0 | 0 | 41 | 5 | 0 | 0 | 0 | 0 | 0 | 14 | 2 | 25 | 0 | 123 | |
| 4:40 PM | 1 | 19 | 0 | 0 | 0 | 26 | 1 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 24 | 0 | 95 | |
| 4:45 PM | 1 | 21 | 0 | 0 | 0 | 30 | 1 | 0 | 0 | 0 | 0 | 0 | 17 | 1 | 32 | 0 | 103 | |
| 4:50 PM | 0 | 27 | 0 | 1 | 0 | 24 | 4 | 0 | 0 | 0 | 0 | 0 | 19 | 1 | 27 | 0 | 103 | |
| 4:55 PM | 4 | 22 | 0 | 0 | 0 | 28 | 3 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 13 | 0 | 93 | 1234 |
| 5:00 PM | 0 | 13 | 0 | 1 | 0 | 15 | 4 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 32 | 0 | 81 | 1216 |
| 5:05 PM | 2 | 18 | 0 | 0 | 0 | 33 | 3 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 23 | 0 | 90 | 1206 |
| 5:10 PM | 0 | 19 | 0 | 0 | 0 | 35 | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 26 | 0 | 91 | 1180 |
| 5:15 PM | 1 | 17 | 0 | 0 | 0 | 27 | 1 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 34 | 0 | 97 | 1182 |
| 5:20 PM | 2 | 16 | 0 | 1 | 0 | 23 | 1 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 15 | 0 | 73 | 1160 |
| 5:25 PM | 1 | 17 | 0 | 0 | 0 | 32 | 8 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 31 | 0 | 108 | 1159 |
| 5:30 PM | 0 | 31 | 0 | 0 | 0 | 28 | 2 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 30 | 0 | 112 | 1169 |
| 5:35 PM | 1 | 18 | 0 | 0 | 0 | 22 | 4 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 28 | 0 | 88 | 1134 |
| 5:40 PM | 0 | 16 | 0 | 0 | 0 | 28 | 1 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 33 | 0 | 97 | 1136 |
| 5:45 PM | 1 | 11 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 30 | 0 | 98 | 1131 |
| 5:50 PM | 0 | 19 | 0 | 0 | 0 | 29 | 2 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 23 | 0 | 92 | 1120 |
| 5:55 PM | 0 | 11 | 0 | 1 | 0 | 30 | 5 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 17 | 0 | 83 | 1110 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 16 | 292 | 0 | 0 | 0 | 464 | 44 | 0 | 0 | 0 | 0 | 0 | 184 | 8 | 328 | 0 | 1336 |
| Heavy Trucks | 8 | 12 | 0 | | 0 | 44 | 0 | | 0 | 0 | 0 | | 60 | 0 | 20 | | 144 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

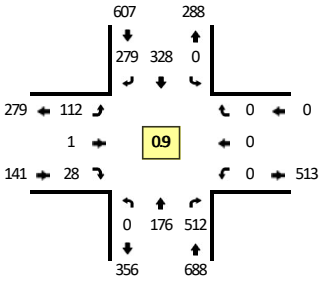
Type of peak hour being reported: Intersection Peak

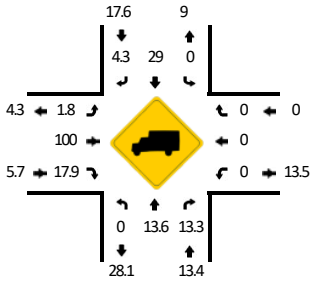
Method for determining peak hour: Total Entering Volume

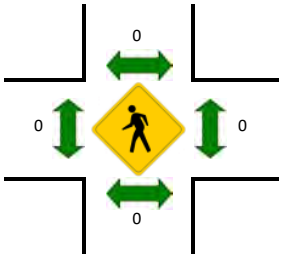
**LOCATION:** Mountain House Pkwy -- I-205 EB Ramps
**CITY/STATE:** San Joaquin, CA

**QC JOB #:** 14993004
**DATE:** Thu, May 23 2019

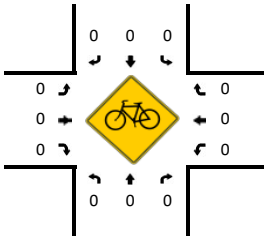
**Peak-Hour: 4:00 PM -- 5:00 PM**
**Peak 15-Min: 4:00 PM -- 4:15 PM**

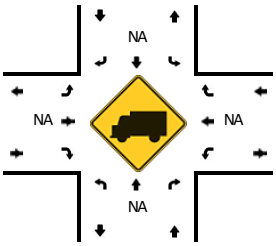


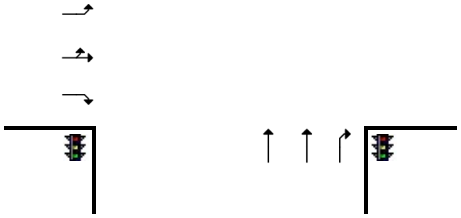



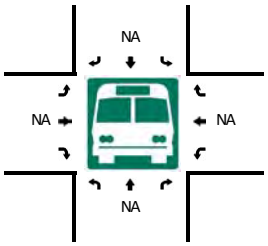








| 5-Min Count Period Beginning At | Mountain House Pkwy (Northbound) | | | | Mountain House Pkwy (Southbound) | | | | I-205 EB Ramps (Eastbound) | | | | I-205 EB Ramps (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 12 | 49 | 0 | 0 | 33 | 17 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 116 | |
| 4:05 PM | 0 | 16 | 55 | 0 | 0 | 22 | 32 | 0 | 11 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 137 | |
| 4:10 PM | 0 | 24 | 55 | 0 | 0 | 31 | 27 | 0 | 8 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 147 | |
| 4:15 PM | 0 | 10 | 42 | 0 | 0 | 16 | 35 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 111 | |
| 4:20 PM | 0 | 12 | 49 | 0 | 0 | 26 | 14 | 0 | 11 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 115 | |
| 4:25 PM | 0 | 9 | 33 | 0 | 0 | 23 | 31 | 0 | 9 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 108 | |
| 4:30 PM | 0 | 9 | 53 | 0 | 0 | 33 | 20 | 0 | 15 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 136 | |
| 4:35 PM | 0 | 18 | 38 | 0 | 0 | 27 | 30 | 0 | 13 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 130 | |
| 4:40 PM | 0 | 18 | 39 | 0 | 0 | 32 | 16 | 0 | 5 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 114 | |
| 4:45 PM | 0 | 17 | 27 | 0 | 0 | 25 | 23 | 0 | 8 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 103 | |
| 4:50 PM | 0 | 19 | 49 | 0 | 0 | 28 | 15 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | |
| 4:55 PM | 0 | 12 | 23 | 0 | 0 | 32 | 19 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 94 | 1436 |
| 5:00 PM | 0 | 12 | 40 | 0 | 0 | 18 | 14 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 88 | 1408 |
| 5:05 PM | 0 | 15 | 48 | 0 | 0 | 22 | 22 | 0 | 5 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 114 | 1385 |
| 5:10 PM | 0 | 11 | 46 | 0 | 0 | 26 | 17 | 0 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 109 | 1347 |
| 5:15 PM | 0 | 14 | 34 | 0 | 1 | 27 | 18 | 0 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 103 | 1339 |
| 5:20 PM | 0 | 10 | 38 | 0 | 0 | 17 | 22 | 0 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 95 | 1319 |
| 5:25 PM | 0 | 10 | 32 | 0 | 0 | 30 | 22 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 103 | 1314 |
| 5:30 PM | 0 | 16 | 47 | 0 | 0 | 28 | 20 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 1303 |
| 5:35 PM | 0 | 10 | 41 | 0 | 0 | 20 | 17 | 0 | 6 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 96 | 1269 |
| 5:40 PM | 0 | 12 | 65 | 0 | 0 | 30 | 17 | 0 | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 134 | 1289 |
| 5:45 PM | 0 | 7 | 37 | 0 | 0 | 26 | 25 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 1284 |
| 5:50 PM | 0 | 10 | 33 | 0 | 0 | 27 | 21 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 97 | 1256 |
| 5:55 PM | 0 | 5 | 35 | 0 | 0 | 30 | 20 | 0 | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 100 | 1262 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 208 | 636 | 0 | 0 | 344 | 304 | 0 | 88 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 1600 |
| Heavy Trucks | 0 | 20 | 72 | | 0 | 84 | 12 | | 0 | 0 | 4 | | 0 | 0 | 0 | | 192 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

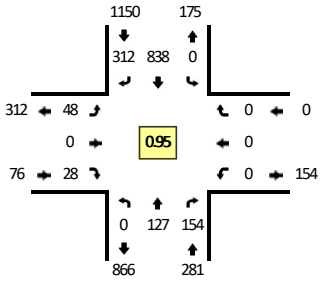
Type of peak hour being reported: Intersection Peak

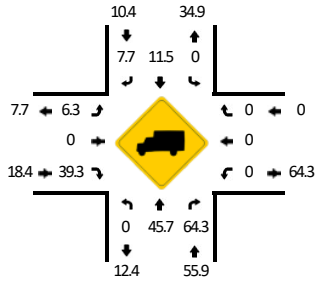
Method for determining peak hour: Total Entering Volume

**LOCATION:** Mountain House Pkwy -- I-205 EB Ramps
**CITY/STATE:** San Joaquin, CA

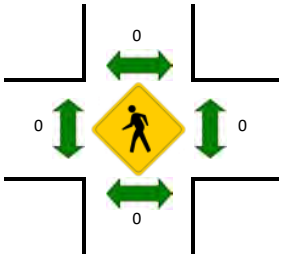
**QC JOB #:** 14993003
**DATE:** Thu, May 23 2019

**Peak-Hour: 7:10 AM -- 8:10 AM**
**Peak 15-Min: 7:50 AM -- 8:05 AM**

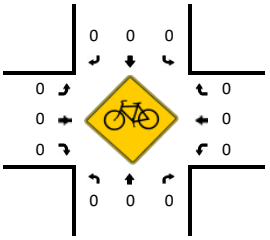


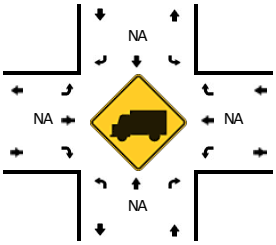



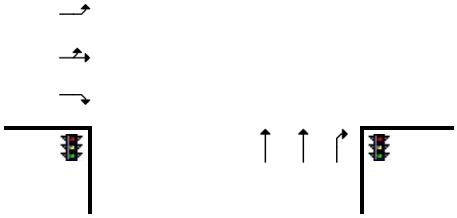

Quality Counts
DATA THAT DRIVES COMMUNITIES

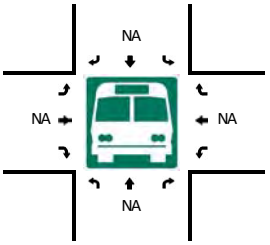







| 5-Min Count Period Beginning At | Mountain House Pkwy (Northbound) | | | | Mountain House Pkwy (Southbound) | | | | I-205 EB Ramps (Eastbound) | | | | I-205 EB Ramps (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 0 | 5 | 12 | 0 | 0 | 69 | 21 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 112 | |
| 7:05 AM | 0 | 12 | 9 | 0 | 0 | 79 | 11 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 113 | |
| 7:10 AM | 0 | 12 | 8 | 0 | 0 | 78 | 28 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 131 | |
| 7:15 AM | 0 | 6 | 11 | 0 | 0 | 95 | 17 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 135 | |
| 7:20 AM | 0 | 5 | 11 | 0 | 0 | 67 | 10 | 0 | 6 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 101 | |
| 7:25 AM | 0 | 14 | 9 | 0 | 0 | 90 | 12 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 132 | |
| 7:30 AM | 0 | 10 | 7 | 0 | 0 | 69 | 37 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 128 | |
| 7:35 AM | 0 | 9 | 11 | 0 | 0 | 58 | 28 | 0 | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 118 | |
| 7:40 AM | 0 | 11 | 14 | 0 | 0 | 68 | 32 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 127 | |
| 7:45 AM | 0 | 11 | 7 | 0 | 0 | 45 | 41 | 0 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 113 | |
| 7:50 AM | 0 | 17 | 16 | 0 | 0 | 59 | 29 | 0 | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 130 | |
| 7:55 AM | 0 | 13 | 15 | 0 | 0 | 78 | 22 | 0 | 5 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 135 | 1475 |
| 8:00 AM | 0 | 6 | 23 | 0 | 0 | 65 | 33 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 132 | 1495 |
| 8:05 AM | 0 | 13 | 22 | 0 | 0 | 66 | 23 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 1507 |
| 8:10 AM | 0 | 4 | 22 | 0 | 0 | 70 | 26 | 0 | 3 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 129 | 1505 |
| 8:15 AM | 0 | 12 | 23 | 0 | 1 | 44 | 29 | 0 | 5 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 118 | 1488 |
| 8:20 AM | 0 | 5 | 10 | 0 | 0 | 40 | 27 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 87 | 1474 |
| 8:25 AM | 0 | 7 | 24 | 0 | 0 | 53 | 17 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 106 | 1448 |
| 8:30 AM | 0 | 3 | 16 | 0 | 0 | 40 | 16 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 78 | 1398 |
| 8:35 AM | 0 | 15 | 17 | 0 | 0 | 27 | 28 | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 93 | 1373 |
| 8:40 AM | 0 | 5 | 28 | 0 | 0 | 32 | 26 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 98 | 1344 |
| 8:45 AM | 0 | 8 | 19 | 0 | 0 | 39 | 28 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97 | 1328 |
| 8:50 AM | 0 | 8 | 15 | 0 | 0 | 27 | 20 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 74 | 1272 |
| 8:55 AM | 0 | 7 | 15 | 0 | 0 | 34 | 39 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 101 | 1238 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 144 | 216 | 0 | 0 | 808 | 336 | 0 | 44 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 1588 |
| Heavy Trucks | 0 | 60 | 152 | | 0 | 108 | 12 | | 4 | 0 | 12 | | 0 | 0 | 0 | | 348 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

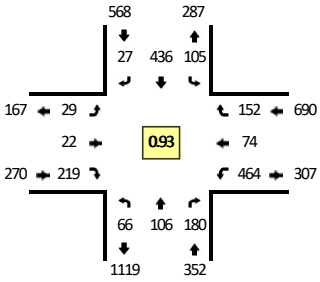
Type of peak hour being reported: Intersection Peak

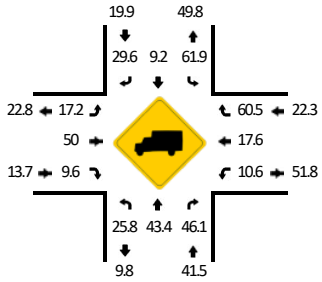
Method for determining peak hour: Total Entering Volume

**LOCATION:** International Pkwy -- W Schulte Rd
**CITY/STATE:** San Joaquin, CA

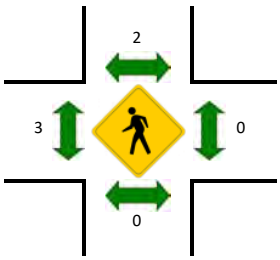
**QC JOB #:** 14993011
**DATE:** Thu, May 23 2019

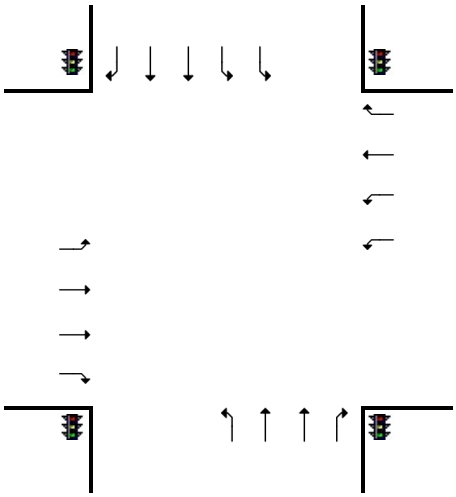
**Peak-Hour: 7:05 AM -- 8:05 AM**
**Peak 15-Min: 7:40 AM -- 7:55 AM**

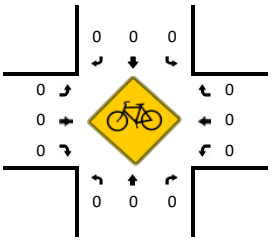


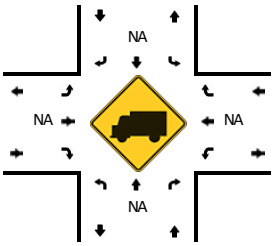



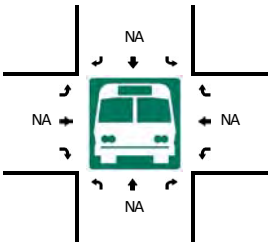

Quality Counts
DATA THAT DRIVES COMMUNITIES






| 5-Min Count Period Beginning At | International Pkwy (Northbound) | | | | International Pkwy (Southbound) | | | | W Schulte Rd (Eastbound) | | | | W Schulte Rd (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 10 | 7 | 12 | 1 | 8 | 33 | 4 | 0 | 1 | 2 | 27 | 0 | 42 | 9 | 2 | 0 | 158 | |
| 7:05 AM | 5 | 13 | 18 | 0 | 13 | 53 | 4 | 0 | 3 | 0 | 24 | 0 | 28 | 4 | 11 | 0 | 176 | |
| 7:10 AM | 3 | 7 | 21 | 0 | 3 | 20 | 2 | 0 | 2 | 2 | 16 | 0 | 64 | 3 | 7 | 0 | 150 | |
| 7:15 AM | 4 | 5 | 9 | 0 | 3 | 28 | 0 | 0 | 2 | 1 | 22 | 0 | 44 | 5 | 11 | 0 | 134 | |
| 7:20 AM | 8 | 6 | 17 | 0 | 10 | 24 | 3 | 0 | 1 | 1 | 22 | 0 | 58 | 11 | 13 | 0 | 174 | |
| 7:25 AM | 6 | 8 | 15 | 0 | 13 | 54 | 3 | 0 | 2 | 5 | 27 | 0 | 27 | 8 | 8 | 0 | 176 | |
| 7:30 AM | 10 | 13 | 13 | 0 | 10 | 32 | 2 | 0 | 0 | 2 | 24 | 0 | 36 | 4 | 9 | 0 | 155 | |
| 7:35 AM | 5 | 7 | 9 | 0 | 1 | 31 | 1 | 0 | 2 | 0 | 16 | 0 | 40 | 9 | 11 | 0 | 132 | |
| 7:40 AM | 8 | 13 | 14 | 0 | 18 | 56 | 4 | 0 | 2 | 2 | 17 | 0 | 42 | 12 | 21 | 0 | 209 | |
| 7:45 AM | 3 | 13 | 18 | 0 | 5 | 28 | 3 | 0 | 5 | 3 | 16 | 0 | 42 | 6 | 12 | 0 | 154 | |
| 7:50 AM | 5 | 7 | 22 | 0 | 7 | 31 | 3 | 0 | 6 | 1 | 11 | 0 | 32 | 3 | 17 | 0 | 145 | |
| 7:55 AM | 2 | 6 | 12 | 0 | 6 | 38 | 0 | 0 | 1 | 3 | 13 | 0 | 18 | 5 | 9 | 0 | 113 | 1876 |
| 8:00 AM | 7 | 8 | 12 | 0 | 16 | 41 | 2 | 0 | 3 | 2 | 11 | 0 | 33 | 4 | 23 | 0 | 162 | 1880 |
| 8:05 AM | 4 | 11 | 10 | 1 | 8 | 56 | 4 | 0 | 0 | 4 | 8 | 0 | 29 | 0 | 23 | 0 | 158 | 1862 |
| 8:10 AM | 5 | 6 | 8 | 0 | 10 | 30 | 1 | 0 | 1 | 3 | 6 | 0 | 43 | 4 | 20 | 0 | 137 | 1849 |
| 8:15 AM | 7 | 9 | 13 | 0 | 14 | 36 | 1 | 0 | 1 | 3 | 3 | 0 | 33 | 7 | 13 | 0 | 140 | 1855 |
| 8:20 AM | 3 | 5 | 13 | 0 | 11 | 21 | 0 | 0 | 0 | 2 | 8 | 0 | 13 | 5 | 20 | 0 | 101 | 1782 |
| 8:25 AM | 3 | 8 | 9 | 0 | 12 | 11 | 1 | 0 | 3 | 0 | 3 | 0 | 37 | 8 | 11 | 0 | 106 | 1712 |
| 8:30 AM | 9 | 10 | 5 | 0 | 11 | 17 | 1 | 0 | 2 | 1 | 5 | 0 | 23 | 3 | 9 | 0 | 96 | 1653 |
| 8:35 AM | 4 | 14 | 13 | 0 | 10 | 19 | 2 | 0 | 2 | 0 | 5 | 0 | 24 | 9 | 17 | 0 | 119 | 1640 |
| 8:40 AM | 7 | 3 | 9 | 0 | 10 | 13 | 3 | 0 | 1 | 2 | 6 | 0 | 23 | 2 | 18 | 0 | 97 | 1528 |
| 8:45 AM | 3 | 7 | 12 | 0 | 15 | 10 | 0 | 0 | 1 | 2 | 6 | 0 | 30 | 3 | 12 | 0 | 101 | 1475 |
| 8:50 AM | 4 | 7 | 13 | 0 | 8 | 12 | 1 | 0 | 1 | 0 | 4 | 0 | 25 | 5 | 17 | 0 | 97 | 1427 |
| 8:55 AM | 3 | 10 | 11 | 0 | 9 | 9 | 3 | 0 | 4 | 0 | 6 | 0 | 16 | 3 | 15 | 0 | 89 | 1403 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 64 | 132 | 216 | 0 | 120 | 460 | 40 | 0 | 52 | 24 | 176 | 0 | 464 | 84 | 200 | 0 | 2032 |
| Heavy Trucks | 0 | 76 | 100 | | 64 | 32 | 8 | | 8 | 16 | 8 | | 56 | 20 | 132 | | 520 |
| Pedestrians | | 0 | | | | 0 | | | | 8 | | | | 0 | | | 8 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

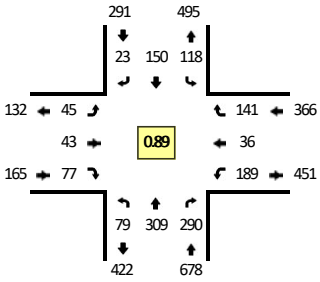
Type of peak hour being reported: Intersection Peak

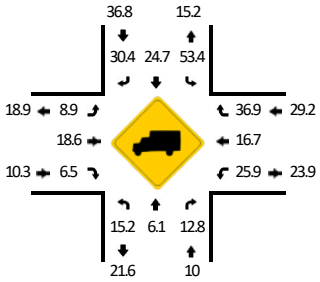
Method for determining peak hour: Total Entering Volume

**LOCATION:** International Pkwy -- W Schulte Rd
**CITY/STATE:** San Joaquin, CA

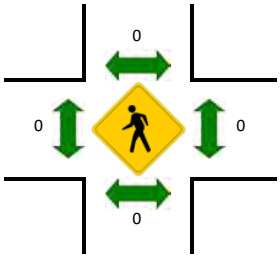
**QC JOB #:** 14993012
**DATE:** Thu, May 23 2019

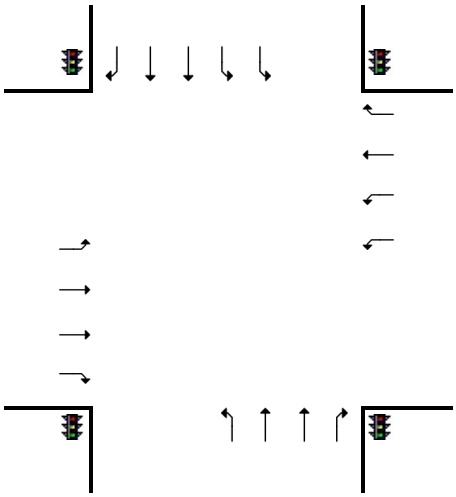
**Peak-Hour: 4:00 PM -- 5:00 PM**
**Peak 15-Min: 4:35 PM -- 4:50 PM**

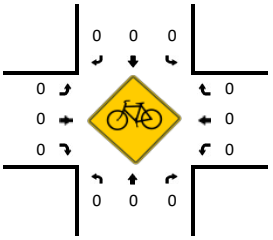


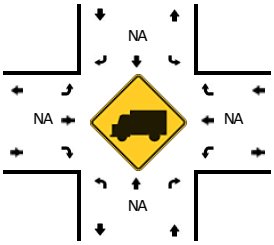



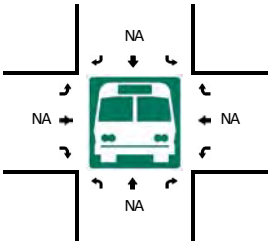

Quality Counts
DATA THAT DRIVES COMMUNITIES






| 5-Min Count Period Beginning At | International Pkwy (Northbound) | | | | International Pkwy (Southbound) | | | | W Schulte Rd (Eastbound) | | | | W Schulte Rd (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 5 | 30 | 24 | 0 | 13 | 22 | 2 | 0 | 2 | 0 | 11 | 0 | 16 | 3 | 13 | 0 | 141 | |
| 4:05 PM | 5 | 27 | 13 | 1 | 9 | 10 | 1 | 0 | 9 | 7 | 7 | 0 | 23 | 2 | 14 | 0 | 128 | |
| 4:10 PM | 6 | 33 | 23 | 0 | 12 | 19 | 3 | 0 | 1 | 4 | 7 | 0 | 18 | 6 | 11 | 0 | 143 | |
| 4:15 PM | 12 | 28 | 18 | 2 | 8 | 11 | 1 | 0 | 2 | 6 | 5 | 0 | 10 | 2 | 16 | 0 | 121 | |
| 4:20 PM | 3 | 21 | 17 | 0 | 9 | 10 | 1 | 0 | 2 | 3 | 8 | 0 | 14 | 5 | 9 | 0 | 102 | |
| 4:25 PM | 6 | 25 | 29 | 1 | 7 | 4 | 1 | 0 | 3 | 1 | 6 | 0 | 17 | 2 | 11 | 0 | 113 | |
| 4:30 PM | 9 | 21 | 35 | 0 | 2 | 9 | 3 | 0 | 5 | 6 | 5 | 0 | 12 | 3 | 13 | 0 | 123 | |
| 4:35 PM | 4 | 26 | 31 | 0 | 10 | 20 | 3 | 0 | 5 | 3 | 4 | 0 | 21 | 3 | 22 | 0 | 152 | |
| 4:40 PM | 7 | 29 | 17 | 0 | 16 | 8 | 3 | 0 | 1 | 3 | 5 | 0 | 26 | 6 | 12 | 0 | 133 | |
| 4:45 PM | 7 | 36 | 19 | 2 | 11 | 18 | 2 | 0 | 5 | 6 | 6 | 0 | 12 | 2 | 8 | 0 | 134 | |
| 4:50 PM | 7 | 22 | 38 | 0 | 8 | 11 | 1 | 0 | 4 | 2 | 8 | 0 | 9 | 2 | 6 | 0 | 118 | |
| 4:55 PM | 2 | 11 | 26 | 0 | 13 | 8 | 2 | 0 | 6 | 2 | 5 | 0 | 11 | 0 | 6 | 0 | 92 | 1500 |
| 5:00 PM | 5 | 38 | 17 | 0 | 11 | 11 | 1 | 0 | 6 | 2 | 8 | 0 | 19 | 4 | 12 | 0 | 134 | 1493 |
| 5:05 PM | 4 | 35 | 23 | 1 | 12 | 7 | 2 | 0 | 4 | 1 | 7 | 0 | 11 | 4 | 16 | 0 | 127 | 1492 |
| 5:10 PM | 6 | 26 | 24 | 2 | 7 | 7 | 1 | 0 | 0 | 3 | 7 | 0 | 10 | 5 | 10 | 0 | 108 | 1457 |
| 5:15 PM | 6 | 29 | 32 | 0 | 11 | 9 | 1 | 0 | 7 | 4 | 7 | 0 | 8 | 0 | 6 | 0 | 120 | 1456 |
| 5:20 PM | 3 | 18 | 25 | 0 | 11 | 7 | 0 | 0 | 4 | 3 | 7 | 0 | 11 | 1 | 9 | 0 | 99 | 1453 |
| 5:25 PM | 9 | 25 | 29 | 0 | 18 | 5 | 1 | 0 | 7 | 1 | 3 | 0 | 6 | 4 | 4 | 0 | 112 | 1452 |
| 5:30 PM | 10 | 31 | 27 | 0 | 11 | 13 | 0 | 0 | 7 | 3 | 5 | 0 | 13 | 5 | 11 | 0 | 136 | 1465 |
| 5:35 PM | 8 | 31 | 25 | 1 | 13 | 6 | 2 | 0 | 3 | 3 | 6 | 0 | 12 | 2 | 15 | 0 | 127 | 1440 |
| 5:40 PM | 4 | 26 | 29 | 1 | 13 | 7 | 3 | 0 | 3 | 2 | 7 | 0 | 11 | 9 | 8 | 0 | 123 | 1430 |
| 5:45 PM | 3 | 38 | 27 | 0 | 11 | 7 | 1 | 0 | 6 | 5 | 6 | 0 | 13 | 12 | 8 | 0 | 137 | 1433 |
| 5:50 PM | 4 | 21 | 31 | 0 | 12 | 3 | 1 | 0 | 3 | 5 | 7 | 0 | 9 | 8 | 7 | 0 | 111 | 1426 |
| 5:55 PM | 3 | 18 | 35 | 2 | 9 | 5 | 3 | 0 | 5 | 11 | 10 | 0 | 9 | 8 | 12 | 0 | 130 | 1464 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 72 | 364 | 268 | 8 | 148 | 184 | 32 | 0 | 44 | 48 | 60 | 0 | 236 | 44 | 168 | 0 | 1676 |
| Heavy Trucks | 4 | 24 | 36 | | 68 | 64 | 12 | | 4 | 12 | 0 | | 56 | 8 | 52 | | 340 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

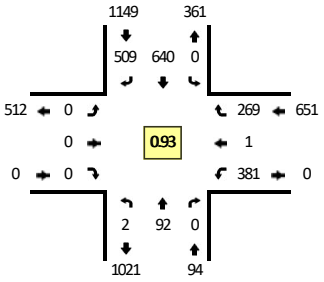
Report generated on 6/4/2019 3:33 PM

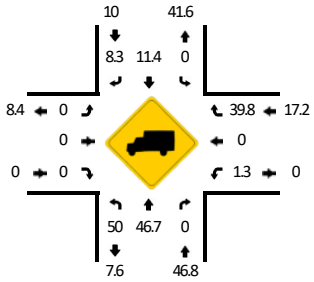
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

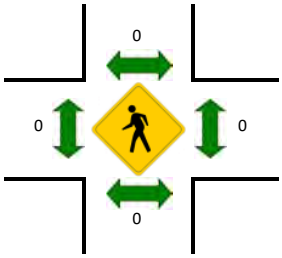
**LOCATION:** Patterson Pass Rd -- I-580 WB Ramps | **QC JOB #:** 14993013
**CITY/STATE:** San Joaquin, CA | **DATE:** Thu, May 23 2019

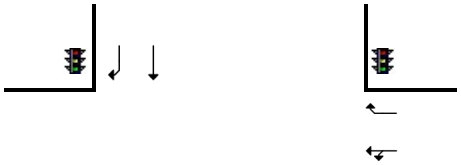
**Peak-Hour: 7:00 AM -- 8:00 AM**
**Peak 15-Min: 7:00 AM -- 7:15 AM**

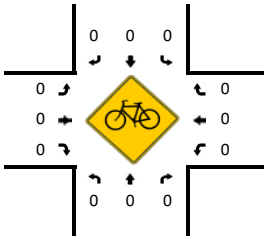


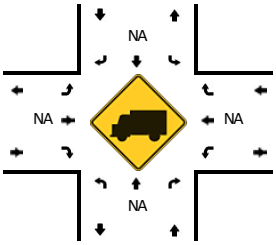




Quality Counts
DATA THAT DRIVES COMMUNITIES

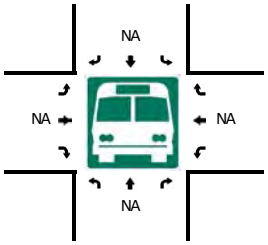







| 5-Min Count Period Beginning At | Patterson Pass Rd (Northbound) | | | | Patterson Pass Rd (Southbound) | | | | I-580 WB Ramps (Eastbound) | | | | I-580 WB Ramps (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 0 | 2 | 0 | 0 | 0 | 67 | 50 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 27 | 0 | 176 | |
| 7:05 AM | 0 | 7 | 0 | 0 | 0 | 67 | 35 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 25 | 0 | 156 | |
| 7:10 AM | 1 | 9 | 0 | 0 | 0 | 45 | 48 | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 27 | 0 | 178 | |
| 7:15 AM | 0 | 10 | 0 | 0 | 0 | 41 | 46 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 17 | 0 | 159 | |
| 7:20 AM | 0 | 3 | 0 | 0 | 0 | 49 | 55 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 16 | 0 | 162 | |
| 7:25 AM | 0 | 11 | 0 | 0 | 0 | 60 | 59 | 0 | 0 | 0 | 0 | 0 | 28 | 1 | 22 | 0 | 181 | |
| 7:30 AM | 0 | 11 | 0 | 0 | 0 | 49 | 34 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 25 | 0 | 148 | |
| 7:35 AM | 0 | 7 | 0 | 0 | 0 | 51 | 39 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 16 | 0 | 156 | |
| 7:40 AM | 0 | 5 | 0 | 0 | 0 | 57 | 39 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 32 | 0 | 175 | |
| 7:45 AM | 0 | 10 | 0 | 0 | 0 | 64 | 45 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 22 | 0 | 160 | |
| 7:50 AM | 0 | 10 | 0 | 0 | 0 | 55 | 34 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 20 | 0 | 134 | |
| 7:55 AM | 1 | 7 | 0 | 0 | 0 | 35 | 25 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 20 | 0 | 109 | 1894 |
| 8:00 AM | 1 | 9 | 0 | 0 | 0 | 53 | 36 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 19 | 0 | 132 | 1850 |
| 8:05 AM | 0 | 3 | 0 | 0 | 0 | 58 | 37 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 16 | 0 | 130 | 1824 |
| 8:10 AM | 1 | 5 | 0 | 0 | 0 | 45 | 43 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 18 | 0 | 129 | 1775 |
| 8:15 AM | 0 | 7 | 0 | 0 | 0 | 30 | 26 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 24 | 0 | 103 | 1719 |
| 8:20 AM | 0 | 4 | 0 | 0 | 0 | 37 | 25 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 16 | 0 | 94 | 1651 |
| 8:25 AM | 0 | 8 | 0 | 0 | 0 | 19 | 14 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 17 | 0 | 69 | 1539 |
| 8:30 AM | 2 | 14 | 0 | 0 | 0 | 27 | 37 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 20 | 0 | 109 | 1500 |
| 8:35 AM | 1 | 4 | 0 | 0 | 0 | 31 | 15 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 15 | 0 | 75 | 1419 |
| 8:40 AM | 1 | 9 | 0 | 0 | 0 | 21 | 25 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 15 | 0 | 77 | 1321 |
| 8:45 AM | 0 | 3 | 0 | 0 | 0 | 22 | 22 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 14 | 0 | 68 | 1229 |
| 8:50 AM | 3 | 8 | 0 | 0 | 0 | 21 | 19 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 20 | 0 | 80 | 1175 |
| 8:55 AM | 2 | 7 | 0 | 0 | 0 | 16 | 12 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 14 | 0 | 57 | 1123 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 4 | 72 | 0 | 0 | 0 | 716 | 532 | 0 | 0 | 0 | 0 | 0 | 400 | 0 | 316 | 0 | 2040 |
| Heavy Trucks | 0 | 40 | 0 | | 0 | 84 | 28 | | 0 | 0 | 0 | | 0 | 0 | 108 | | 260 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

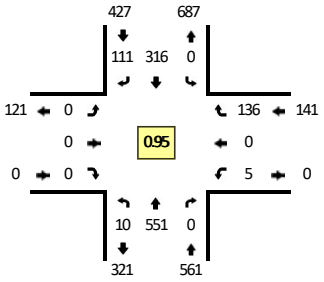
Type of peak hour being reported: Intersection Peak

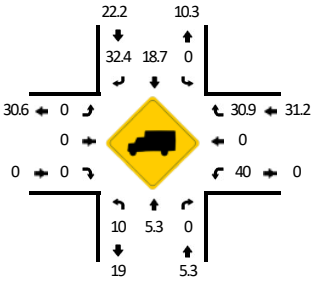
Method for determining peak hour: Total Entering Volume

**LOCATION:** Patterson Pass Rd -- I-580 WB Ramps
**CITY/STATE:** San Joaquin, CA

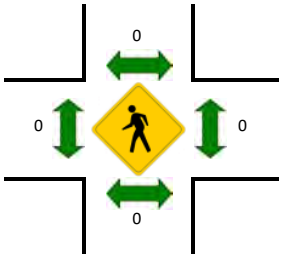
**QC JOB #:** 14993014
**DATE:** Thu, May 23 2019

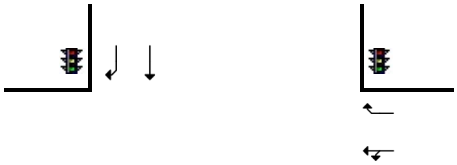
**Peak-Hour: 4:00 PM -- 5:00 PM**
**Peak 15-Min: 4:40 PM -- 4:55 PM**

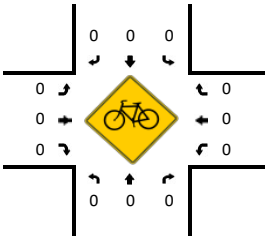


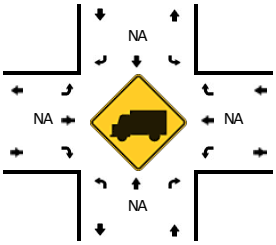




Quality Counts
DATA THAT DRIVES COMMUNITIES

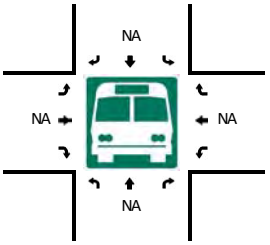







| 5-Min Count Period Beginning At | Patterson Pass Rd (Northbound) | | | | Patterson Pass Rd (Southbound) | | | | I-580 WB Ramps (Eastbound) | | | | I-580 WB Ramps (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 42 | 0 | 0 | 0 | 29 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 90 | |
| 4:05 PM | 0 | 32 | 0 | 0 | 0 | 32 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 12 | 0 | 92 | |
| 4:10 PM | 0 | 47 | 0 | 0 | 0 | 27 | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 14 | 0 | 95 | |
| 4:15 PM | 0 | 44 | 0 | 0 | 0 | 31 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 99 | |
| 4:20 PM | 2 | 40 | 0 | 0 | 0 | 19 | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 11 | 0 | 84 | |
| 4:25 PM | 0 | 48 | 0 | 0 | 0 | 32 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 99 | |
| 4:30 PM | 0 | 58 | 0 | 0 | 0 | 16 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 94 | |
| 4:35 PM | 0 | 50 | 0 | 0 | 0 | 20 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 88 | |
| 4:40 PM | 2 | 36 | 0 | 0 | 0 | 34 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 14 | 0 | 94 | |
| 4:45 PM | 0 | 44 | 0 | 0 | 0 | 30 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9 | 0 | 91 | |
| 4:50 PM | 5 | 59 | 0 | 0 | 0 | 25 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 111 | |
| 4:55 PM | 1 | 51 | 0 | 0 | 0 | 21 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 92 | 1129 |
| 5:00 PM | 1 | 45 | 0 | 0 | 0 | 20 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 79 | 1118 |
| 5:05 PM | 0 | 44 | 0 | 0 | 0 | 22 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 97 | 1123 |
| 5:10 PM | 1 | 43 | 0 | 0 | 0 | 17 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 80 | 1108 |
| 5:15 PM | 0 | 57 | 0 | 0 | 0 | 11 | 7 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 13 | 0 | 90 | 1099 |
| 5:20 PM | 1 | 44 | 0 | 0 | 0 | 17 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 78 | 1093 |
| 5:25 PM | 0 | 58 | 0 | 0 | 0 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 15 | 0 | 94 | 1088 |
| 5:30 PM | 1 | 44 | 0 | 0 | 0 | 26 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 89 | 1083 |
| 5:35 PM | 1 | 59 | 0 | 0 | 0 | 19 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 13 | 0 | 94 | 1089 |
| 5:40 PM | 2 | 48 | 0 | 0 | 0 | 16 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 88 | 1083 |
| 5:45 PM | 0 | 56 | 0 | 0 | 0 | 14 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 89 | 1081 |
| 5:50 PM | 0 | 38 | 0 | 0 | 0 | 17 | 10 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 17 | 0 | 83 | 1053 |
| 5:55 PM | 0 | 55 | 0 | 0 | 0 | 17 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 97 | 1058 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 28 | 556 | 0 | 0 | 0 | 356 | 100 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 136 | 0 | 1184 |
| Heavy Trucks | 4 | 40 | 0 | | 0 | 92 | 24 | | 0 | 0 | 0 | | 0 | 0 | 24 | | 184 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

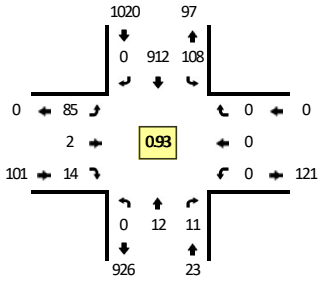
Type of peak hour being reported: Intersection Peak

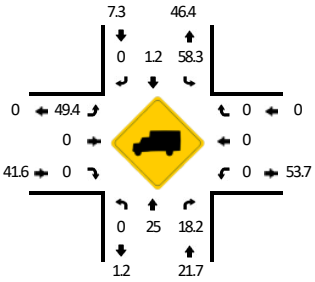
Method for determining peak hour: Total Entering Volume

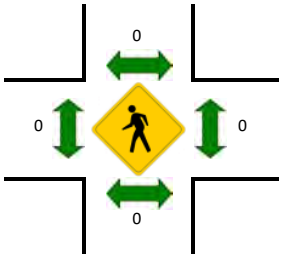
**LOCATION:** Patterson Pass Rd -- I-580 EB Ramps
**CITY/STATE:** San Joaquin, CA

**QC JOB #:** 14993015
**DATE:** Thu, May 23 2019

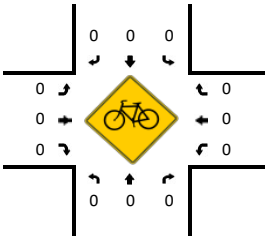
**Peak-Hour: 7:00 AM -- 8:00 AM**
**Peak 15-Min: 7:30 AM -- 7:45 AM**

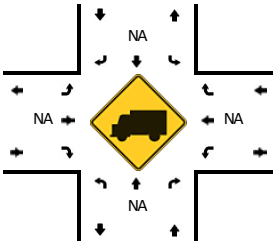


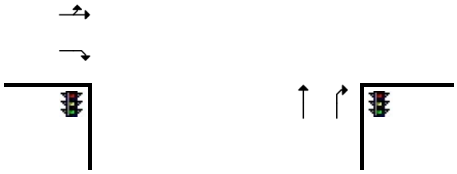



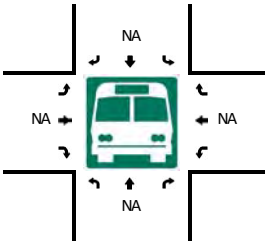








| 5-Min Count Period Beginning At | Patterson Pass Rd (Northbound) | | | | Patterson Pass Rd (Southbound) | | | | I-580 EB Ramps (Eastbound) | | | | I-580 EB Ramps (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 0 | 1 | 0 | 0 | 12 | 92 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 110 | |
| 7:05 AM | 0 | 0 | 4 | 0 | 13 | 66 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 90 | |
| 7:10 AM | 0 | 2 | 0 | 0 | 4 | 89 | 0 | 0 | 8 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 105 | |
| 7:15 AM | 0 | 2 | 0 | 0 | 11 | 83 | 0 | 0 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 105 | |
| 7:20 AM | 0 | 0 | 0 | 0 | 10 | 81 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 95 | |
| 7:25 AM | 0 | 0 | 2 | 0 | 8 | 70 | 0 | 0 | 11 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 92 | |
| 7:30 AM | 0 | 1 | 0 | 0 | 8 | 71 | 0 | 0 | 10 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 92 | |
| 7:35 AM | 0 | 2 | 1 | 0 | 5 | 89 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 102 | |
| 7:40 AM | 0 | 0 | 0 | 0 | 9 | 100 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 113 | |
| 7:45 AM | 0 | 1 | 1 | 0 | 9 | 69 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 91 | |
| 7:50 AM | 0 | 1 | 1 | 0 | 10 | 52 | 0 | 0 | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 74 | |
| 7:55 AM | 0 | 2 | 2 | 0 | 9 | 50 | 0 | 0 | 9 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 75 | 1144 |
| 8:00 AM | 0 | 0 | 0 | 0 | 10 | 57 | 0 | 0 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 76 | 1110 |
| 8:05 AM | 0 | 1 | 0 | 0 | 13 | 67 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 84 | 1104 |
| 8:10 AM | 0 | 1 | 0 | 0 | 15 | 43 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63 | 1062 |
| 8:15 AM | 0 | 1 | 0 | 0 | 19 | 31 | 0 | 0 | 6 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 59 | 1016 |
| 8:20 AM | 0 | 0 | 1 | 0 | 7 | 41 | 0 | 0 | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 56 | 977 |
| 8:25 AM | 0 | 2 | 1 | 0 | 10 | 27 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 47 | 932 |
| 8:30 AM | 0 | 4 | 2 | 0 | 8 | 28 | 0 | 0 | 12 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 55 | 895 |
| 8:35 AM | 0 | 1 | 1 | 0 | 20 | 19 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 47 | 840 |
| 8:40 AM | 0 | 1 | 2 | 0 | 10 | 17 | 0 | 0 | 9 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 41 | 768 |
| 8:45 AM | 0 | 1 | 2 | 0 | 19 | 13 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 39 | 716 |
| 8:50 AM | 0 | 4 | 0 | 0 | 9 | 18 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 38 | 680 |
| 8:55 AM | 0 | 3 | 3 | 0 | 13 | 10 | 0 | 0 | 6 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 37 | 642 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 12 | 4 | 0 | 88 | 1040 | 0 | 0 | 76 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 1228 |
| Heavy Trucks | 0 | 0 | 4 | | 56 | 16 | 0 | | 48 | 0 | 0 | | 0 | 0 | 0 | | 124 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

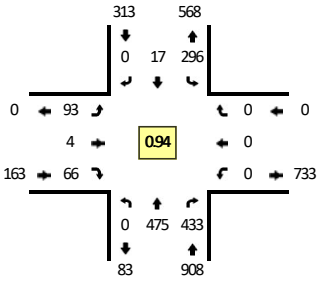
Type of peak hour being reported: Intersection Peak

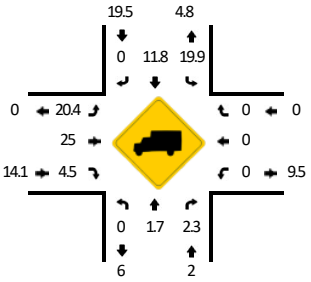
Method for determining peak hour: Total Entering Volume

**LOCATION:** Patterson Pass Rd -- I-580 EB Ramps
**CITY/STATE:** San Joaquin, CA

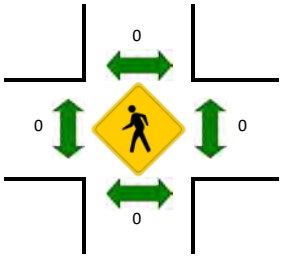
**QC JOB #:** 14993016
**DATE:** Thu, May 23 2019

**Peak-Hour: 4:10 PM -- 5:10 PM**
**Peak 15-Min: 4:10 PM -- 4:25 PM**

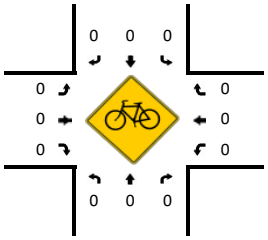


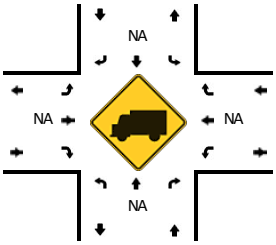



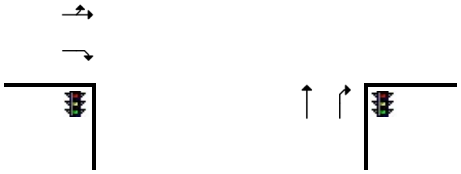

Quality Counts
DATA THAT DRIVES COMMUNITIES

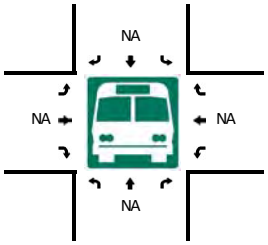







| 5-Min Count Period Beginning At | Patterson Pass Rd (Northbound) | | | | Patterson Pass Rd (Southbound) | | | | I-580 EB Ramps (Eastbound) | | | | I-580 EB Ramps (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 42 | 36 | 0 | 22 | 3 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 108 | |
| 4:05 PM | 0 | 30 | 28 | 0 | 24 | 1 | 0 | 0 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 90 | |
| 4:10 PM | 0 | 38 | 37 | 0 | 32 | 2 | 0 | 0 | 8 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 124 | |
| 4:15 PM | 0 | 33 | 35 | 0 | 33 | 1 | 0 | 0 | 9 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 125 | |
| 4:20 PM | 0 | 36 | 53 | 0 | 21 | 0 | 0 | 0 | 3 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 118 | |
| 4:25 PM | 0 | 41 | 33 | 0 | 21 | 1 | 0 | 0 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 104 | |
| 4:30 PM | 0 | 47 | 37 | 0 | 22 | 1 | 0 | 0 | 13 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 126 | |
| 4:35 PM | 0 | 34 | 28 | 0 | 18 | 2 | 0 | 0 | 10 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 96 | |
| 4:40 PM | 0 | 27 | 38 | 0 | 36 | 2 | 0 | 0 | 10 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 119 | |
| 4:45 PM | 0 | 47 | 37 | 0 | 22 | 3 | 0 | 0 | 4 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 117 | |
| 4:50 PM | 0 | 53 | 25 | 0 | 21 | 2 | 0 | 0 | 12 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 120 | |
| 4:55 PM | 0 | 39 | 44 | 0 | 27 | 2 | 0 | 0 | 4 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 122 | 1369 |
| 5:00 PM | 0 | 37 | 28 | 0 | 17 | 1 | 0 | 0 | 9 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 97 | 1358 |
| 5:05 PM | 0 | 43 | 38 | 0 | 26 | 0 | 0 | 0 | 6 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 116 | 1384 |
| 5:10 PM | 0 | 43 | 32 | 0 | 10 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 91 | 1351 |
| 5:15 PM | 0 | 42 | 36 | 0 | 18 | 2 | 0 | 0 | 10 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 116 | 1342 |
| 5:20 PM | 0 | 35 | 39 | 0 | 12 | 0 | 0 | 0 | 9 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 100 | 1324 |
| 5:25 PM | 0 | 49 | 38 | 0 | 20 | 2 | 0 | 0 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 125 | 1345 |
| 5:30 PM | 0 | 45 | 35 | 0 | 17 | 0 | 0 | 0 | 7 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 108 | 1327 |
| 5:35 PM | 0 | 49 | 28 | 0 | 23 | 2 | 0 | 0 | 10 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 120 | 1351 |
| 5:40 PM | 0 | 37 | 37 | 0 | 19 | 1 | 0 | 0 | 11 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 113 | 1345 |
| 5:45 PM | 0 | 53 | 39 | 0 | 14 | 0 | 0 | 0 | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 113 | 1341 |
| 5:50 PM | 0 | 35 | 39 | 0 | 17 | 0 | 0 | 0 | 5 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 104 | 1325 |
| 5:55 PM | 0 | 41 | 48 | 0 | 8 | 2 | 0 | 0 | 17 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 119 | 1322 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 428 | 500 | 0 | 344 | 12 | 0 | 0 | 80 | 0 | 104 | 0 | 0 | 0 | 0 | 0 | 1468 |
| Heavy Trucks | 0 | 4 | 4 | | 60 | 0 | 0 | | 20 | 0 | 4 | | 0 | 0 | 0 | | 92 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

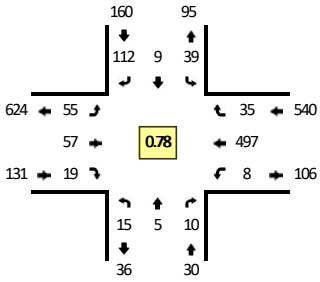
Type of peak hour being reported: Intersection Peak

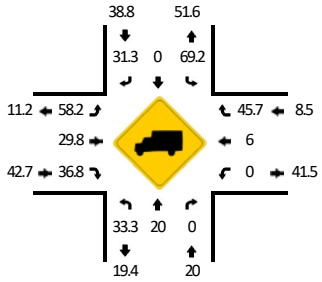
Method for determining peak hour: Total Entering Volume

**LOCATION:** Hansen Rd -- W Schulte Rd
**CITY/STATE:** San Joaquin, CA

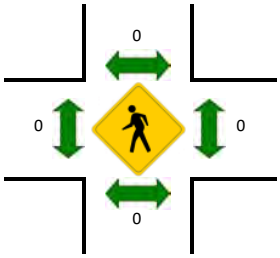
**QC JOB #:** 14993017
**DATE:** Thu, May 23 2019

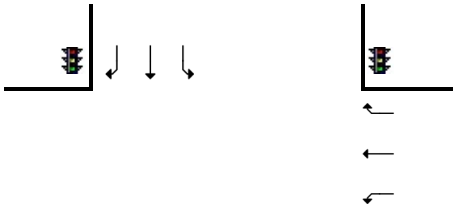
**Peak-Hour: 7:05 AM -- 8:05 AM**
**Peak 15-Min: 7:05 AM -- 7:20 AM**

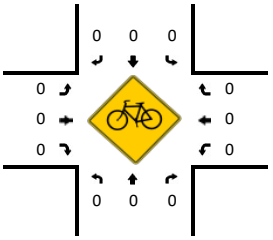


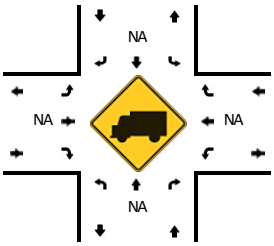



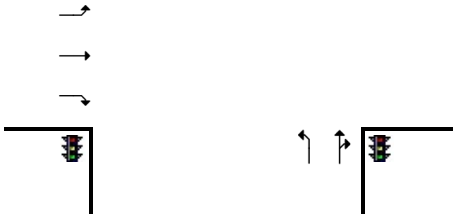

Quality Counts
DATA THAT DRIVES COMMUNITIES

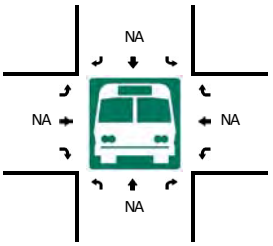







| 5-Min Count Period Beginning At | Hansen Rd (Northbound) | | | | Hansen Rd (Southbound) | | | | W Schulte Rd (Eastbound) | | | | W Schulte Rd (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 1 | 0 | 0 | 0 | 3 | 1 | 11 | 0 | 3 | 2 | 2 | 0 | 1 | 43 | 2 | 0 | 69 | |
| 7:05 AM | 1 | 1 | 4 | 0 | 4 | 0 | 9 | 0 | 3 | 5 | 3 | 0 | 1 | 45 | 4 | 0 | 80 | |
| 7:10 AM | 4 | 0 | 1 | 0 | 4 | 1 | 14 | 0 | 6 | 7 | 2 | 0 | 1 | 56 | 3 | 0 | 99 | |
| 7:15 AM | 0 | 0 | 0 | 0 | 3 | 0 | 10 | 0 | 6 | 5 | 1 | 0 | 1 | 70 | 2 | 0 | 98 | |
| 7:20 AM | 1 | 0 | 0 | 0 | 1 | 1 | 8 | 0 | 2 | 5 | 0 | 0 | 1 | 58 | 2 | 0 | 79 | |
| 7:25 AM | 0 | 0 | 2 | 0 | 2 | 1 | 5 | 0 | 4 | 9 | 0 | 0 | 0 | 39 | 4 | 0 | 66 | |
| 7:30 AM | 0 | 0 | 0 | 0 | 6 | 1 | 3 | 0 | 5 | 4 | 2 | 0 | 2 | 36 | 1 | 0 | 60 | |
| 7:35 AM | 3 | 1 | 1 | 0 | 3 | 0 | 9 | 0 | 3 | 3 | 1 | 0 | 0 | 53 | 3 | 0 | 80 | |
| 7:40 AM | 3 | 0 | 0 | 0 | 5 | 2 | 9 | 0 | 4 | 3 | 1 | 0 | 0 | 30 | 4 | 0 | 61 | |
| 7:45 AM | 2 | 0 | 0 | 0 | 1 | 0 | 7 | 0 | 8 | 2 | 1 | 0 | 0 | 24 | 3 | 0 | 48 | |
| 7:50 AM | 0 | 1 | 0 | 0 | 2 | 2 | 7 | 0 | 4 | 6 | 2 | 0 | 1 | 28 | 4 | 0 | 57 | |
| 7:55 AM | 0 | 2 | 2 | 0 | 4 | 0 | 11 | 0 | 4 | 3 | 2 | 0 | 1 | 32 | 2 | 0 | 63 | 860 |
| 8:00 AM | 1 | 0 | 0 | 0 | 4 | 1 | 20 | 0 | 6 | 5 | 4 | 0 | 0 | 26 | 3 | 0 | 70 | 861 |
| 8:05 AM | 2 | 0 | 0 | 0 | 3 | 0 | 13 | 0 | 5 | 6 | 1 | 0 | 1 | 38 | 3 | 0 | 72 | 853 |
| 8:10 AM | 10 | 0 | 2 | 0 | 2 | 0 | 15 | 0 | 4 | 4 | 0 | 0 | 1 | 23 | 2 | 0 | 63 | 817 |
| 8:15 AM | 1 | 0 | 2 | 0 | 3 | 0 | 7 | 0 | 2 | 4 | 4 | 0 | 2 | 29 | 3 | 0 | 57 | 776 |
| 8:20 AM | 2 | 0 | 0 | 0 | 2 | 2 | 13 | 0 | 4 | 2 | 2 | 0 | 0 | 24 | 8 | 0 | 59 | 756 |
| 8:25 AM | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 0 | 3 | 2 | 2 | 0 | 1 | 38 | 6 | 0 | 66 | 756 |
| 8:30 AM | 0 | 0 | 0 | 0 | 3 | 1 | 8 | 0 | 7 | 1 | 3 | 0 | 1 | 37 | 2 | 0 | 63 | 759 |
| 8:35 AM | 0 | 0 | 0 | 0 | 5 | 0 | 12 | 0 | 4 | 2 | 2 | 0 | 0 | 14 | 1 | 0 | 40 | 719 |
| 8:40 AM | 3 | 0 | 1 | 0 | 6 | 0 | 12 | 0 | 4 | 6 | 4 | 0 | 2 | 25 | 9 | 0 | 72 | 730 |
| 8:45 AM | 3 | 0 | 1 | 0 | 4 | 0 | 11 | 0 | 4 | 2 | 2 | 0 | 1 | 18 | 4 | 0 | 50 | 732 |
| 8:50 AM | 5 | 0 | 0 | 0 | 1 | 0 | 8 | 0 | 6 | 9 | 3 | 0 | 0 | 16 | 4 | 0 | 52 | 727 |
| 8:55 AM | 0 | 0 | 0 | 0 | 4 | 0 | 6 | 0 | 5 | 5 | 6 | 0 | 0 | 24 | 2 | 0 | 52 | 716 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 20 | 4 | 20 | 0 | 44 | 4 | 132 | 0 | 60 | 68 | 24 | 0 | 12 | 684 | 36 | 0 | 1108 |
| Heavy Trucks | 4 | 4 | 0 | | 36 | 0 | 28 | | 36 | 28 | 12 | | 0 | 20 | 12 | | 180 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

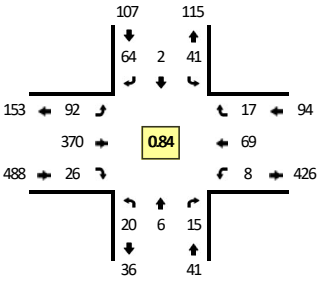
Type of peak hour being reported: Intersection Peak

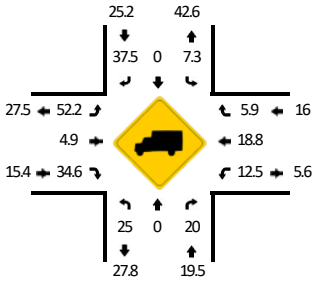
Method for determining peak hour: Total Entering Volume

**LOCATION:** Hansen Rd -- W Schulte Rd
**CITY/STATE:** San Joaquin, CA

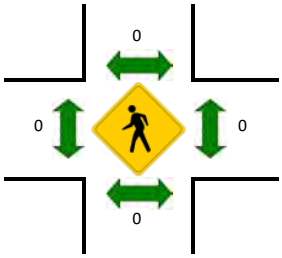
**QC JOB #:** 14993018
**DATE:** Thu, May 23 2019

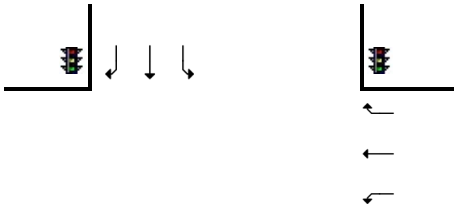
**Peak-Hour: 4:00 PM -- 5:00 PM**
**Peak 15-Min: 4:30 PM -- 4:45 PM**

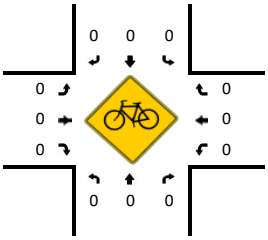


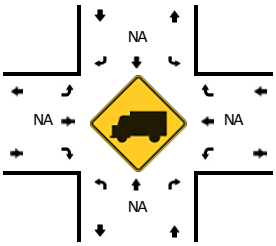



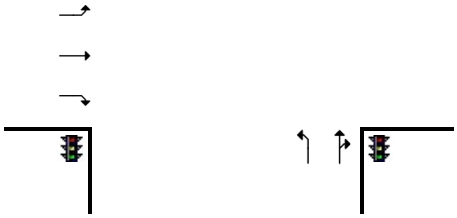

Quality Counts
DATA THAT DRIVES COMMUNITIES

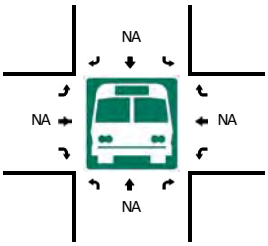







| 5-Min Count Period Beginning At | Hansen Rd (Northbound) | | | | Hansen Rd (Southbound) | | | | W Schulte Rd (Eastbound) | | | | W Schulte Rd (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 1 | 0 | 0 | 5 | 0 | 8 | 0 | 11 | 36 | 0 | 0 | 1 | 5 | 2 | 0 | 69 | |
| 4:05 PM | 4 | 0 | 0 | 0 | 3 | 0 | 7 | 0 | 10 | 30 | 0 | 0 | 1 | 2 | 0 | 0 | 57 | |
| 4:10 PM | 1 | 2 | 1 | 0 | 3 | 0 | 7 | 0 | 3 | 25 | 6 | 0 | 0 | 6 | 2 | 0 | 56 | |
| 4:15 PM | 3 | 0 | 1 | 0 | 4 | 0 | 5 | 0 | 6 | 24 | 3 | 0 | 0 | 5 | 2 | 0 | 53 | |
| 4:20 PM | 4 | 0 | 1 | 0 | 4 | 1 | 7 | 0 | 5 | 14 | 0 | 0 | 1 | 8 | 3 | 0 | 48 | |
| 4:25 PM | 1 | 0 | 0 | 0 | 3 | 0 | 8 | 0 | 4 | 28 | 0 | 0 | 1 | 3 | 2 | 0 | 50 | |
| 4:30 PM | 3 | 1 | 4 | 0 | 1 | 0 | 4 | 0 | 9 | 32 | 1 | 0 | 1 | 11 | 1 | 0 | 68 | |
| 4:35 PM | 0 | 0 | 1 | 0 | 4 | 0 | 6 | 0 | 10 | 41 | 3 | 0 | 0 | 5 | 1 | 0 | 71 | |
| 4:40 PM | 1 | 1 | 0 | 0 | 3 | 1 | 2 | 0 | 15 | 43 | 2 | 0 | 2 | 6 | 1 | 0 | 77 | |
| 4:45 PM | 1 | 1 | 3 | 0 | 7 | 0 | 3 | 0 | 8 | 26 | 7 | 0 | 0 | 8 | 1 | 0 | 65 | |
| 4:50 PM | 1 | 0 | 2 | 0 | 1 | 0 | 5 | 0 | 5 | 41 | 2 | 0 | 0 | 6 | 0 | 0 | 63 | |
| 4:55 PM | 1 | 0 | 2 | 0 | 3 | 0 | 2 | 0 | 6 | 30 | 2 | 0 | 1 | 4 | 2 | 0 | 53 | 730 |
| 5:00 PM | 1 | 0 | 2 | 0 | 0 | 0 | 9 | 0 | 12 | 22 | 2 | 0 | 1 | 6 | 1 | 0 | 56 | 717 |
| 5:05 PM | 4 | 1 | 1 | 0 | 0 | 0 | 4 | 0 | 8 | 23 | 0 | 0 | 3 | 7 | 1 | 0 | 52 | 712 |
| 5:10 PM | 5 | 0 | 1 | 0 | 1 | 0 | 7 | 0 | 6 | 20 | 2 | 0 | 0 | 2 | 3 | 0 | 47 | 703 |
| 5:15 PM | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 32 | 2 | 0 | 1 | 4 | 1 | 0 | 49 | 699 |
| 5:20 PM | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 4 | 29 | 1 | 0 | 0 | 6 | 1 | 0 | 47 | 698 |
| 5:25 PM | 0 | 2 | 1 | 0 | 1 | 0 | 3 | 0 | 4 | 25 | 2 | 0 | 0 | 9 | 0 | 0 | 47 | 695 |
| 5:30 PM | 1 | 0 | 1 | 0 | 0 | 0 | 11 | 0 | 6 | 34 | 1 | 0 | 0 | 3 | 0 | 0 | 57 | 684 |
| 5:35 PM | 0 | 1 | 1 | 0 | 5 | 0 | 6 | 0 | 7 | 23 | 3 | 0 | 2 | 5 | 1 | 0 | 54 | 667 |
| 5:40 PM | 1 | 0 | 1 | 0 | 3 | 0 | 13 | 0 | 5 | 26 | 2 | 0 | 5 | 6 | 2 | 0 | 64 | 654 |
| 5:45 PM | 1 | 0 | 1 | 0 | 1 | 1 | 15 | 0 | 8 | 29 | 6 | 0 | 0 | 9 | 3 | 0 | 74 | 663 |
| 5:50 PM | 2 | 1 | 0 | 0 | 2 | 0 | 15 | 0 | 8 | 17 | 1 | 0 | 1 | 6 | 5 | 0 | 58 | 658 |
| 5:55 PM | 2 | 0 | 2 | 0 | 1 | 0 | 8 | 0 | 14 | 35 | 2 | 0 | 0 | 3 | 0 | 0 | 67 | 672 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 16 | 8 | 20 | 0 | 32 | 4 | 48 | 0 | 136 | 464 | 24 | 0 | 12 | 88 | 12 | 0 | 864 |
| Heavy Trucks | 4 | 0 | 4 | | 0 | 0 | 24 | | 56 | 20 | 4 | | 4 | 12 | 0 | | 128 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

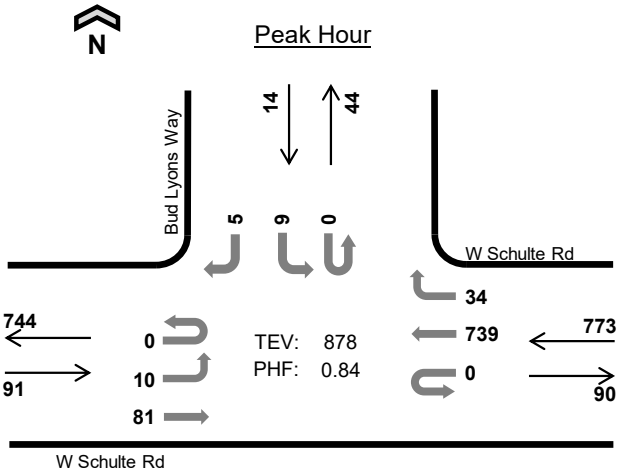
*Comments:*

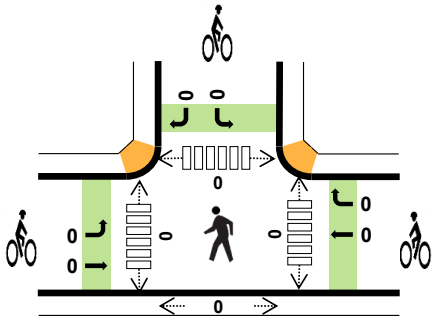
Report generated on 6/4/2019 3:33 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

# Bud Lyons Way
# W Schulte Rd

**Date:** 11-19-2020
**Count Period:** 5:00 AM to 8:00 AM
**Peak Hour:** 5:15 AM to 6:15 AM




| | HV %: | PHF |
|---|---|---|
| EB | 14.3% | 0.78 |
| WB | 2.5% | 0.85 |
| NB | - | - |
| SB | 21.4% | 0.70 |
| TOTAL | 4.0% | 0.84 |

## Three-Hour Count Summaries

| Interval Start | | W Schulte Rd Eastbound | | | | W Schulte Rd Westbound | | | | n/a Northbound | | | | Bud Lyons Way Southbound | | | | 15-min Total | Rolling One Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 5:15 AM | | 0 | 1 | 15 | 0 | 0 | 0 | 184 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 210 | 0 |
| 5:30 AM | | 0 | 0 | 18 | 0 | 0 | 0 | 182 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 209 | 0 |
| 5:45 AM | | 0 | 5 | 24 | 0 | 0 | 0 | 217 | 11 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 261 | 0 |
| 6:00 AM | | 0 | 4 | 24 | 0 | 0 | 0 | 156 | 9 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 198 | 878 |
| Peak Hour | All | 0 | 10 | 81 | 0 | 0 | 0 | 739 | 34 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 5 | 878 | 0 |
| | HV | 0 | 3 | 10 | 0 | 0 | 0 | 13 | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 35 | 0 |
| | HV% | - | 30% | 12% | - | - | - | 2% | 18% | - | - | - | - | - | 11% | - | 40% | 4% | 0 |

*Note: For all three-hour count summary, see next page.*

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 5:15 AM | 1 | 5 | 0 | 2 | *8* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 5:30 AM | 2 | 5 | 0 | 0 | *7* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 5:45 AM | 4 | 3 | 0 | 0 | *7* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 6:00 AM | 6 | 6 | 0 | 1 | *13* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| Peak Hour | 13 | 19 | 0 | 3 | *35* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |

## Three-Hour Count Summaries

| Interval Start | W Schulte Rd Eastbound | | | | W Schulte Rd Westbound | | | | n/a Northbound | | | | Bud Lyons Way Southbound | | | | 15-min Total | Rolling One Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 5:00 AM | 0 | 2 | 1 | 0 | 0 | 0 | 120 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 130 | 0 |
| **5:15 AM** | **0** | **1** | **15** | **0** | **0** | **0** | **184** | **6** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **4** | **210** | 0 |
| **5:30 AM** | **0** | **0** | **18** | **0** | **0** | **0** | **182** | **8** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **209** | 0 |
| **5:45 AM** | **0** | **5** | **24** | **0** | **0** | **0** | **217** | **11** | **0** | **0** | **0** | **0** | **0** | **4** | **0** | **0** | **261** | 810 |
| **6:00 AM** | **0** | **4** | **24** | **0** | **0** | **0** | **156** | **9** | **0** | **0** | **0** | **0** | **0** | **5** | **0** | **0** | **198** | **878** |
| 6:15 AM | 0 | 2 | 13 | 0 | 0 | 0 | 156 | 12 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 4 | 189 | 857 |
| 6:30 AM | 0 | 1 | 17 | 0 | 0 | 0 | 128 | 13 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 164 | 812 |
| 6:45 AM | 0 | 2 | 16 | 0 | 0 | 0 | 129 | 16 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 167 | 718 |
| 7:00 AM | 0 | 3 | 14 | 0 | 0 | 0 | 87 | 8 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 118 | 638 |
| 7:15 AM | 0 | 3 | 17 | 0 | 0 | 0 | 78 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 119 | 568 |
| 7:30 AM | 0 | 0 | 10 | 0 | 0 | 0 | 77 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 97 | 501 |
| 7:45 AM | 0 | 2 | 19 | 0 | 0 | 0 | 70 | 11 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 107 | 441 |
| Count Total | 0 | 25 | 188 | 0 | 0 | 0 | 1,584 | 121 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 28 | 1,969 | 0 |
| **Peak Hour All** | **0** | **10** | **81** | **0** | **0** | **0** | **739** | **34** | **0** | **0** | **0** | **0** | **0** | **9** | **0** | **5** | **878** | **0** |
| **Peak Hour HV** | **0** | **3** | **10** | **0** | **0** | **0** | **13** | **6** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **2** | **35** | **0** |
| **Peak Hour HV%** | **-** | **30%** | **12%** | **-** | **-** | **-** | **2%** | **18%** | **-** | **-** | **-** | **-** | **-** | **11%** | **-** | **40%** | **4%** | **0** |

*Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.*

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 5:00 AM | 3 | 2 | 0 | 4 | *9* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| **5:15 AM** | **1** | **5** | **0** | **2** | ***8*** | **0** | **0** | **0** | **0** | ***0*** | **0** | **0** | **0** | **0** | *0* |
| **5:30 AM** | **2** | **5** | **0** | **0** | ***7*** | **0** | **0** | **0** | **0** | ***0*** | **0** | **0** | **0** | **0** | *0* |
| **5:45 AM** | **4** | **3** | **0** | **0** | ***7*** | **0** | **0** | **0** | **0** | ***0*** | **0** | **0** | **0** | **0** | *0* |
| **6:00 AM** | **6** | **6** | **0** | **1** | ***13*** | **0** | **0** | **0** | **0** | ***0*** | **0** | **0** | **0** | **0** | ***0*** |
| 6:15 AM | 5 | 4 | 0 | 2 | *11* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 6:30 AM | 1 | 9 | 0 | 2 | *12* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 6:45 AM | 1 | 9 | 0 | 3 | *13* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 7:00 AM | 3 | 4 | 0 | 4 | *11* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 7:15 AM | 6 | 6 | 0 | 2 | *14* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 7:30 AM | 2 | 2 | 0 | 5 | *9* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 7:45 AM | 5 | 5 | 0 | 3 | *13* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| Count Total | 39 | 60 | 0 | 28 | *127* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| **Peak Hr** | **13** | **19** | **0** | **3** | ***35*** | **0** | **0** | **0** | **0** | ***0*** | **0** | **0** | **0** | **0** | ***0*** |

## Three-Hour Count Summaries - Heavy Vehicles

| Interval Start | W Schulte Rd | | | | W Schulte Rd | | | | n/a | | | | Bud Lyons Way | | | | 15-min Total | Rolling One Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 5:00 AM | 0 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 0 |
| **5:15 AM** | **0** | **0** | **1** | **0** | **0** | **0** | **5** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **2** | **8** | 0 |
| **5:30 AM** | **0** | **0** | **2** | **0** | **0** | **0** | **4** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **7** | 0 |
| **5:45 AM** | **0** | **0** | **4** | **0** | **0** | **0** | **2** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **7** | 31 |
| **6:00 AM** | **0** | **3** | **3** | **0** | **0** | **0** | **2** | **4** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **13** | **35** |
| 6:15 AM | 0 | 2 | 3 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 11 | 38 |
| 6:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 12 | 43 |
| 6:45 AM | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 13 | 49 |
| 7:00 AM | 0 | 2 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 11 | 47 |
| 7:15 AM | 0 | 1 | 5 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 14 | 50 |
| 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 9 | 47 |
| 7:45 AM | 0 | 1 | 4 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 13 | 47 |
| Count Total | 0 | 12 | 27 | 0 | 0 | 0 | 32 | 28 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 22 | 127 | 0 |
| **Peak Hour** | **0** | **3** | **10** | **0** | **0** | **0** | **13** | **6** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **2** | **35** | **0** |

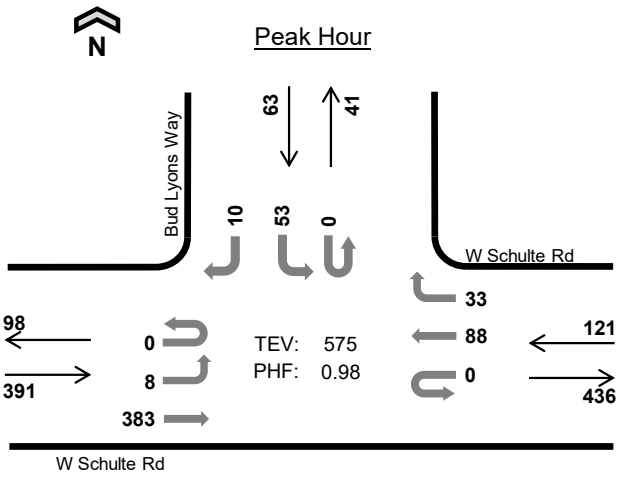
## Three-Hour Count Summaries - Bikes

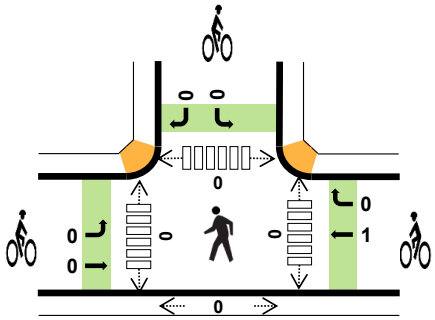
| Interval Start | W Schulte Rd | | | W Schulte Rd | | | n/a | | | Bud Lyons Way | | | 15-min Total | Rolling One Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | |
| 5:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 AM** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **5:30 AM** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **5:45 AM** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **6:00 AM** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| 6:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Peak Hour** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

*Note: U-Turn volumes for bikes are included in Left-Turn, if any.*

# Bud Lyons Way
# W Schulte Rd

**Date:** 11-19-2020
**Count Period:** 3:00 PM to 6:00 PM
**Peak Hour:** 4:45 PM to 5:45 PM




| | HV %: | PHF |
|---|---|---|
| EB | 3.8% | 0.88 |
| WB | 10.7% | 0.82 |
| NB | - | - |
| SB | 9.5% | 0.56 |
| TOTAL | 5.9% | 0.98 |

## Three-Hour Count Summaries

| Interval Start | | W Schulte Rd Eastbound | | | | W Schulte Rd Westbound | | | | n/a Northbound | | | | Bud Lyons Way Southbound | | | | 15-min Total | Rolling One Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 4:45 PM | | 0 | 1 | 84 | 0 | 0 | 0 | 20 | 7 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 2 | 140 | 0 |
| 5:00 PM | | 0 | 2 | 93 | 0 | 0 | 0 | 26 | 11 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 143 | 0 |
| 5:15 PM | | 0 | 2 | 98 | 0 | 0 | 0 | 23 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 2 | 147 | 0 |
| 5:30 PM | | 0 | 3 | 108 | 0 | 0 | 0 | 19 | 4 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 5 | 145 | 575 |
| Peak Hour | All | 0 | 8 | 383 | 0 | 0 | 0 | 88 | 33 | 0 | 0 | 0 | 0 | 0 | 53 | 0 | 10 | 575 | 0 |
| | HV | 0 | 7 | 8 | 0 | 0 | 0 | 8 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 34 | 0 |
| | HV% | - | 88% | 2% | - | - | - | 9% | 15% | - | - | - | - | - | 0% | - | 60% | 6% | 0 |

*Note: For all three-hour count summary, see next page.*

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 4:45 PM | 3 | 4 | 0 | 0 | *7* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 5:00 PM | 3 | 4 | 0 | 0 | *7* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 5:15 PM | 4 | 2 | 0 | 2 | *8* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 5:30 PM | 5 | 3 | 0 | 4 | *12* | 0 | 1 | 0 | 0 | *1* | 0 | 0 | 0 | 0 | *0* |
| Peak Hour | 15 | 13 | 0 | 6 | *34* | 0 | 1 | 0 | 0 | *1* | 0 | 0 | 0 | 0 | *0* |

## Three-Hour Count Summaries

| Interval Start | W Schulte Rd Eastbound | | | | W Schulte Rd Westbound | | | | n/a Northbound | | | | Bud Lyons Way Southbound | | | | 15-min Total | Rolling One Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 3:00 PM | 0 | 2 | 87 | 0 | 0 | 0 | 23 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 8 | 125 | 0 |
| 3:15 PM | 0 | 3 | 86 | 0 | 0 | 0 | 26 | 7 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 5 | 133 | 0 |
| 3:30 PM | 0 | 2 | 119 | 0 | 0 | 0 | 15 | 3 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 2 | 147 | 0 |
| 3:45 PM | 0 | 3 | 91 | 0 | 0 | 0 | 17 | 3 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 5 | 129 | 534 |
| 4:00 PM | 0 | 2 | 82 | 0 | 0 | 0 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 105 | 514 |
| 4:15 PM | 0 | 2 | 93 | 0 | 0 | 0 | 14 | 3 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 1 | 119 | 500 |
| 4:30 PM | 0 | 1 | 93 | 0 | 0 | 0 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 3 | 133 | 486 |
| **4:45 PM** | **0** | **1** | **84** | **0** | **0** | **0** | **20** | **7** | **0** | **0** | **0** | **0** | **0** | **26** | **0** | **2** | **140** | 497 |
| **5:00 PM** | **0** | **2** | **93** | **0** | **0** | **0** | **26** | **11** | **0** | **0** | **0** | **0** | **0** | **10** | **0** | **1** | **143** | 535 |
| **5:15 PM** | **0** | **2** | **98** | **0** | **0** | **0** | **23** | **11** | **0** | **0** | **0** | **0** | **0** | **11** | **0** | **2** | **147** | 563 |
| **5:30 PM** | **0** | **3** | **108** | **0** | **0** | **0** | **19** | **4** | **0** | **0** | **0** | **0** | **0** | **6** | **0** | **5** | **145** | **575** |
| 5:45 PM | 0 | 1 | 107 | 0 | 0 | 0 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 134 | 569 |
| Count Total | 0 | 24 | 1,141 | 0 | 0 | 0 | 227 | 59 | 0 | 0 | 0 | 0 | 0 | 111 | 0 | 38 | 1,600 | 0 |
| **Peak Hour All** | **0** | **8** | **383** | **0** | **0** | **0** | **88** | **33** | **0** | **0** | **0** | **0** | **0** | **53** | **0** | **10** | **575** | **0** |
| **Peak Hour HV** | **0** | **7** | **8** | **0** | **0** | **0** | **8** | **5** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **6** | **34** | **0** |
| **Peak Hour HV%** | **-** | **88%** | **2%** | **-** | **-** | **-** | **9%** | **15%** | **-** | **-** | **-** | **-** | **-** | **0%** | **-** | **60%** | **6%** | **0** |

*Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.*

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 3:00 PM | 6 | 2 | 0 | 5 | *13* | 0 | 1 | 0 | 0 | *1* | 0 | 0 | 0 | 0 | *0* |
| 3:15 PM | 3 | 6 | 0 | 1 | *10* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 3:30 PM | 4 | 4 | 0 | 0 | *8* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 3:45 PM | 6 | 3 | 0 | 3 | *12* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 4:00 PM | 4 | 3 | 0 | 1 | *8* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 4:15 PM | 6 | 2 | 0 | 0 | *8* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| 4:30 PM | 0 | 2 | 0 | 4 | *6* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| **4:45 PM** | **3** | **4** | **0** | **0** | ***7*** | **0** | **0** | **0** | **0** | ***0*** | **0** | **0** | **0** | **0** | *0* |
| **5:00 PM** | **3** | **4** | **0** | **0** | ***7*** | **0** | **0** | **0** | **0** | ***0*** | **0** | **0** | **0** | **0** | *0* |
| **5:15 PM** | **4** | **2** | **0** | **2** | ***8*** | **0** | **0** | **0** | **0** | ***0*** | **0** | **0** | **0** | **0** | *0* |
| **5:30 PM** | **5** | **3** | **0** | **4** | ***12*** | **0** | **1** | **0** | **0** | ***1*** | **0** | **0** | **0** | **0** | ***0*** |
| 5:45 PM | 1 | 3 | 0 | 1 | *5* | 0 | 0 | 0 | 0 | *0* | 0 | 0 | 0 | 0 | *0* |
| Count Total | 45 | 38 | 0 | 21 | *104* | 0 | 2 | 0 | 0 | *2* | 0 | 0 | 0 | 0 | *0* |
| **Peak Hr** | **15** | **13** | **0** | **6** | ***34*** | **0** | **1** | **0** | **0** | ***1*** | **0** | **0** | **0** | **0** | ***0*** |

## Three-Hour Count Summaries - Heavy Vehicles

| Interval Start | W Schulte Rd | | | | W Schulte Rd | | | | n/a | | | | Bud Lyons Way | | | | 15-min Total | Rolling One Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 3:00 PM | 0 | 2 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 13 | 0 |
| 3:15 PM | 0 | 1 | 2 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 0 |
| 3:30 PM | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| 3:45 PM | 0 | 3 | 3 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 12 | 43 |
| 4:00 PM | 0 | 1 | 3 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 38 |
| 4:15 PM | 0 | 2 | 4 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 36 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 6 | 34 |
| **4:45 PM** | **0** | **1** | **2** | **0** | **0** | **0** | **2** | **2** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **7** | 29 |
| **5:00 PM** | **0** | **1** | **2** | **0** | **0** | **0** | **2** | **2** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **7** | 28 |
| **5:15 PM** | **0** | **2** | **2** | **0** | **0** | **0** | **2** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **2** | **8** | 28 |
| **5:30 PM** | **0** | **3** | **2** | **0** | **0** | **0** | **2** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **4** | **12** | **34** |
| 5:45 PM | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 32 |
| Count Total | 0 | 19 | 26 | 0 | 0 | 0 | 24 | 14 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 20 | 104 | 0 |
| **Peak Hour** | **0** | **7** | **8** | **0** | **0** | **0** | **8** | **5** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **6** | **34** | **0** |

## Three-Hour Count Summaries - Bikes

| Interval Start | W Schulte Rd | | | W Schulte Rd | | | n/a | | | Bud Lyons Way | | | 15-min Total | Rolling One Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | |
| 3:00 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **5:00 PM** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **5:15 PM** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **5:30 PM** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **1** |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Count Total | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| **Peak Hour** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** |

*Note: U-Turn volumes for bikes are included in Left-Turn, if any.*

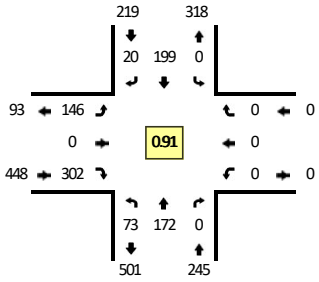
Type of peak hour being reported: Intersection Peak

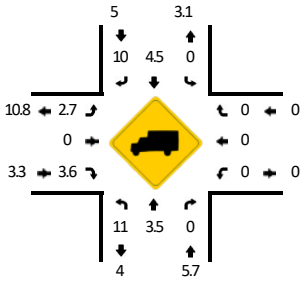
Method for determining peak hour: Total Entering Volume

**LOCATION:** S Lammers Rd -- W Schulte Rd (N)
**CITY/STATE:** San Joaquin, CA

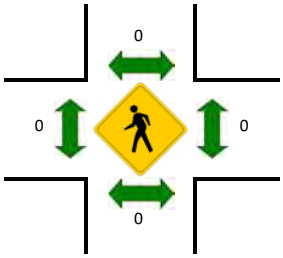
**QC JOB #:** 14993032
**DATE:** Thu, May 23 2019

**Peak-Hour: 4:05 PM -- 5:05 PM**
**Peak 15-Min: 4:35 PM -- 4:50 PM**



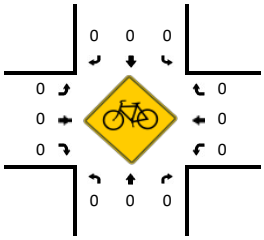



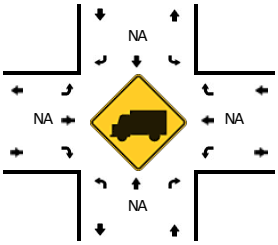

Quality Counts
DATA THAT DRIVES COMMUNITIES





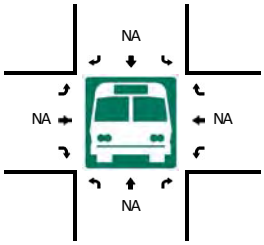











| 5-Min Count Period Beginning At | S Lammers Rd (Northbound) | | | | S Lammers Rd (Southbound) | | | | W Schulte Rd (N) (Eastbound) | | | | W Schulte Rd (N) (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 2 | 7 | 0 | 0 | 0 | 23 | 2 | 0 | 21 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 74 | |
| 4:05 PM | 3 | 18 | 0 | 0 | 0 | 15 | 1 | 0 | 21 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 80 | |
| 4:10 PM | 7 | 17 | 0 | 0 | 0 | 17 | 1 | 0 | 15 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 75 | |
| 4:15 PM | 5 | 10 | 0 | 0 | 0 | 23 | 1 | 0 | 11 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 72 | |
| 4:20 PM | 4 | 17 | 0 | 0 | 0 | 23 | 2 | 0 | 7 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 78 | |
| 4:25 PM | 6 | 12 | 0 | 0 | 0 | 17 | 5 | 0 | 8 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 62 | |
| 4:30 PM | 7 | 10 | 0 | 0 | 0 | 12 | 1 | 0 | 11 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 62 | |
| 4:35 PM | 8 | 16 | 0 | 0 | 0 | 18 | 2 | 0 | 14 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 94 | |
| 4:40 PM | 6 | 18 | 0 | 0 | 0 | 11 | 0 | 0 | 9 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 76 | |
| 4:45 PM | 5 | 17 | 0 | 0 | 0 | 13 | 0 | 0 | 14 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 80 | |
| 4:50 PM | 5 | 14 | 0 | 0 | 0 | 14 | 3 | 0 | 12 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 71 | |
| 4:55 PM | 8 | 12 | 0 | 0 | 0 | 22 | 0 | 0 | 13 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 87 | 911 |
| 5:00 PM | 9 | 11 | 0 | 0 | 0 | 14 | 4 | 0 | 11 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 75 | 912 |
| 5:05 PM | 3 | 8 | 0 | 0 | 0 | 16 | 1 | 0 | 9 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 60 | 892 |
| 5:10 PM | 4 | 13 | 0 | 0 | 0 | 19 | 3 | 0 | 11 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 62 | 879 |
| 5:15 PM | 3 | 10 | 0 | 0 | 0 | 23 | 2 | 0 | 12 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 67 | 874 |
| 5:20 PM | 6 | 15 | 0 | 0 | 0 | 14 | 3 | 0 | 12 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 72 | 868 |
| 5:25 PM | 4 | 16 | 0 | 0 | 0 | 17 | 3 | 0 | 11 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 69 | 875 |
| 5:30 PM | 6 | 13 | 0 | 0 | 0 | 26 | 3 | 0 | 8 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 82 | 895 |
| 5:35 PM | 6 | 12 | 0 | 0 | 0 | 9 | 2 | 1 | 14 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 69 | 870 |
| 5:40 PM | 3 | 17 | 0 | 0 | 0 | 17 | 5 | 0 | 15 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 79 | 873 |
| 5:45 PM | 9 | 13 | 0 | 0 | 0 | 19 | 6 | 0 | 14 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 78 | 871 |
| 5:50 PM | 3 | 14 | 0 | 0 | 0 | 21 | 3 | 0 | 17 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 73 | 873 |
| 5:55 PM | 2 | 17 | 0 | 0 | 0 | 23 | 4 | 0 | 11 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 77 | 863 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 76 | 204 | 0 | 0 | 0 | 168 | 8 | 0 | 148 | 0 | 396 | 0 | 0 | 0 | 0 | 0 | 1000 |
| Heavy Trucks | 12 | 0 | 0 | | 0 | 8 | 4 | | 4 | 0 | 8 | | 0 | 0 | 0 | | 36 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

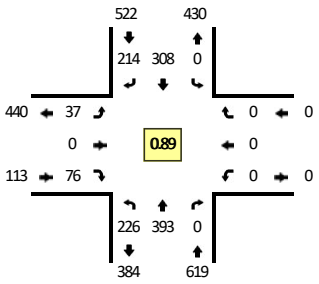
Report generated on 6/4/2019 3:34 PM

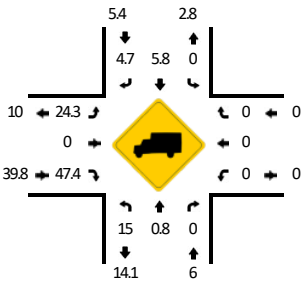
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

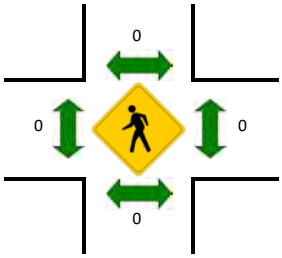
**LOCATION:** S Lammers Rd -- W Schulte Rd (N) | **QC JOB #:** 14993031
**CITY/STATE:** San Joaquin, CA | **DATE:** Thu, May 23 2019

**Peak-Hour: 7:25 AM -- 8:25 AM**
**Peak 15-Min: 7:55 AM -- 8:10 AM**



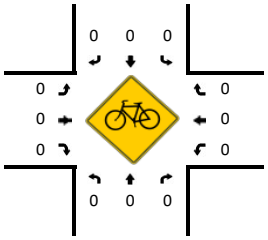



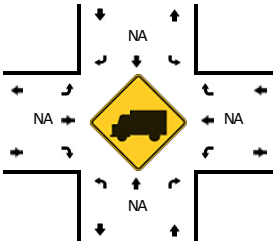

Quality Counts
DATA THAT DRIVES COMMUNITIES





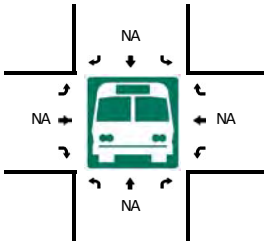











| 5-Min Count Period Beginning At | S Lammers Rd (Northbound) | | | | S Lammers Rd (Southbound) | | | | W Schulte Rd (N) (Eastbound) | | | | W Schulte Rd (N) (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 32 | 4 | 0 | 0 | 0 | 4 | 30 | 0 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 78 | |
| 7:05 AM | 26 | 6 | 0 | 0 | 0 | 7 | 34 | 0 | 15 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 92 | |
| 7:10 AM | 39 | 9 | 0 | 0 | 0 | 11 | 28 | 0 | 17 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 108 | |
| 7:15 AM | 40 | 8 | 0 | 0 | 0 | 6 | 32 | 0 | 3 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 93 | |
| 7:20 AM | 23 | 9 | 0 | 0 | 0 | 10 | 23 | 0 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 73 | |
| 7:25 AM | 26 | 20 | 0 | 0 | 0 | 17 | 22 | 0 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 94 | |
| 7:30 AM | 24 | 16 | 0 | 0 | 0 | 8 | 30 | 0 | 1 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 89 | |
| 7:35 AM | 13 | 31 | 0 | 0 | 0 | 17 | 23 | 0 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 93 | |
| 7:40 AM | 14 | 23 | 0 | 0 | 0 | 27 | 20 | 0 | 8 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 99 | |
| 7:45 AM | 20 | 36 | 0 | 0 | 0 | 31 | 23 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 115 | |
| 7:50 AM | 9 | 52 | 0 | 0 | 0 | 30 | 15 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 111 | |
| 7:55 AM | 15 | 38 | 0 | 0 | 0 | 34 | 19 | 0 | 3 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 116 | 1161 |
| 8:00 AM | 17 | 44 | 0 | 0 | 0 | 30 | 14 | 0 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 113 | 1196 |
| 8:05 AM | 19 | 41 | 0 | 0 | 0 | 28 | 18 | 0 | 6 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 122 | 1226 |
| 8:10 AM | 18 | 49 | 0 | 0 | 0 | 25 | 12 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 111 | 1229 |
| 8:15 AM | 24 | 29 | 0 | 0 | 0 | 27 | 7 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 97 | 1233 |
| 8:20 AM | 27 | 14 | 0 | 0 | 0 | 34 | 11 | 0 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 94 | 1254 |
| 8:25 AM | 30 | 15 | 0 | 0 | 0 | 14 | 15 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 78 | 1238 |
| 8:30 AM | 18 | 11 | 0 | 0 | 0 | 6 | 7 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 45 | 1194 |
| 8:35 AM | 17 | 3 | 0 | 0 | 0 | 14 | 2 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 42 | 1143 |
| 8:40 AM | 26 | 10 | 0 | 0 | 0 | 11 | 12 | 0 | 3 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 68 | 1112 |
| 8:45 AM | 16 | 7 | 0 | 0 | 0 | 8 | 7 | 0 | 2 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 48 | 1045 |
| 8:50 AM | 17 | 12 | 0 | 0 | 0 | 8 | 6 | 0 | 3 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 54 | 988 |
| 8:55 AM | 10 | 8 | 0 | 0 | 0 | 15 | 6 | 0 | 4 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 49 | 921 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 204 | 492 | 0 | 0 | 0 | 368 | 204 | 0 | 44 | 0 | 92 | 0 | 0 | 0 | 0 | 0 | 1404 |
| Heavy Trucks | 28 | 0 | 0 | | 0 | 12 | 8 | | 4 | 0 | 44 | | 0 | 0 | 0 | | 96 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

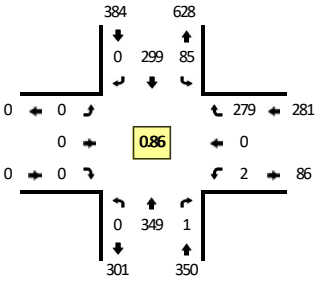
*Comments:*

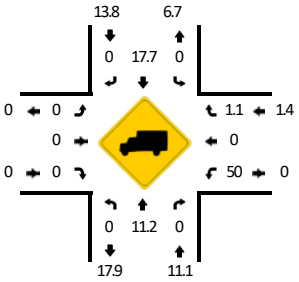
Report generated on 6/4/2019 3:34 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

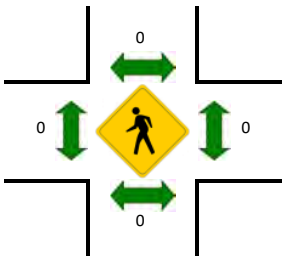
**LOCATION:** S Lammers Rd -- W Schulte Rd (S) | **QC JOB #:** 14993033
**CITY/STATE:** San Joaquin, CA | **DATE:** Thu, May 23 2019

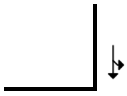
**Peak-Hour: 7:25 AM -- 8:25 AM**
**Peak 15-Min: 7:45 AM -- 8:00 AM**

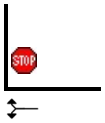


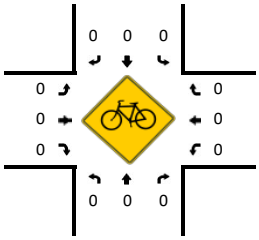



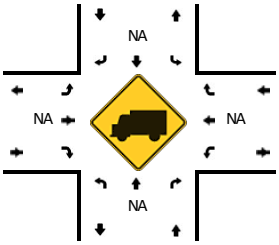

Quality Counts
DATA THAT DRIVES COMMUNITIES

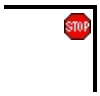


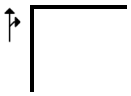



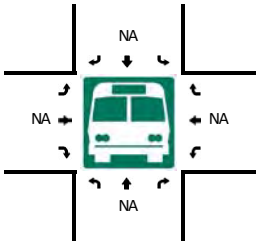





| 5-Min Count Period Beginning At | S Lammers Rd (Northbound) | | | | S Lammers Rd (Southbound) | | | | W Schulte Rd (S) (Eastbound) | | | | W Schulte Rd (S) (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 0 | 16 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 18 | 0 | 43 | |
| 7:05 AM | 0 | 14 | 0 | 0 | 5 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 46 | |
| 7:10 AM | 0 | 29 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 65 | |
| 7:15 AM | 0 | 26 | 0 | 0 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 62 | |
| 7:20 AM | 0 | 19 | 0 | 0 | 1 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 49 | |
| 7:25 AM | 0 | 22 | 0 | 0 | 2 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 65 | |
| 7:30 AM | 0 | 25 | 0 | 0 | 1 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 55 | |
| 7:35 AM | 0 | 34 | 0 | 0 | 5 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 80 | |
| 7:40 AM | 0 | 27 | 0 | 0 | 2 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 85 | |
| 7:45 AM | 0 | 37 | 0 | 0 | 9 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 102 | |
| 7:50 AM | 0 | 27 | 0 | 0 | 6 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 94 | |
| 7:55 AM | 0 | 32 | 0 | 0 | 9 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 99 | 845 |
| 8:00 AM | 0 | 29 | 1 | 0 | 7 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 94 | 896 |
| 8:05 AM | 0 | 31 | 0 | 0 | 12 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 96 | 946 |
| 8:10 AM | 0 | 37 | 0 | 0 | 12 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 100 | 981 |
| 8:15 AM | 0 | 26 | 0 | 0 | 10 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 12 | 0 | 66 | 985 |
| 8:20 AM | 0 | 22 | 0 | 0 | 10 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 79 | 1015 |
| 8:25 AM | 0 | 21 | 0 | 0 | 3 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 51 | 1001 |
| 8:30 AM | 0 | 18 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 35 | 981 |
| 8:35 AM | 0 | 27 | 0 | 0 | 3 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 52 | 953 |
| 8:40 AM | 0 | 24 | 0 | 0 | 2 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 47 | 915 |
| 8:45 AM | 0 | 17 | 0 | 0 | 3 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 38 | 851 |
| 8:50 AM | 0 | 22 | 0 | 0 | 4 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 43 | 800 |
| 8:55 AM | 0 | 15 | 0 | 0 | 2 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 43 | 744 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 384 | 0 | 0 | 96 | 344 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 356 | 0 | 1180 |
| Heavy Trucks | 0 | 28 | 0 | | 0 | 28 | 0 | | 0 | 0 | 0 | | 0 | 0 | 4 | | 60 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:34 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

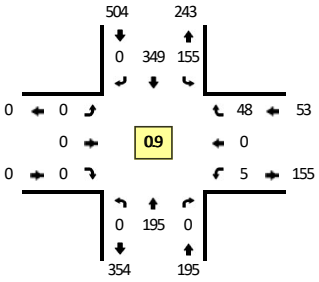
Type of peak hour being reported: Intersection Peak

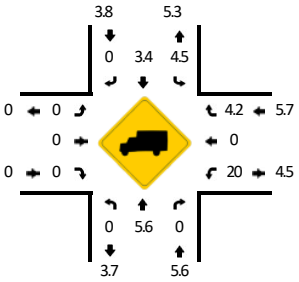
Method for determining peak hour: Total Entering Volume

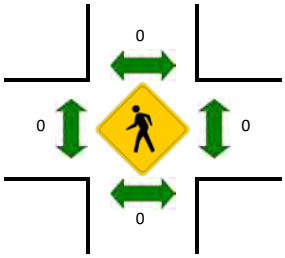
**LOCATION:** S Lammers Rd -- W Schulte Rd (S)
**CITY/STATE:** San Joaquin, CA

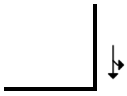
**QC JOB #:** 14993034
**DATE:** Thu, May 23 2019

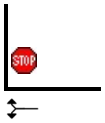
**Peak-Hour: 4:05 PM -- 5:05 PM**
**Peak 15-Min: 4:35 PM -- 4:50 PM**

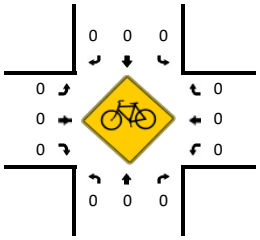


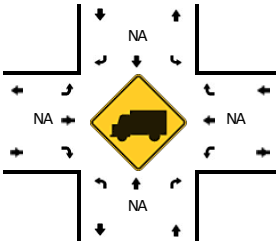



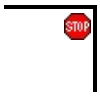



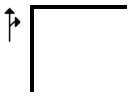



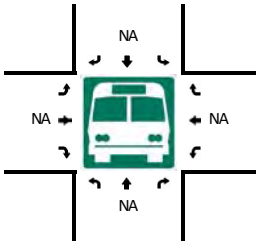





Quality Counts
DATA THAT DRIVES COMMUNITIES

| 5-Min Count Period Beginning At | S Lammers Rd (Northbound) | | | | S Lammers Rd (Southbound) | | | | W Schulte Rd (S) (Eastbound) | | | | W Schulte Rd (S) (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 6 | 0 | 0 | 15 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 48 | |
| 4:05 PM | 0 | 20 | 0 | 0 | 13 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 65 | |
| 4:10 PM | 0 | 18 | 0 | 0 | 12 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 54 | |
| 4:15 PM | 0 | 12 | 0 | 0 | 12 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 61 | |
| 4:20 PM | 0 | 17 | 0 | 0 | 18 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 68 | |
| 4:25 PM | 0 | 12 | 0 | 0 | 10 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 53 | |
| 4:30 PM | 0 | 16 | 0 | 0 | 12 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 53 | |
| 4:35 PM | 0 | 20 | 0 | 0 | 7 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 77 | |
| 4:40 PM | 0 | 22 | 0 | 0 | 17 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 72 | |
| 4:45 PM | 0 | 17 | 0 | 0 | 14 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 61 | |
| 4:50 PM | 0 | 17 | 0 | 0 | 11 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 | 0 | 64 | |
| 4:55 PM | 0 | 9 | 0 | 0 | 17 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 64 | 740 |
| 5:00 PM | 0 | 15 | 0 | 0 | 12 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 60 | 752 |
| 5:05 PM | 0 | 9 | 2 | 0 | 13 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 55 | 742 |
| 5:10 PM | 0 | 14 | 0 | 0 | 12 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 49 | 737 |
| 5:15 PM | 0 | 13 | 0 | 0 | 10 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 55 | 731 |
| 5:20 PM | 0 | 17 | 0 | 0 | 12 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 52 | 715 |
| 5:25 PM | 0 | 16 | 0 | 0 | 11 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 55 | 717 |
| 5:30 PM | 0 | 16 | 0 | 0 | 12 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 70 | 734 |
| 5:35 PM | 0 | 19 | 0 | 0 | 12 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 56 | 713 |
| 5:40 PM | 0 | 16 | 0 | 0 | 18 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 60 | 701 |
| 5:45 PM | 0 | 20 | 0 | 0 | 8 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 59 | 699 |
| 5:50 PM | 0 | 13 | 0 | 0 | 11 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 50 | 685 |
| 5:55 PM | 0 | 17 | 0 | 0 | 14 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 60 | 681 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 236 | 0 | 0 | 152 | 400 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 48 | 0 | 840 |
| Heavy Trucks | 0 | 12 | 0 | | 12 | 4 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 28 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

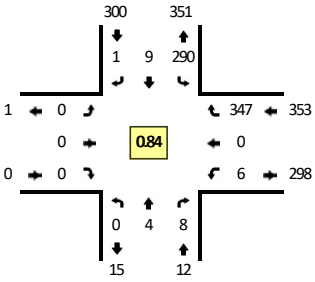
Report generated on 6/4/2019 3:34 PM

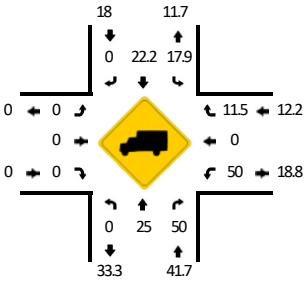
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

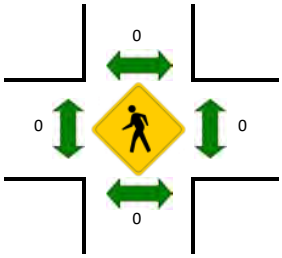
**LOCATION:** S Lammers Rd -- Valpico Rd | **QC JOB #:** 14993035
**CITY/STATE:** San Joaquin, CA | **DATE:** Thu, May 23 2019

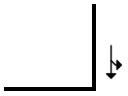
**Peak-Hour: 7:30 AM -- 8:30 AM**
**Peak 15-Min: 7:55 AM -- 8:10 AM**

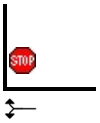


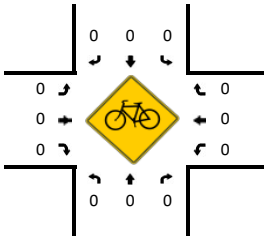



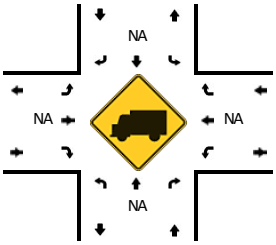

Quality Counts
DATA THAT DRIVES COMMUNITIES



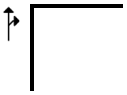


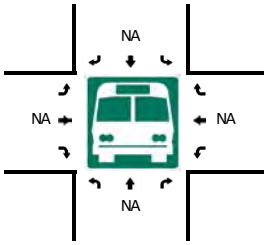












| 5-Min Count Period Beginning At | S Lammers Rd (Northbound) | | | | S Lammers Rd (Southbound) | | | | Valpico Rd (Eastbound) | | | | Valpico Rd (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 15 | 0 | 27 | |
| 7:05 AM | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 15 | 0 | 24 | |
| 7:10 AM | 0 | 1 | 1 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 42 | |
| 7:15 AM | 0 | 3 | 1 | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 28 | |
| 7:20 AM | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 37 | |
| 7:25 AM | 0 | 0 | 1 | 0 | 14 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 22 | 0 | 39 | |
| 7:30 AM | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 25 | 0 | 43 | |
| 7:35 AM | 0 | 1 | 2 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 0 | 56 | |
| 7:40 AM | 0 | 0 | 1 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 54 | |
| 7:45 AM | 0 | 0 | 1 | 0 | 30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 73 | |
| 7:50 AM | 0 | 0 | 1 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 56 | |
| 7:55 AM | 0 | 1 | 0 | 0 | 26 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 38 | 0 | 67 | 546 |
| 8:00 AM | 0 | 0 | 0 | 0 | 28 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 64 | 583 |
| 8:05 AM | 0 | 0 | 1 | 0 | 22 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 68 | 627 |
| 8:10 AM | 0 | 0 | 2 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 45 | 630 |
| 8:15 AM | 0 | 0 | 0 | 0 | 15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 42 | 644 |
| 8:20 AM | 0 | 1 | 0 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 21 | 0 | 57 | 664 |
| 8:25 AM | 0 | 1 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 20 | 0 | 40 | 665 |
| 8:30 AM | 0 | 1 | 1 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 30 | 652 |
| 8:35 AM | 0 | 1 | 2 | 0 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 25 | 0 | 43 | 639 |
| 8:40 AM | 0 | 2 | 1 | 0 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 44 | 629 |
| 8:45 AM | 0 | 0 | 1 | 0 | 11 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 33 | 589 |
| 8:50 AM | 0 | 0 | 1 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 20 | 0 | 35 | 568 |
| 8:55 AM | 0 | 2 | 2 | 0 | 18 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 13 | 0 | 40 | 541 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 4 | 4 | 0 | 304 | 20 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 456 | 0 | 796 |
| Heavy Trucks | 0 | 4 | 0 | | 44 | 4 | 0 | | 0 | 0 | 0 | | 0 | 0 | 20 | | 72 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:34 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

**LOCATION:** S Lammers Rd -- Valpico Rd

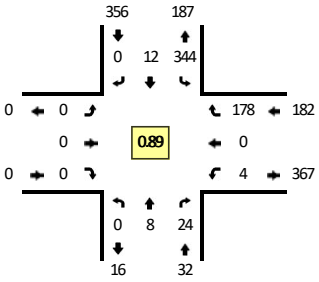
**QC JOB #:** 14993036

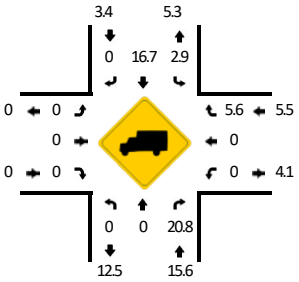
**CITY/STATE:** San Joaquin, CA

**DATE:** Thu, May 23 2019

**Peak-Hour: 4:35 PM -- 5:35 PM**

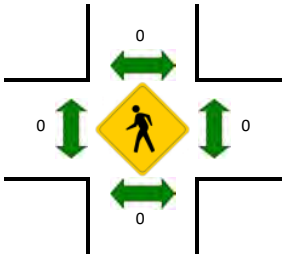
**Peak 15-Min: 4:35 PM -- 4:50 PM**

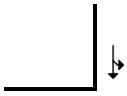


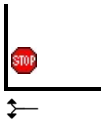



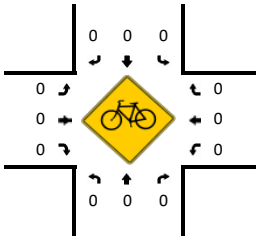

Quality Counts

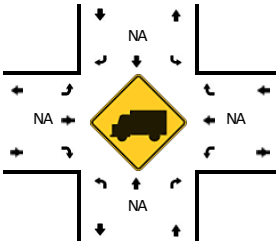
DATA THAT DRIVES COMMUNITIES

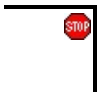


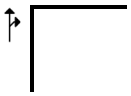



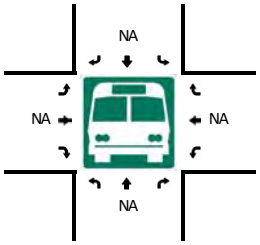





| 5-Min Count Period Beginning At | S Lammers Rd (Northbound) | | | | S Lammers Rd (Southbound) | | | | Valpico Rd (Eastbound) | | | | Valpico Rd (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 1 | 1 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 30 | |
| 4:05 PM | 0 | 4 | 1 | 0 | 28 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 53 | |
| 4:10 PM | 0 | 1 | 0 | 0 | 21 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 39 | |
| 4:15 PM | 0 | 0 | 0 | 0 | 30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 43 | |
| 4:20 PM | 0 | 1 | 0 | 0 | 24 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 17 | 0 | 47 | |
| 4:25 PM | 0 | 0 | 2 | 0 | 28 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 11 | 0 | 44 | |
| 4:30 PM | 0 | 6 | 2 | 0 | 22 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 42 | |
| 4:35 PM | 0 | 1 | 0 | 0 | 36 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 56 | |
| 4:40 PM | 0 | 0 | 2 | 0 | 34 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 60 | |
| 4:45 PM | 0 | 1 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 45 | |
| 4:50 PM | 0 | 1 | 1 | 0 | 29 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 47 | |
| 4:55 PM | 0 | 0 | 2 | 0 | 24 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9 | 0 | 41 | 547 |
| 5:00 PM | 0 | 1 | 5 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 52 | 569 |
| 5:05 PM | 0 | 4 | 11 | 0 | 25 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 8 | 0 | 50 | 566 |
| 5:10 PM | 0 | 0 | 0 | 0 | 23 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 40 | 567 |
| 5:15 PM | 0 | 0 | 0 | 0 | 31 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 10 | 0 | 43 | 567 |
| 5:20 PM | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 39 | 559 |
| 5:25 PM | 0 | 0 | 1 | 0 | 22 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 38 | 553 |
| 5:30 PM | 0 | 0 | 2 | 0 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 17 | 0 | 59 | 570 |
| 5:35 PM | 0 | 2 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 42 | 556 |
| 5:40 PM | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 19 | 0 | 46 | 542 |
| 5:45 PM | 0 | 0 | 2 | 0 | 25 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 46 | 543 |
| 5:50 PM | 0 | 1 | 0 | 0 | 20 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 37 | 533 |
| 5:55 PM | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 48 | 540 |

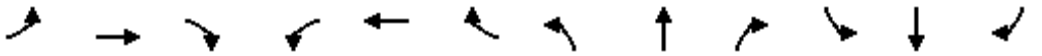
| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 8 | 8 | 0 | 392 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 228 | 0 | 644 |
| Heavy Trucks | 0 | 0 | 4 | | 4 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 12 | | 20 |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Railroad | | | | | | | | | | | | | | | | | |
| Stopped Buses | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 6/4/2019 3:34 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

**C. Background Conditions Synchro Outputs**



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 764 | 323 | 178 | 24 | 239 | 0 | 0 | 768 | 656 |
| Future Volume (veh/h) | 0 | 0 | 0 | 764 | 323 | 178 | 24 | 239 | 0 | 0 | 768 | 656 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 840 | 355 | 196 | 26 | 263 | 0 | 0 | 844 | 721 |
| Peak Hour Factor | | | | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 426 | 180 | 936 | 73 | 1478 | 0 | 0 | 1603 | 498 |
| Arrive On Green | | | | 0.39 | 0.37 | 0.37 | 0.05 | 0.46 | 0.00 | 0.00 | 0.35 | 0.35 |
| Sat Flow, veh/h | | | | 1139 | 481 | 2502 | 1598 | 3272 | 0 | 0 | 4731 | 1422 |
| Grp Volume(v), veh/h | | | | 1195 | 0 | 196 | 26 | 263 | 0 | 0 | 844 | 721 |
| Grp Sat Flow(s),veh/h/ln | | | | 1621 | 0 | 1251 | 1598 | 1594 | 0 | 0 | 1527 | 1422 |
| Q Serve(g_s), s | | | | 24.9 | 0.0 | 3.5 | 1.1 | 3.2 | 0.0 | 0.0 | 9.8 | 23.3 |
| Cycle Q Clear(g_c), s | | | | 24.9 | 0.0 | 3.5 | 1.1 | 3.2 | 0.0 | 0.0 | 9.8 | 23.3 |
| Prop In Lane | | | | 0.70 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 606 | 0 | 936 | 73 | 1478 | 0 | 0 | 1603 | 498 |
| V/C Ratio(X) | | | | 1.97 | 0.00 | 0.21 | 0.35 | 0.18 | 0.00 | 0.00 | 0.53 | 1.45 |
| Avail Cap(c_a), veh/h | | | | 606 | 0 | 936 | 396 | 2122 | 0 | 0 | 1603 | 498 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 20.4 | 0.0 | 14.1 | 30.8 | 10.4 | 0.0 | 0.0 | 17.2 | 21.6 |
| Incr Delay (d2), s/veh | | | | 442.8 | 0.0 | 0.1 | 1.1 | 0.0 | 0.0 | 0.0 | 0.2 | 212.9 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 82.8 | 0.0 | 0.9 | 0.4 | 1.0 | 0.0 | 0.0 | 3.2 | 36.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 463.2 | 0.0 | 14.2 | 31.9 | 10.5 | 0.0 | 0.0 | 17.4 | 234.5 |
| LnGrp LOS | | | | F | A | B | C | B | A | A | B | F |
| Approach Vol, veh/h | | | | | 1391 | | | 289 | | | 1565 | |
| Approach Delay, s/veh | | | | | 399.9 | | | 12.4 | | | 117.4 | |
| Approach LOS | | | | | F | | | B | | | F | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 36.6 | | | 7.6 | 29.0 | | 30.0 | | | | |
| Change Period (Y+Rc), s | | 5.7 | | | 4.5 | 5.7 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 44.3 | | | 16.5 | 23.3 | | 24.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 5.2 | | | 3.1 | 25.3 | | 26.9 | | | | |
| Green Ext Time (p_c), s | | 0.7 | | | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 229.2 |
| HCM 6th LOS | | F |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 48 | 0 | 73 | 0 | 0 | 0 | 0 | 218 | 368 | 0 | 1228 | 0 |
| Future Volume (veh/h) | 48 | 0 | 73 | 0 | 0 | 0 | 0 | 218 | 368 | 0 | 1228 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 0 | 1678 | 0 |
| Adj Flow Rate, veh/h | 51 | 0 | 77 | | | | 0 | 229 | 387 | 0 | 1293 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 0 | 15 | 0 |
| Cap, veh/h | 345 | 0 | 153 | | | | 0 | 2333 | 1040 | 0 | 2333 | 0 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | | | | 0.00 | 0.73 | 0.73 | 0.00 | 0.73 | 0.00 |
| Sat Flow, veh/h | 3196 | 0 | 1422 | | | | 0 | 3272 | 1422 | 0 | 3355 | 0 |
| Grp Volume(v), veh/h | 51 | 0 | 77 | | | | 0 | 229 | 387 | 0 | 1293 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 0 | 1422 | | | | 0 | 1594 | 1422 | 0 | 1594 | 0 |
| Q Serve(g_s), s | 1.0 | 0.0 | 3.4 | | | | 0.0 | 1.4 | 6.8 | 0.0 | 12.3 | 0.0 |
| Cycle Q Clear(g_c), s | 1.0 | 0.0 | 3.4 | | | | 0.0 | 1.4 | 6.8 | 0.0 | 12.3 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 345 | 0 | 153 | | | | 0 | 2333 | 1040 | 0 | 2333 | 0 |
| V/C Ratio(X) | 0.15 | 0.00 | 0.50 | | | | 0.00 | 0.10 | 0.37 | 0.00 | 0.55 | 0.00 |
| Avail Cap(c_a), veh/h | 944 | 0 | 420 | | | | 0 | 2333 | 1040 | 0 | 2333 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 27.2 | 0.0 | 28.3 | | | | 0.0 | 2.6 | 3.3 | 0.0 | 4.1 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.9 | | | | 0.0 | 0.1 | 1.0 | 0.0 | 1.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 1.2 | | | | 0.0 | 0.3 | 1.4 | 0.0 | 2.6 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.3 | 0.0 | 29.3 | | | | 0.0 | 2.7 | 4.4 | 0.0 | 5.0 | 0.0 |
| LnGrp LOS | C | A | C | | | | A | A | A | A | A | A |
| Approach Vol, veh/h | | 128 | | | | | | 616 | | | 1293 | |
| Approach Delay, s/veh | | 28.5 | | | | | | 3.7 | | | 5.0 | |
| Approach LOS | | C | | | | | | A | | | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 55.0 | 12.4 | 55.0 |
| Change Period (Y+Rc), s | 5.7 | 5.1 | 5.7 |
| Max Green Setting (Gmax), s | 49.3 | 19.9 | 49.3 |
| Max Q Clear Time (g_c+I1), s | 8.8 | 5.4 | 14.3 |
| Green Ext Time (p_c), s | 1.8 | 0.1 | 4.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.1 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 22 | 219 | 806 | 74 | 250 | 66 | 267 | 267 | 181 | 924 | 27 |
| Future Volume (veh/h) | 29 | 22 | 219 | 806 | 74 | 250 | 66 | 267 | 267 | 181 | 924 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1060 | 1589 | 1678 | 1060 | 1589 | 1678 | 1060 | 1589 | 1678 | 1060 | 1589 | 1678 |
| Adj Flow Rate, veh/h | 31 | 24 | 235 | 867 | 80 | 269 | 71 | 287 | 287 | 195 | 994 | 29 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 62 | 412 | 194 | 534 | 553 | 494 | 80 | 860 | 404 | 225 | 968 | 456 |
| Arrive On Green | 0.06 | 0.14 | 0.14 | 0.27 | 0.35 | 0.35 | 0.08 | 0.28 | 0.28 | 0.11 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1009 | 3020 | 1422 | 1958 | 1589 | 1419 | 1009 | 3020 | 1417 | 1958 | 3020 | 1422 |
| Grp Volume(v), veh/h | 31 | 24 | 235 | 867 | 80 | 269 | 71 | 287 | 287 | 195 | 994 | 29 |
| Grp Sat Flow(s),veh/h/ln | 1009 | 1510 | 1422 | 979 | 1589 | 1419 | 1009 | 1510 | 1417 | 979 | 1510 | 1422 |
| Q Serve(g_s), s | 4.4 | 1.0 | 20.0 | 40.0 | 5.1 | 22.4 | 10.2 | 11.0 | 26.6 | 14.4 | 47.0 | 2.1 |
| Cycle Q Clear(g_c), s | 4.4 | 1.0 | 20.0 | 40.0 | 5.1 | 22.4 | 10.2 | 11.0 | 26.6 | 14.4 | 47.0 | 2.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 62 | 412 | 194 | 534 | 553 | 494 | 80 | 860 | 404 | 225 | 968 | 456 |
| V/C Ratio(X) | 0.50 | 0.06 | 1.21 | 1.62 | 0.14 | 0.54 | 0.89 | 0.33 | 0.71 | 0.87 | 1.03 | 0.06 |
| Avail Cap(c_a), veh/h | 138 | 412 | 194 | 534 | 553 | 494 | 138 | 968 | 454 | 334 | 968 | 456 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 66.6 | 55.1 | 63.3 | 53.3 | 32.8 | 38.5 | 66.8 | 41.4 | 47.0 | 63.8 | 49.8 | 34.6 |
| Incr Delay (d2), s/veh | 6.1 | 0.1 | 133.3 | 289.1 | 0.1 | 1.2 | 27.6 | 0.2 | 4.5 | 14.5 | 36.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.4 | 14.3 | 31.0 | 2.0 | 7.8 | 3.3 | 4.2 | 9.7 | 4.0 | 22.5 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 72.8 | 55.2 | 196.6 | 342.4 | 33.0 | 39.7 | 94.4 | 41.7 | 51.5 | 78.3 | 85.8 | 34.6 |
| LnGrp LOS | E | E | F | F | C | D | F | D | D | E | F | C |
| Approach Vol, veh/h | | 290 | | | 1216 | | | 645 | | | 1218 | |
| Approach Delay, s/veh | | 171.7 | | | 255.1 | | | 51.8 | | | 83.4 | |
| Approach LOS | | F | | | F | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.9 | 48.8 | 47.0 | 27.0 | 18.6 | 54.0 | 16.0 | 58.0 |
| Change Period (Y+Rc), s | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Max Green Setting (Gmax), s | 25.0 | 47.0 | 40.0 | 20.0 | 20.0 | 47.0 | 20.0 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 16.4 | 28.6 | 42.0 | 22.0 | 12.2 | 49.0 | 6.4 | 24.4 |
| Green Ext Time (p_c), s | 0.5 | 2.6 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 146.9 |
| HCM 6th LOS | F |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 381 | 1 | 510 | 2 | 99 | 0 | 0 | 1166 | 809 |
| Future Volume (veh/h) | 0 | 0 | 0 | 381 | 1 | 510 | 2 | 99 | 0 | 0 | 1166 | 809 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 410 | 1 | 0 | 2 | 106 | 0 | 0 | 1254 | 870 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 719 | 2 | | 2 | 130 | 0 | 0 | 624 | 529 |
| Arrive On Green | | | | 0.45 | 0.45 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.37 | 0.37 |
| Sat Flow, veh/h | | | | 1594 | 4 | 1422 | 31 | 1645 | 0 | 0 | 1678 | 1422 |
| Grp Volume(v), veh/h | | | | 411 | 0 | 0 | 108 | 0 | 0 | 0 | 1254 | 870 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1422 | 1676 | 0 | 0 | 0 | 1678 | 1422 |
| Q Serve(g_s), s | | | | 32.3 | 0.0 | 0.0 | 10.8 | 0.0 | 0.0 | 0.0 | 63.2 | 63.2 |
| Cycle Q Clear(g_c), s | | | | 32.3 | 0.0 | 0.0 | 10.8 | 0.0 | 0.0 | 0.0 | 63.2 | 63.2 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.02 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 721 | 0 | | 132 | 0 | 0 | 0 | 624 | 529 |
| V/C Ratio(X) | | | | 0.57 | 0.00 | | 0.82 | 0.00 | 0.00 | 0.00 | 2.01 | 1.65 |
| Avail Cap(c_a), veh/h | | | | 721 | 0 | | 288 | 0 | 0 | 0 | 624 | 529 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.99 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 34.5 | 0.0 | 0.0 | 77.1 | 0.0 | 0.0 | 0.0 | 53.4 | 53.4 |
| Incr Delay (d2), s/veh | | | | 3.3 | 0.0 | 0.0 | 22.1 | 0.0 | 0.0 | 0.0 | 460.4 | 299.1 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 13.4 | 0.0 | 0.0 | 5.5 | 0.0 | 0.0 | 0.0 | 106.3 | 66.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 37.7 | 0.0 | 0.0 | 99.2 | 0.0 | 0.0 | 0.0 | 513.8 | 352.5 |
| LnGrp LOS | | | | D | A | | F | A | A | A | F | F |
| Approach Vol, veh/h | | | | | 411 | A | | 108 | | | 2124 | |
| Approach Delay, s/veh | | | | | 37.7 | | | 99.2 | | | 447.7 | |
| Approach LOS | | | | | D | | | F | | | F | |

| Timer - Assigned Phs | 2 | | 6 | | 8 | |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.2 | | 69.0 | | 81.8 | |
| Change Period (Y+Rc), s | 5.8 | | 5.8 | | 5.1 | |
| Max Green Setting (Gmax), s | 29.2 | | 63.2 | | 60.9 | |
| Max Q Clear Time (g_c+I1), s | 12.8 | | 65.2 | | 34.3 | |
| Green Ext Time (p_c), s | 0.6 | | 0.0 | | 1.8 | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 369.7 | |
| HCM 6th LOS | F | |

**Notes**

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 92 | 2 | 14 | 0 | 0 | 0 | 0 | 12 | 11 | 280 | 1266 | 0 |
| Future Volume (veh/h) | 92 | 2 | 14 | 0 | 0 | 0 | 0 | 12 | 11 | 280 | 1266 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 1678 | 1678 | 0 |
| Adj Flow Rate, veh/h | 99 | 2 | 0 | | | | 0 | 13 | 12 | 301 | 1361 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 15 | 15 | 0 |
| Cap, veh/h | 118 | 2 | | | | | 0 | 161 | 137 | 220 | 995 | 0 |
| Arrive On Green | 0.07 | 0.07 | 0.00 | | | | 0.00 | 0.10 | 0.10 | 1.00 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1568 | 32 | 1422 | | | | 0 | 1678 | 1422 | 301 | 1362 | 0 |
| Grp Volume(v), veh/h | 101 | 0 | 0 | | | | 0 | 13 | 12 | 1662 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1599 | 0 | 1422 | | | | 0 | 1678 | 1422 | 1663 | 0 | 0 |
| Q Serve(g_s), s | 10.6 | 0.0 | 0.0 | | | | 0.0 | 1.2 | 1.3 | 116.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 10.6 | 0.0 | 0.0 | | | | 0.0 | 1.2 | 1.3 | 116.7 | 0.0 | 0.0 |
| Prop In Lane | 0.98 | | 1.00 | | | | 0.00 | | 1.00 | 0.18 | | 0.00 |
| Lane Grp Cap(c), veh/h | 120 | 0 | | | | | 0 | 161 | 137 | 1215 | 0 | 0 |
| V/C Ratio(X) | 0.84 | 0.00 | | | | | 0.00 | 0.08 | 0.09 | 1.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 215 | 0 | | | | | 0 | 161 | 137 | 1215 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | | | | 0.00 | 1.00 | 1.00 | 0.09 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 77.6 | 0.0 | 0.0 | | | | 0.0 | 70.0 | 70.0 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 16.9 | 0.0 | 0.0 | | | | 0.0 | 0.2 | 0.3 | 166.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.0 | 0.0 | 0.0 | | | | 0.0 | 0.5 | 0.5 | 56.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 94.6 | 0.0 | 0.0 | | | | 0.0 | 70.2 | 70.3 | 166.2 | 0.0 | 0.0 |
| LnGrp LOS | F | A | | | | | A | E | E | F | A | A |
| Approach Vol, veh/h | | 101 | A | | | | | 25 | | | 1662 | |
| Approach Delay, s/veh | | 94.6 | | | | | | 70.2 | | | 166.2 | |
| Approach LOS | | F | | | | | | E | | | F | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.2 | 17.8 | 130.0 |
| Change Period (Y+Rc), s | 5.8 | 5.1 | 5.8 |
| Max Green Setting (Gmax), s | 6.2 | 22.9 | 124.2 |
| Max Q Clear Time (g_c+I1), s | 3.3 | 12.6 | 118.7 |
| Green Ext Time (p_c), s | 0.0 | 0.3 | 5.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 160.8 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



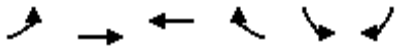
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 116 | 114 | 19 | 8 | 644 | 150 | 15 | 5 | 10 | 97 | 9 | 184 |
| Future Volume (veh/h) | 116 | 114 | 19 | 8 | 644 | 150 | 15 | 5 | 10 | 97 | 9 | 184 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 138 | 136 | 23 | 10 | 767 | 179 | 18 | 6 | 12 | 115 | 11 | 219 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 168 | 867 | 735 | 35 | 728 | 617 | 58 | 54 | 108 | 148 | 276 | 234 |
| Arrive On Green | 0.11 | 0.52 | 0.52 | 0.02 | 0.43 | 0.43 | 0.04 | 0.11 | 0.11 | 0.09 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 499 | 999 | 1598 | 1678 | 1422 |
| Grp Volume(v), veh/h | 138 | 136 | 23 | 10 | 767 | 179 | 18 | 0 | 18 | 115 | 11 | 219 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 0 | 1498 | 1598 | 1678 | 1422 |
| Q Serve(g_s), s | 7.8 | 3.9 | 0.7 | 0.6 | 40.0 | 7.5 | 1.0 | 0.0 | 1.0 | 6.5 | 0.5 | 14.0 |
| Cycle Q Clear(g_c), s | 7.8 | 3.9 | 0.7 | 0.6 | 40.0 | 7.5 | 1.0 | 0.0 | 1.0 | 6.5 | 0.5 | 14.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 168 | 867 | 735 | 35 | 728 | 617 | 58 | 0 | 162 | 148 | 276 | 234 |
| V/C Ratio(X) | 0.82 | 0.16 | 0.03 | 0.28 | 1.05 | 0.29 | 0.31 | 0.00 | 0.11 | 0.78 | 0.04 | 0.93 |
| Avail Cap(c_a), veh/h | 260 | 867 | 735 | 260 | 728 | 617 | 260 | 0 | 244 | 260 | 276 | 234 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.4 | 11.7 | 10.9 | 44.4 | 26.1 | 16.9 | 43.3 | 0.0 | 37.1 | 40.9 | 32.4 | 38.0 |
| Incr Delay (d2), s/veh | 11.5 | 0.1 | 0.0 | 4.3 | 48.4 | 0.4 | 3.0 | 0.0 | 0.4 | 8.5 | 0.1 | 41.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.5 | 1.3 | 0.2 | 0.3 | 23.8 | 2.4 | 0.4 | 0.0 | 0.4 | 2.9 | 0.2 | 7.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.9 | 11.8 | 11.0 | 48.7 | 74.5 | 17.3 | 46.4 | 0.0 | 37.5 | 49.4 | 32.5 | 79.5 |
| LnGrp LOS | D | B | B | D | F | B | D | A | D | D | C | E |
| Approach Vol, veh/h | | 297 | | | 956 | | | 36 | | | 345 | |
| Approach Delay, s/veh | | 30.4 | | | 63.5 | | | 41.9 | | | 68.0 | |
| Approach LOS | | C | | | E | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.5 | 54.2 | 14.0 | 15.5 | 16.2 | 46.5 | 8.8 | 20.7 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 5.5 | 5.5 | 6.5 | 6.5 | 5.5 | 5.5 |
| Max Green Setting (Gmax), s | 15.0 | 40.0 | 15.0 | 15.0 | 15.0 | 40.0 | 15.0 | 15.0 |
| Max Q Clear Time (g_c+I1), s | 2.0 | 5.9 | 8.5 | 3.0 | 9.8 | 42.0 | 3.0 | 16.0 |
| Green Ext Time (p_c), s | 0.0 | 0.9 | 0.2 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 58.0 |
| HCM 6th LOS | E |

**Notes**

User approved pedestrian interval to be less than phase max green.



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 31 | 190 | 794 | 77 | 22 | 13 |
| Future Volume (veh/h) | 31 | 190 | 794 | 77 | 22 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 37 | 226 | 945 | 92 | 26 | 15 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 56 | 931 | 788 | 668 | 119 | 106 |
| Arrive On Green | 0.04 | 0.56 | 0.47 | 0.47 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1598 | 1678 | 1678 | 1422 | 1598 | 1422 |
| Grp Volume(v), veh/h | 37 | 226 | 945 | 92 | 26 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1678 | 1422 | 1598 | 1422 |
| Q Serve(g_s), s | 1.8 | 5.5 | 37.6 | 2.9 | 1.2 | 0.8 |
| Cycle Q Clear(g_c), s | 1.8 | 5.5 | 37.6 | 2.9 | 1.2 | 0.8 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 56 | 931 | 788 | 668 | 119 | 106 |
| V/C Ratio(X) | 0.66 | 0.24 | 1.20 | 0.14 | 0.22 | 0.14 |
| Avail Cap(c_a), veh/h | 168 | 931 | 788 | 668 | 489 | 435 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.1 | 9.2 | 21.2 | 12.0 | 34.8 | 34.6 |
| Incr Delay (d2), s/veh | 12.1 | 0.6 | 101.5 | 0.4 | 0.9 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 1.8 | 34.5 | 0.9 | 0.5 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 50.2 | 9.7 | 122.7 | 12.4 | 35.7 | 35.2 |
| LnGrp LOS | D | A | F | B | D | D |
| Approach Vol, veh/h | | 263 | 1037 | | 41 | |
| Approach Delay, s/veh | | 15.4 | 112.9 | | 35.5 | |
| Approach LOS | | B | F | | D | |

| Timer - Assigned Phs | 2 | | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 50.9 | | 6.8 | 44.1 | 10.6 |
| Change Period (Y+Rc), s | 6.5 | | 4.0 | 6.5 | 4.6 |
| Max Green Setting (Gmax), s | 44.4 | | 8.4 | 32.0 | 24.5 |
| Max Q Clear Time (g_c+I1), s | 7.5 | | 3.8 | 39.6 | 3.2 |
| Green Ext Time (p_c), s | 1.2 | | 0.0 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 91.4 |
| HCM 6th LOS | F |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 8 | 224 | 2 | 0 | 832 | 13 | 1 | 0 | 2 | 34 | 0 | 2 |
| Future Volume (veh/h) | 8 | 224 | 2 | 0 | 832 | 13 | 1 | 0 | 2 | 34 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 11 | 303 | 3 | 0 | 1124 | 18 | 1 | 0 | 3 | 46 | 0 | 3 |
| Peak Hour Factor | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 18 | 1329 | 13 | 2 | 1196 | 19 | 21 | 0 | 64 | 87 | 0 | 6 |
| Arrive On Green | 0.01 | 0.72 | 0.72 | 0.00 | 0.65 | 0.65 | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.06 |
| Sat Flow, veh/h | 1668 | 1849 | 18 | 1668 | 1836 | 29 | 382 | 0 | 1145 | 1554 | 0 | 101 |
| Grp Volume(v), veh/h | 11 | 0 | 306 | 0 | 0 | 1142 | 4 | 0 | 0 | 49 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 0 | 1867 | 1668 | 0 | 1865 | 1527 | 0 | 0 | 1656 | 0 | 0 |
| Q Serve(g_s), s | 0.5 | 0.0 | 3.9 | 0.0 | 0.0 | 39.1 | 0.2 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.5 | 0.0 | 3.9 | 0.0 | 0.0 | 39.1 | 0.2 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.01 | 1.00 | | 0.02 | 0.25 | | 0.75 | 0.94 | | 0.06 |
| Lane Grp Cap(c), veh/h | 18 | 0 | 1342 | 2 | 0 | 1215 | 86 | 0 | 0 | 93 | 0 | 0 |
| V/C Ratio(X) | 0.60 | 0.00 | 0.23 | 0.00 | 0.00 | 0.94 | 0.05 | 0.00 | 0.00 | 0.53 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 94 | 0 | 1365 | 94 | 0 | 1364 | 86 | 0 | 0 | 93 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 35.0 | 0.0 | 3.4 | 0.0 | 0.0 | 11.1 | 31.8 | 0.0 | 0.0 | 32.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 27.6 | 0.0 | 0.1 | 0.0 | 0.0 | 12.0 | 0.2 | 0.0 | 0.0 | 5.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 1.0 | 0.0 | 0.0 | 15.8 | 0.1 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.6 | 0.0 | 3.4 | 0.0 | 0.0 | 23.1 | 32.0 | 0.0 | 0.0 | 38.0 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | A | A | C | C | A | A | D | A | A |
| Approach Vol, veh/h | | 317 | | | 1142 | | | 4 | | | 49 | |
| Approach Delay, s/veh | | 5.5 | | | 23.1 | | | 32.0 | | | 38.0 | |
| Approach LOS | | A | | | C | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.0 | 55.1 | | 8.0 | 4.8 | 50.3 | | 8.0 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 4.0 | 52.0 | | 4.0 | 4.0 | 52.0 | | 4.0 |
| Max Q Clear Time (g_c+I1), s | 1.0 | 5.9 | | 2.2 | 2.5 | 41.1 | | 4.0 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | 0.0 | 0.0 | 5.2 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.9 |
| HCM 6th LOS | B |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 69 | 203 | 442 | 393 | 308 | 270 |
| Future Volume (veh/h) | 69 | 203 | 442 | 393 | 308 | 270 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 78 | 228 | 497 | 442 | 346 | 303 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 250 | 222 | 530 | 1396 | 361 | 316 |
| Arrive On Green | 0.14 | 0.14 | 0.30 | 0.75 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 1870 | 920 | 806 |
| Grp Volume(v), veh/h | 78 | 228 | 497 | 442 | 0 | 649 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1870 | 0 | 1725 |
| Q Serve(g_s), s | 4.5 | 16.1 | 31.2 | 9.0 | 0.0 | 42.0 |
| Cycle Q Clear(g_c), s | 4.5 | 16.1 | 31.2 | 9.0 | 0.0 | 42.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.47 |
| Lane Grp Cap(c), veh/h | 250 | 222 | 530 | 1396 | 0 | 677 |
| V/C Ratio(X) | 0.31 | 1.03 | 0.94 | 0.32 | 0.00 | 0.96 |
| Avail Cap(c_a), veh/h | 250 | 222 | 582 | 1482 | 0 | 705 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 49.3 | 39.3 | 4.8 | 0.0 | 34.0 |
| Incr Delay (d2), s/veh | 0.7 | 67.0 | 22.1 | 0.1 | 0.0 | 23.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 4.1 | 16.7 | 3.0 | 0.0 | 21.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 45.0 | 116.3 | 61.4 | 5.0 | 0.0 | 57.7 |
| LnGrp LOS | D | F | E | A | A | E |
| Approach Vol, veh/h | 306 | | | 939 | 649 | |
| Approach Delay, s/veh | 98.2 | | | 34.8 | 57.7 | |
| Approach LOS | F | | | C | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 92.1 | | 22.6 | 40.6 | 51.5 |
| Change Period (Y+Rc), s | | 6.5 | | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | | 90.9 | | 16.1 | 37.5 | 46.9 |
| Max Q Clear Time (g_c+I1), s | | 11.0 | | 18.1 | 33.2 | 44.0 |
| Green Ext Time (p_c), s | | 2.0 | | 0.0 | 0.9 | 1.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 52.9 |
| HCM 6th LOS | | D |

| Intersection | |
|---|---|
| Int Delay, s/veh | 30.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 296 | 497 | 1 | 125 | 386 |
| Future Vol, veh/h | 53 | 296 | 497 | 1 | 125 | 386 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 62 | 344 | 578 | 1 | 145 | 449 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1318 | 579 | 0 | 0 | 579 | 0 |
| Stage 1 | 579 | - | - | - | - | - |
| Stage 2 | 739 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 173 | 515 | - | - | 995 | - |
| Stage 1 | 560 | - | - | - | - | - |
| Stage 2 | 472 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 139 | 515 | - | - | 995 | - |
| Mov Cap-2 Maneuver | 139 | - | - | - | - | - |
| Stage 1 | 560 | - | - | - | - | - |
| Stage 2 | 380 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 114.6 | 0 | 2.3 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 365 | 995 | - |
| HCM Lane V/C Ratio | - | - | 1.112 | 0.146 | - |
| HCM Control Delay (s) | - | - | 114.6 | 9.2 | 0 |
| HCM Lane LOS | - | - | F | A | A |
| HCM 95th %tile Q(veh) | - | - | 15.1 | 0.5 | - |

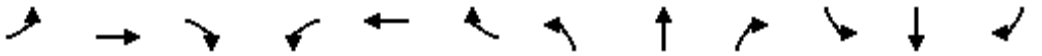
| Intersection | |
|---|---|
| Int Delay, s/veh | 53.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 108 | 0 | 381 | 0 | 16 | 8 | 369 | 17 | 1 |
| Future Vol, veh/h | 0 | 0 | 0 | 108 | 0 | 381 | 0 | 16 | 8 | 369 | 17 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 129 | 0 | 454 | 0 | 19 | 10 | 439 | 20 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1150 | 928 | 21 | 923 | 923 | 24 | - | 0 | 0 | 29 | 0 | 0 |
| Stage 1 | 899 | 899 | - | 24 | 24 | - | - | - | - | - | - | - |
| Stage 2 | 251 | 29 | - | 899 | 899 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 175 | 268 | 1056 | 250 | 270 | 1052 | 0 | - | - | 1584 | - | - |
| Stage 1 | 334 | 358 | - | 994 | 875 | - | 0 | - | - | - | - | - |
| Stage 2 | 753 | 871 | - | 334 | 358 | - | 0 | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 78 | 193 | 1056 | 196 | 194 | 1052 | - | - | - | 1584 | - | - |
| Mov Cap-2 Maneuver | 78 | 193 | - | 196 | 194 | - | - | - | - | - | - | - |
| Stage 1 | 334 | 257 | - | 994 | 875 | - | - | - | - | - | - | - |
| Stage 2 | 428 | 871 | - | 240 | 257 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 92.3 | 0 | 7.8 |
| HCM LOS | A | F | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 535 | 1584 | - | - |
| HCM Lane V/C Ratio | - | - | - | 1.088 | 0.277 | - | - |
| HCM Control Delay (s) | - | - | 0 | 92.3 | 8.1 | 0 | - |
| HCM Lane LOS | - | - | A | F | A | A | - |
| HCM 95th %tile Q(veh) | - | - | - | 18 | 1.1 | - | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 423 | 4 | 301 | 34 | 449 | 0 | 0 | 530 | 34 |
| Future Volume (veh/h) | 0 | 0 | 0 | 423 | 4 | 301 | 34 | 449 | 0 | 0 | 530 | 34 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 460 | 4 | 327 | 37 | 488 | 0 | 0 | 576 | 0 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 558 | 5 | 882 | 104 | 1330 | 0 | 0 | 1172 | |
| Arrive On Green | | | | 0.38 | 0.35 | 0.35 | 0.07 | 0.42 | 0.00 | 0.00 | 0.26 | 0.00 |
| Sat Flow, veh/h | | | | 1585 | 14 | 2502 | 1598 | 3272 | 0 | 0 | 4731 | 1422 |
| Grp Volume(v), veh/h | | | | 464 | 0 | 327 | 37 | 488 | 0 | 0 | 576 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1251 | 1598 | 1594 | 0 | 0 | 1527 | 1422 |
| Q Serve(g_s), s | | | | 12.3 | 0.0 | 4.6 | 1.0 | 4.9 | 0.0 | 0.0 | 5.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 12.3 | 0.0 | 4.6 | 1.0 | 4.9 | 0.0 | 0.0 | 5.0 | 0.0 |
| Prop In Lane | | | | 0.99 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 563 | 0 | 882 | 104 | 1330 | 0 | 0 | 1172 | |
| V/C Ratio(X) | | | | 0.82 | 0.00 | 0.37 | 0.35 | 0.37 | 0.00 | 0.00 | 0.49 | |
| Avail Cap(c_a), veh/h | | | | 849 | 0 | 1330 | 563 | 3013 | 0 | 0 | 2277 | |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 13.3 | 0.0 | 11.3 | 21.0 | 9.4 | 0.0 | 0.0 | 14.8 | 0.0 |
| Incr Delay (d2), s/veh | | | | 3.1 | 0.0 | 0.2 | 0.8 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 3.9 | 0.0 | 1.1 | 0.4 | 1.4 | 0.0 | 0.0 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 16.4 | 0.0 | 11.5 | 21.7 | 9.5 | 0.0 | 0.0 | 15.0 | 0.0 |
| LnGrp LOS | | | | B | A | B | C | A | A | A | B | |
| Approach Vol, veh/h | | | | | 791 | | | 525 | | | 576 | A |
| Approach Delay, s/veh | | | | | 14.3 | | | 10.3 | | | 15.0 | |
| Approach LOS | | | | | B | | | B | | | B | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 25.3 | | | 7.6 | 17.7 | | 21.6 | | | | |
| Change Period (Y+Rc), s | | 5.7 | | | 4.5 | 5.7 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 44.3 | | | 16.5 | 23.3 | | 24.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.9 | | | 3.0 | 7.0 | | 14.3 | | | | |
| Green Ext Time (p_c), s | | 1.4 | | | 0.0 | 1.6 | | 2.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.4 | |
| HCM 6th LOS | B | |

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 112 | 1 | 54 | 0 | 0 | 0 | 0 | 370 | 844 | 0 | 675 | 0 |
| Future Volume (veh/h) | 112 | 1 | 54 | 0 | 0 | 0 | 0 | 370 | 844 | 0 | 675 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 0 | 1678 | 0 |
| Adj Flow Rate, veh/h | 125 | 0 | 60 | | | | 0 | 411 | 938 | 0 | 750 | 0 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | | | | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 0 | 15 | 0 |
| Cap, veh/h | 365 | 0 | 162 | | | | 0 | 2316 | 1033 | 0 | 2316 | 0 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | | | | 0.00 | 0.73 | 0.73 | 0.00 | 0.73 | 0.00 |
| Sat Flow, veh/h | 3196 | 0 | 1422 | | | | 0 | 3272 | 1422 | 0 | 3355 | 0 |
| Grp Volume(v), veh/h | 125 | 0 | 60 | | | | 0 | 411 | 938 | 0 | 750 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 0 | 1422 | | | | 0 | 1594 | 1422 | 0 | 1594 | 0 |
| Q Serve(g_s), s | 2.4 | 0.0 | 2.6 | | | | 0.0 | 2.7 | 36.0 | 0.0 | 5.7 | 0.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 2.6 | | | | 0.0 | 2.7 | 36.0 | 0.0 | 5.7 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 365 | 0 | 162 | | | | 0 | 2316 | 1033 | 0 | 2316 | 0 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.37 | | | | 0.00 | 0.18 | 0.91 | 0.00 | 0.32 | 0.00 |
| Avail Cap(c_a), veh/h | 937 | 0 | 417 | | | | 0 | 2316 | 1033 | 0 | 2316 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 27.7 | 0.0 | 27.8 | | | | 0.0 | 2.9 | 7.5 | 0.0 | 3.3 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.5 | | | | 0.0 | 0.2 | 13.1 | 0.0 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 0.9 | | | | 0.0 | 0.6 | 10.0 | 0.0 | 1.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.9 | 0.0 | 28.3 | | | | 0.0 | 3.1 | 20.5 | 0.0 | 3.7 | 0.0 |
| LnGrp LOS | C | A | C | | | | A | A | C | A | A | A |
| Approach Vol, veh/h | | 185 | | | | | | 1349 | | | 750 | |
| Approach Delay, s/veh | | 28.0 | | | | | | 15.2 | | | 3.7 | |
| Approach LOS | | C | | | | | | B | | | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 55.0 | 12.9 | 55.0 |
| Change Period (Y+Rc), s | 5.7 | 5.1 | 5.7 |
| Max Green Setting (Gmax), s | 49.3 | 19.9 | 49.3 |
| Max Q Clear Time (g_c+I1), s | 38.0 | 4.6 | 7.7 |
| Green Ext Time (p_c), s | 4.0 | 0.1 | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.5 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 43 | 77 | 624 | 36 | 275 | 121 | 834 | 508 | 213 | 979 | 23 |
| Future Volume (veh/h) | 45 | 43 | 77 | 624 | 36 | 275 | 121 | 834 | 508 | 213 | 979 | 23 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1060 | 1589 | 1324 | 1060 | 1589 | 1324 | 1060 | 1589 | 1324 | 1060 | 1589 | 1324 |
| Adj Flow Rate, veh/h | 51 | 48 | 87 | 701 | 40 | 309 | 136 | 937 | 571 | 239 | 1100 | 26 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 64 | 275 | 102 | 526 | 470 | 332 | 136 | 953 | 354 | 267 | 960 | 357 |
| Arrive On Green | 0.06 | 0.09 | 0.09 | 0.27 | 0.30 | 0.30 | 0.13 | 0.32 | 0.32 | 0.14 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1009 | 3020 | 1122 | 1958 | 1589 | 1122 | 1009 | 3020 | 1122 | 1958 | 3020 | 1122 |
| Grp Volume(v), veh/h | 51 | 48 | 87 | 701 | 40 | 309 | 136 | 937 | 571 | 239 | 1100 | 26 |
| Grp Sat Flow(s),veh/h/ln | 1009 | 1510 | 1122 | 979 | 1589 | 1122 | 1009 | 1510 | 1122 | 979 | 1510 | 1122 |
| Q Serve(g_s), s | 7.4 | 2.2 | 11.4 | 40.0 | 2.7 | 39.8 | 20.0 | 45.8 | 47.0 | 17.9 | 47.3 | 2.4 |
| Cycle Q Clear(g_c), s | 7.4 | 2.2 | 11.4 | 40.0 | 2.7 | 39.8 | 20.0 | 45.8 | 47.0 | 17.9 | 47.3 | 2.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 64 | 275 | 102 | 526 | 470 | 332 | 136 | 953 | 354 | 267 | 960 | 357 |
| V/C Ratio(X) | 0.79 | 0.17 | 0.85 | 1.33 | 0.09 | 0.93 | 1.00 | 0.98 | 1.61 | 0.89 | 1.15 | 0.07 |
| Avail Cap(c_a), veh/h | 136 | 406 | 151 | 526 | 502 | 354 | 136 | 953 | 354 | 329 | 960 | 357 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 68.7 | 62.5 | 66.7 | 54.4 | 37.9 | 50.9 | 64.4 | 50.6 | 50.9 | 63.2 | 50.8 | 35.5 |
| Incr Delay (d2), s/veh | 19.2 | 0.3 | 24.7 | 162.4 | 0.1 | 29.7 | 78.2 | 24.9 | 288.0 | 22.2 | 78.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.9 | 3.9 | 21.5 | 1.1 | 13.6 | 8.1 | 20.6 | 41.1 | 5.3 | 28.2 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 87.9 | 62.8 | 91.4 | 216.9 | 37.9 | 80.6 | 142.6 | 75.5 | 339.0 | 85.4 | 128.8 | 35.5 |
| LnGrp LOS | F | E | F | F | D | F | F | E | F | F | F | D |
| Approach Vol, veh/h | | 186 | | | 1050 | | | 1644 | | | 1365 | |
| Approach Delay, s/veh | | 83.1 | | | 170.0 | | | 172.6 | | | 119.4 | |
| Approach LOS | | F | | | F | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 27.3 | 54.0 | 47.0 | 20.6 | 27.0 | 54.3 | 16.5 | 51.1 |
| Change Period (Y+Rc), s | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Max Green Setting (Gmax), s | 25.0 | 47.0 | 40.0 | 20.0 | 20.0 | 47.0 | 20.0 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 19.9 | 49.0 | 42.0 | 13.4 | 22.0 | 49.3 | 9.4 | 41.8 |
| Green Ext Time (p_c), s | 0.5 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 150.9 |
| HCM 6th LOS | F |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 5 | 0 | 442 | 10 | 1030 | 0 | 0 | 1295 | 396 |
| Future Volume (veh/h) | 0 | 0 | 0 | 5 | 0 | 442 | 10 | 1030 | 0 | 0 | 1295 | 396 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 5 | 0 | 0 | 11 | 1084 | 0 | 0 | 1363 | 417 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 12 | 0 | | 10 | 975 | 0 | 0 | 515 | 437 |
| Arrive On Green | | | | 0.01 | 0.00 | 0.00 | 0.59 | 0.59 | 0.00 | 0.00 | 0.31 | 0.31 |
| Sat Flow, veh/h | | | | 1598 | 0 | 1422 | 17 | 1660 | 0 | 0 | 1678 | 1422 |
| Grp Volume(v), veh/h | | | | 5 | 0 | 0 | 1095 | 0 | 0 | 0 | 1363 | 417 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1422 | 1677 | 0 | 0 | 0 | 1678 | 1422 |
| Q Serve(g_s), s | | | | 0.5 | 0.0 | 0.0 | 99.8 | 0.0 | 0.0 | 0.0 | 52.2 | 48.9 |
| Cycle Q Clear(g_c), s | | | | 0.5 | 0.0 | 0.0 | 99.8 | 0.0 | 0.0 | 0.0 | 52.2 | 48.9 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.01 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 12 | 0 | | 985 | 0 | 0 | 0 | 515 | 437 |
| V/C Ratio(X) | | | | 0.42 | 0.00 | | 1.11 | 0.00 | 0.00 | 0.00 | 2.65 | 0.96 |
| Avail Cap(c_a), veh/h | | | | 131 | 0 | | 985 | 0 | 0 | 0 | 515 | 437 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 84.0 | 0.0 | 0.0 | 35.1 | 0.0 | 0.0 | 0.0 | 58.9 | 57.8 |
| Incr Delay (d2), s/veh | | | | 22.0 | 0.0 | 0.0 | 51.9 | 0.0 | 0.0 | 0.0 | 746.2 | 32.8 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.0 | 53.8 | 0.0 | 0.0 | 0.0 | 128.9 | 21.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 106.0 | 0.0 | 0.0 | 87.0 | 0.0 | 0.0 | 0.0 | 805.1 | 90.6 |
| LnGrp LOS | | | | F | A | | F | A | A | A | F | F |
| Approach Vol, veh/h | | | | | 5 | A | | 1095 | | | 1780 | |
| Approach Delay, s/veh | | | | | 106.0 | | | 87.0 | | | 637.7 | |
| Approach LOS | | | | | F | | | F | | | F | |

| Timer - Assigned Phs | 2 | | 6 | | 8 | | | |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 105.6 | | 58.0 | | 6.4 | | | |
| Change Period (Y+Rc), s | 5.8 | | 5.8 | | 5.1 | | | |
| Max Green Setting (Gmax), s | 87.2 | | 52.2 | | 13.9 | | | |
| Max Q Clear Time (g_c+I1), s | 101.8 | | 54.2 | | 2.5 | | | |
| Green Ext Time (p_c), s | 0.0 | | 0.0 | | 0.0 | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 427.4 | |
| HCM 6th LOS | F | |

**Notes**

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 188 | 4 | 66 | 0 | 0 | 0 | 0 | 859 | 433 | 1237 | 55 | 0 |
| Future Volume (veh/h) | 188 | 4 | 66 | 0 | 0 | 0 | 0 | 859 | 433 | 1237 | 55 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 1678 | 1678 | 0 |
| Adj Flow Rate, veh/h | 200 | 4 | 0 | | | | 0 | 914 | 461 | 1316 | 59 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | | | | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 15 | 15 | 0 |
| Cap, veh/h | 221 | 4 | | | | | 0 | 712 | 603 | 516 | 23 | 0 |
| Arrive On Green | 0.14 | 0.14 | 0.00 | | | | 0.00 | 0.42 | 0.42 | 0.34 | 0.34 | 0.00 |
| Sat Flow, veh/h | 1568 | 31 | 1422 | | | | 0 | 1678 | 1422 | 1532 | 69 | 0 |
| Grp Volume(v), veh/h | 204 | 0 | 0 | | | | 0 | 914 | 461 | 1375 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1599 | 0 | 1422 | | | | 0 | 1678 | 1422 | 1601 | 0 | 0 |
| Q Serve(g_s), s | 21.3 | 0.0 | 0.0 | | | | 0.0 | 72.1 | 47.0 | 57.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 21.3 | 0.0 | 0.0 | | | | 0.0 | 72.1 | 47.0 | 57.2 | 0.0 | 0.0 |
| Prop In Lane | 0.98 | | 1.00 | | | | 0.00 | | 1.00 | 0.96 | | 0.00 |
| Lane Grp Cap(c), veh/h | 226 | 0 | | | | | 0 | 712 | 603 | 539 | 0 | 0 |
| V/C Ratio(X) | 0.90 | 0.00 | | | | | 0.00 | 1.28 | 0.76 | 2.55 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 310 | 0 | | | | | 0 | 712 | 603 | 539 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | | | | 0.00 | 1.00 | 1.00 | 0.09 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 71.9 | 0.0 | 0.0 | | | | 0.0 | 48.9 | 41.7 | 56.4 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 24.0 | 0.0 | 0.0 | | | | 0.0 | 138.4 | 8.9 | 699.1 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.3 | 0.0 | 0.0 | | | | 0.0 | 57.4 | 18.1 | 127.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 95.9 | 0.0 | 0.0 | | | | 0.0 | 187.4 | 50.6 | 755.5 | 0.0 | 0.0 |
| LnGrp LOS | F | A | | | | | A | F | D | F | A | A |
| Approach Vol, veh/h | | 204 | A | | | | | 1375 | | | 1375 | |
| Approach Delay, s/veh | | 95.9 | | | | | | 141.5 | | | 755.5 | |
| Approach LOS | | F | | | | | | F | | | F | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 77.9 | 29.1 | 63.0 |
| Change Period (Y+Rc), s | 5.8 | 5.1 | 5.8 |
| Max Green Setting (Gmax), s | 63.2 | 32.9 | 57.2 |
| Max Q Clear Time (g_c+I1), s | 74.1 | 23.3 | 59.2 |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 424.1 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



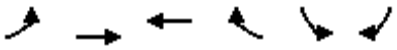
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 159 | 501 | 26 | 8 | 143 | 91 | 20 | 6 | 15 | 193 | 2 | 185 |
| Future Volume (veh/h) | 159 | 501 | 26 | 8 | 143 | 91 | 20 | 6 | 15 | 193 | 2 | 185 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 189 | 596 | 31 | 10 | 170 | 108 | 24 | 7 | 18 | 230 | 2 | 220 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 224 | 663 | 562 | 36 | 465 | 394 | 74 | 51 | 131 | 265 | 406 | 344 |
| Arrive On Green | 0.14 | 0.39 | 0.39 | 0.02 | 0.28 | 0.28 | 0.05 | 0.12 | 0.12 | 0.17 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 416 | 1069 | 1598 | 1678 | 1422 |
| Grp Volume(v), veh/h | 189 | 596 | 31 | 10 | 170 | 108 | 24 | 0 | 25 | 230 | 2 | 220 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 0 | 1485 | 1598 | 1678 | 1422 |
| Q Serve(g_s), s | 9.4 | 27.2 | 1.1 | 0.5 | 6.6 | 4.8 | 1.2 | 0.0 | 1.2 | 11.4 | 0.1 | 11.3 |
| Cycle Q Clear(g_c), s | 9.4 | 27.2 | 1.1 | 0.5 | 6.6 | 4.8 | 1.2 | 0.0 | 1.2 | 11.4 | 0.1 | 11.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.72 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 224 | 663 | 562 | 36 | 465 | 394 | 74 | 0 | 182 | 265 | 406 | 344 |
| V/C Ratio(X) | 0.84 | 0.90 | 0.06 | 0.28 | 0.37 | 0.27 | 0.32 | 0.00 | 0.14 | 0.87 | 0.00 | 0.64 |
| Avail Cap(c_a), veh/h | 294 | 824 | 698 | 294 | 824 | 698 | 294 | 0 | 273 | 294 | 406 | 344 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.1 | 23.1 | 15.2 | 39.2 | 23.7 | 23.1 | 37.6 | 0.0 | 31.9 | 33.1 | 23.4 | 27.7 |
| Incr Delay (d2), s/veh | 15.5 | 11.9 | 0.1 | 4.2 | 0.7 | 0.5 | 2.5 | 0.0 | 0.5 | 21.7 | 0.0 | 4.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.4 | 11.6 | 0.4 | 0.2 | 2.5 | 1.6 | 0.5 | 0.0 | 0.5 | 5.9 | 0.0 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.6 | 35.0 | 15.3 | 43.4 | 24.4 | 23.6 | 40.1 | 0.0 | 32.4 | 54.8 | 23.5 | 32.2 |
| LnGrp LOS | D | D | B | D | C | C | D | A | C | D | C | C |
| Approach Vol, veh/h | | 816 | | | 288 | | | 49 | | | 452 | |
| Approach Delay, s/veh | | 37.6 | | | 24.7 | | | 36.2 | | | 43.7 | |
| Approach LOS | | D | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.3 | 38.7 | 19.0 | 15.5 | 17.9 | 29.1 | 9.3 | 25.2 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 5.5 | 5.5 | 6.5 | 6.5 | 5.5 | 5.5 |
| Max Green Setting (Gmax), s | 15.0 | 40.0 | 15.0 | 15.0 | 15.0 | 40.0 | 15.0 | 15.0 |
| Max Q Clear Time (g_c+I2), s | 2.5 | 29.2 | 13.4 | 3.2 | 11.4 | 8.6 | 3.2 | 13.3 |
| Green Ext Time (p_c), s | 0.0 | 3.0 | 0.1 | 0.0 | 0.2 | 1.7 | 0.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.0 |
| HCM 6th LOS | D |

**Notes**

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 689 | 210 | 64 | 84 | 28 |
| Future Volume (veh/h) | 20 | 689 | 210 | 64 | 84 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 22 | 749 | 228 | 70 | 91 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 104 | 1305 | 1108 | 939 | 194 | 173 |
| Arrive On Green | 0.06 | 0.74 | 0.63 | 0.63 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1668 | 1752 | 1752 | 1485 | 1668 | 1485 |
| Grp Volume(v), veh/h | 22 | 749 | 228 | 70 | 91 | 30 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1752 | 1752 | 1485 | 1668 | 1485 |
| Q Serve(g_s), s | 1.0 | 15.3 | 4.4 | 1.5 | 4.1 | 1.5 |
| Cycle Q Clear(g_c), s | 1.0 | 15.3 | 4.4 | 1.5 | 4.1 | 1.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 104 | 1305 | 1108 | 939 | 194 | 173 |
| V/C Ratio(X) | 0.21 | 0.57 | 0.21 | 0.07 | 0.47 | 0.17 |
| Avail Cap(c_a), veh/h | 167 | 1305 | 1108 | 939 | 511 | 455 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.69 | 0.69 | 0.99 | 0.99 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.6 | 4.6 | 6.2 | 5.7 | 33.0 | 31.9 |
| Incr Delay (d2), s/veh | 0.7 | 1.3 | 0.4 | 0.2 | 1.7 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 3.2 | 1.3 | 0.4 | 1.7 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.3 | 5.8 | 6.6 | 5.8 | 34.8 | 32.3 |
| LnGrp LOS | D | A | A | A | C | C |
| Approach Vol, veh/h | | 771 | 298 | | 121 | |
| Approach Delay, s/veh | | 6.7 | 6.4 | | 34.2 | |
| Approach LOS | | A | A | | C | |

| Timer - Assigned Phs | 2 | | | 5 | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 66.1 | | | 9.0 | 57.1 | 13.9 |
| Change Period (Y+Rc), s | 6.5 | | | 4.0 | 6.5 | 4.6 |
| Max Green Setting (Gmax), s | 44.4 | | | 8.0 | 32.0 | 24.5 |
| Max Q Clear Time (g_c+I1), s | 17.3 | | | 3.0 | 6.4 | 6.1 |
| Green Ext Time (p_c), s | 5.3 | | | 0.0 | 1.4 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.4 |
| HCM 6th LOS | A |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 16 | 709 | 1 | 4 | 257 | 25 | 2 | 0 | 1 | 14 | 0 | 1 |
| Future Volume (veh/h) | 16 | 709 | 1 | 4 | 257 | 25 | 2 | 0 | 1 | 14 | 0 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 19 | 854 | 1 | 5 | 310 | 30 | 2 | 0 | 1 | 17 | 0 | 1 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 32 | 992 | 1 | 9 | 869 | 84 | 4 | 0 | 2 | 28 | 0 | 2 |
| Arrive On Green | 0.02 | 0.53 | 0.53 | 0.01 | 0.52 | 0.52 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 |
| Sat Flow, veh/h | 1668 | 1868 | 2 | 1668 | 1679 | 162 | 1068 | 0 | 534 | 1565 | 0 | 92 |
| Grp Volume(v), veh/h | 19 | 0 | 855 | 5 | 0 | 340 | 3 | 0 | 0 | 18 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 0 | 1870 | 1668 | 0 | 1841 | 1602 | 0 | 0 | 1657 | 0 | 0 |
| Q Serve(g_s), s | 0.5 | 0.0 | 16.1 | 0.1 | 0.0 | 4.4 | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.5 | 0.0 | 16.1 | 0.1 | 0.0 | 4.4 | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.09 | 0.67 | | 0.33 | 0.94 | | 0.06 |
| Lane Grp Cap(c), veh/h | 32 | 0 | 993 | 9 | 0 | 953 | 5 | 0 | 0 | 30 | 0 | 0 |
| V/C Ratio(X) | 0.60 | 0.00 | 0.86 | 0.55 | 0.00 | 0.36 | 0.57 | 0.00 | 0.00 | 0.60 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 164 | 0 | 1378 | 164 | 0 | 1356 | 157 | 0 | 0 | 163 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 19.8 | 0.0 | 8.2 | 20.2 | 0.0 | 5.8 | 20.3 | 0.0 | 0.0 | 19.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 16.8 | 0.0 | 4.2 | 44.1 | 0.0 | 0.2 | 71.9 | 0.0 | 0.0 | 17.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 5.0 | 0.2 | 0.0 | 1.1 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.6 | 0.0 | 12.5 | 64.3 | 0.0 | 6.0 | 92.2 | 0.0 | 0.0 | 37.6 | 0.0 | 0.0 |
| LnGrp LOS | D | A | B | E | A | A | F | A | A | D | A | A |
| Approach Vol, veh/h | | 874 | | | 345 | | | 3 | | | 18 | |
| Approach Delay, s/veh | | 13.0 | | | 6.9 | | | 92.2 | | | 37.6 | |
| Approach LOS | | B | | | A | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.2 | 27.6 | | 4.1 | 4.8 | 27.1 | | 4.7 |
| Change Period (Y+Rc), s | 4.0 | 6.0 | | 4.0 | 4.0 | 6.0 | | 4.0 |
| Max Green Setting (Gmax), s | 4.0 | 30.0 | | 4.0 | 4.0 | 30.0 | | 4.0 |
| Max Q Clear Time (g_c+I2), s | 2.1 | 18.1 | | 2.1 | 2.5 | 6.4 | | 2.4 |
| Green Ext Time (p_c), s | 0.0 | 3.6 | | 0.0 | 0.0 | 1.4 | | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.9 |
| HCM 6th LOS | | B |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 199 | 520 | 227 | 172 | 199 | 59 |
| Future Volume (veh/h) | 199 | 520 | 227 | 172 | 199 | 59 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 219 | 571 | 249 | 189 | 219 | 65 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 689 | 613 | 301 | 830 | 263 | 78 |
| Arrive On Green | 0.39 | 0.39 | 0.17 | 0.44 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 1870 | 1385 | 411 |
| Grp Volume(v), veh/h | 219 | 571 | 249 | 189 | 0 | 284 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1870 | 0 | 1796 |
| Q Serve(g_s), s | 6.6 | 26.5 | 10.4 | 4.8 | 0.0 | 11.7 |
| Cycle Q Clear(g_c), s | 6.6 | 26.5 | 10.4 | 4.8 | 0.0 | 11.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.23 |
| Lane Grp Cap(c), veh/h | 689 | 613 | 301 | 830 | 0 | 341 |
| V/C Ratio(X) | 0.32 | 0.93 | 0.83 | 0.23 | 0.00 | 0.83 |
| Avail Cap(c_a), veh/h | 731 | 650 | 522 | 1352 | 0 | 620 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.4 | 22.5 | 30.8 | 13.2 | 0.0 | 29.9 |
| Incr Delay (d2), s/veh | 0.3 | 19.6 | 5.7 | 0.1 | 0.0 | 5.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 23.0 | 4.8 | 1.9 | 0.0 | 5.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 16.7 | 42.2 | 36.6 | 13.4 | 0.0 | 35.2 |
| LnGrp LOS | B | D | D | B | A | D |
| Approach Vol, veh/h | 790 | | | 438 | 284 | |
| Approach Delay, s/veh | 35.1 | | | 26.5 | 35.2 | |
| Approach LOS | D | | | C | D | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 40.6 | | 36.2 | 19.5 | 21.1 |
| Change Period (Y+Rc), s | | 6.5 | | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | | 55.5 | | 31.5 | 22.5 | 26.5 |
| Max Q Clear Time (g_c+I1), s | | 6.8 | | 28.5 | 12.4 | 13.7 |
| Green Ext Time (p_c), s | | 0.7 | | 1.2 | 0.7 | 0.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 32.6 |
| HCM 6th LOS | | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.9 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 26 | 75 | 301 | 0 | 225 | 497 |
| Future Vol, veh/h | 26 | 75 | 301 | 0 | 225 | 497 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 29 | 83 | 334 | 0 | 250 | 552 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1386 | 334 | 0 | 0 | 334 | 0 |
| Stage 1 | 334 | - | - | - | - | - |
| Stage 2 | 1052 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 158 | 708 | - | - | 1225 | - |
| Stage 1 | 725 | - | - | - | - | - |
| Stage 2 | 336 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 112 | 708 | - | - | 1225 | - |
| Mov Cap-2 Maneuver | 112 | - | - | - | - | - |
| Stage 1 | 725 | - | - | - | - | - |
| Stage 2 | 237 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 24.1 | 0 | 2.7 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 299 | 1225 | - |
| HCM Lane V/C Ratio | - | - | 0.375 | 0.204 | - |
| HCM Control Delay (s) | - | - | 24.1 | 8.7 | 0 |
| HCM Lane LOS | - | - | C | A | A |
| HCM 95th %tile Q(veh) | - | - | 1.7 | 0.8 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 14 |

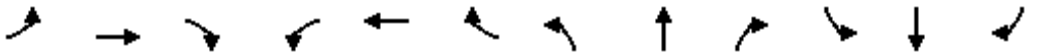
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 48 | 0 | 229 | 0 | 19 | 24 | 480 | 24 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 48 | 0 | 229 | 0 | 19 | 24 | 480 | 24 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 54 | 0 | 257 | 0 | 21 | 27 | 539 | 27 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1268 | 1153 | 27 | 1140 | 1140 | 35 | - | 0 | 0 | 48 | 0 | 0 |
| Stage 1 | 1105 | 1105 | - | 35 | 35 | - | - | - | - | - | - | - |
| Stage 2 | 163 | 48 | - | 1105 | 1105 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 145 | 197 | 1048 | 178 | 201 | 1038 | 0 | - | - | 1559 | - | 0 |
| Stage 1 | 256 | 286 | - | 981 | 866 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 839 | 855 | - | 256 | 286 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | - | - | | - | |
| Mov Cap-1 Maneuver | 79 | 128 | 1048 | 129 | 130 | 1038 | - | - | - | 1559 | - | - |
| Mov Cap-2 Maneuver | 79 | 128 | - | 129 | 130 | - | - | - | - | - | - | - |
| Stage 1 | 256 | 186 | - | 981 | 866 | - | - | - | - | - | - | - |
| Stage 2 | 631 | 855 | - | 166 | 186 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 26.8 | 0 | 8.1 |
| HCM LOS | A | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 467 | 1559 | - |
| HCM Lane V/C Ratio | - | - | - | 0.666 | 0.346 | - |
| HCM Control Delay (s) | - | - | 0 | 26.8 | 8.5 | 0 |
| HCM Lane LOS | - | - | A | D | A | A |
| HCM 95th %tile Q(veh) | - | - | - | 4.8 | 1.6 | - |

**D. Background Plus Project Conditions Synchro Outputs**



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 871 | 323 | 178 | 25 | 241 | 0 | 0 | 807 | 656 |
| Future Volume (veh/h) | 0 | 0 | 0 | 871 | 323 | 178 | 25 | 241 | 0 | 0 | 807 | 656 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 957 | 355 | 196 | 27 | 265 | 0 | 0 | 887 | 721 |
| Peak Hour Factor | | | | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 441 | 164 | 935 | 75 | 1480 | 0 | 0 | 1601 | 497 |
| Arrive On Green | | | | 0.39 | 0.37 | 0.37 | 0.05 | 0.46 | 0.00 | 0.00 | 0.35 | 0.35 |
| Sat Flow, veh/h | | | | 1181 | 438 | 2502 | 1598 | 3272 | 0 | 0 | 4731 | 1422 |
| Grp Volume(v), veh/h | | | | 1312 | 0 | 196 | 27 | 265 | 0 | 0 | 887 | 721 |
| Grp Sat Flow(s),veh/h/ln | | | | 1619 | 0 | 1251 | 1598 | 1594 | 0 | 0 | 1527 | 1422 |
| Q Serve(g_s), s | | | | 24.9 | 0.0 | 3.5 | 1.1 | 3.2 | 0.0 | 0.0 | 10.4 | 23.3 |
| Cycle Q Clear(g_c), s | | | | 24.9 | 0.0 | 3.5 | 1.1 | 3.2 | 0.0 | 0.0 | 10.4 | 23.3 |
| Prop In Lane | | | | 0.73 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 605 | 0 | 935 | 75 | 1480 | 0 | 0 | 1601 | 497 |
| V/C Ratio(X) | | | | 2.17 | 0.00 | 0.21 | 0.36 | 0.18 | 0.00 | 0.00 | 0.55 | 1.45 |
| Avail Cap(c_a), veh/h | | | | 605 | 0 | 935 | 396 | 2119 | 0 | 0 | 1601 | 497 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 20.5 | 0.0 | 14.2 | 30.8 | 10.4 | 0.0 | 0.0 | 17.5 | 21.7 |
| Incr Delay (d2), s/veh | | | | 531.7 | 0.0 | 0.1 | 1.1 | 0.0 | 0.0 | 0.0 | 0.3 | 213.8 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 97.6 | 0.0 | 0.9 | 0.4 | 1.0 | 0.0 | 0.0 | 3.4 | 36.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 552.2 | 0.0 | 14.3 | 31.8 | 10.4 | 0.0 | 0.0 | 17.7 | 235.5 |
| LnGrp LOS | | | | F | A | B | C | B | A | A | B | F |
| Approach Vol, veh/h | | | | | 1508 | | | 292 | | | 1608 | |
| Approach Delay, s/veh | | | | | 482.3 | | | 12.4 | | | 115.4 | |
| Approach LOS | | | | | F | | | B | | | F | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 36.6 | | | 7.6 | 29.0 | | 30.0 | | | | |
| Change Period (Y+Rc), s | | 5.7 | | | 4.5 | 5.7 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 44.3 | | | 16.5 | 23.3 | | 24.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 5.2 | | | 3.1 | 25.3 | | 26.9 | | | | |
| Green Ext Time (p_c), s | | 0.7 | | | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 268.9 | | | | | | | | | |
| HCM 6th LOS | | | F | | | | | | | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 48 | 0 | 91 | 0 | 0 | 0 | 0 | 221 | 376 | 0 | 1374 | 0 |
| Future Volume (veh/h) | 48 | 0 | 91 | 0 | 0 | 0 | 0 | 221 | 376 | 0 | 1374 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 0 | 1678 | 0 |
| Adj Flow Rate, veh/h | 51 | 0 | 96 | | | | 0 | 233 | 396 | 0 | 1446 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 0 | 15 | 0 |
| Cap, veh/h | 354 | 0 | 158 | | | | 0 | 2325 | 1037 | 0 | 2325 | 0 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | | | | 0.00 | 0.73 | 0.73 | 0.00 | 0.73 | 0.00 |
| Sat Flow, veh/h | 3196 | 0 | 1422 | | | | 0 | 3272 | 1422 | 0 | 3355 | 0 |
| Grp Volume(v), veh/h | 51 | 0 | 96 | | | | 0 | 233 | 396 | 0 | 1446 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 0 | 1422 | | | | 0 | 1594 | 1422 | 0 | 1594 | 0 |
| Q Serve(g_s), s | 1.0 | 0.0 | 4.4 | | | | 0.0 | 1.4 | 7.1 | 0.0 | 15.2 | 0.0 |
| Cycle Q Clear(g_c), s | 1.0 | 0.0 | 4.4 | | | | 0.0 | 1.4 | 7.1 | 0.0 | 15.2 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 354 | 0 | 158 | | | | 0 | 2325 | 1037 | 0 | 2325 | 0 |
| V/C Ratio(X) | 0.14 | 0.00 | 0.61 | | | | 0.00 | 0.10 | 0.38 | 0.00 | 0.62 | 0.00 |
| Avail Cap(c_a), veh/h | 941 | 0 | 419 | | | | 0 | 2325 | 1037 | 0 | 2325 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 27.2 | 0.0 | 28.7 | | | | 0.0 | 2.7 | 3.4 | 0.0 | 4.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 1.4 | | | | 0.0 | 0.1 | 1.1 | 0.0 | 1.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 1.5 | | | | 0.0 | 0.3 | 1.5 | 0.0 | 3.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.2 | 0.0 | 30.1 | | | | 0.0 | 2.8 | 4.5 | 0.0 | 5.8 | 0.0 |
| LnGrp LOS | C | A | C | | | | A | A | A | A | A | A |
| Approach Vol, veh/h | | 147 | | | | | | 629 | | | 1446 | |
| Approach Delay, s/veh | | 29.1 | | | | | | 3.9 | | | 5.8 | |
| Approach LOS | | C | | | | | | A | | | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 55.0 | 12.6 | 55.0 |
| Change Period (Y+Rc), s | 5.7 | 5.1 | 5.7 |
| Max Green Setting (Gmax), s | 49.3 | 19.9 | 49.3 |
| Max Q Clear Time (g_c+I1), s | 9.1 | 6.4 | 17.2 |
| Green Ext Time (p_c), s | 1.8 | 0.1 | 5.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.8 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 22 | 219 | 814 | 74 | 260 | 66 | 267 | 400 | 329 | 924 | 27 |
| Future Volume (veh/h) | 29 | 22 | 219 | 814 | 74 | 260 | 66 | 267 | 400 | 329 | 924 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1060 | 1589 | 1678 | 1060 | 1589 | 1678 | 1060 | 1589 | 1678 | 1060 | 1589 | 1678 |
| Adj Flow Rate, veh/h | 31 | 24 | 235 | 875 | 80 | 280 | 71 | 287 | 430 | 354 | 994 | 29 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 57 | 377 | 178 | 489 | 507 | 452 | 80 | 887 | 416 | 306 | 1120 | 527 |
| Arrive On Green | 0.06 | 0.13 | 0.13 | 0.25 | 0.32 | 0.32 | 0.08 | 0.29 | 0.29 | 0.16 | 0.37 | 0.37 |
| Sat Flow, veh/h | 1009 | 3020 | 1422 | 1958 | 1589 | 1419 | 1009 | 3020 | 1417 | 1958 | 3020 | 1422 |
| Grp Volume(v), veh/h | 31 | 24 | 235 | 875 | 80 | 280 | 71 | 287 | 430 | 354 | 994 | 29 |
| Grp Sat Flow(s),veh/h/ln | 1009 | 1510 | 1422 | 979 | 1589 | 1419 | 1009 | 1510 | 1417 | 979 | 1510 | 1422 |
| Q Serve(g_s), s | 4.8 | 1.1 | 20.0 | 40.0 | 5.8 | 26.8 | 11.1 | 11.9 | 47.0 | 25.0 | 49.4 | 2.1 |
| Cycle Q Clear(g_c), s | 4.8 | 1.1 | 20.0 | 40.0 | 5.8 | 26.8 | 11.1 | 11.9 | 47.0 | 25.0 | 49.4 | 2.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 57 | 377 | 178 | 489 | 507 | 452 | 80 | 887 | 416 | 306 | 1120 | 527 |
| V/C Ratio(X) | 0.55 | 0.06 | 1.32 | 1.79 | 0.16 | 0.62 | 0.89 | 0.32 | 1.03 | 1.16 | 0.89 | 0.06 |
| Avail Cap(c_a), veh/h | 126 | 377 | 178 | 489 | 507 | 452 | 126 | 887 | 416 | 306 | 1120 | 527 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 73.5 | 61.7 | 70.0 | 60.0 | 39.1 | 46.3 | 73.0 | 44.1 | 56.5 | 67.5 | 47.2 | 32.3 |
| Incr Delay (d2), s/veh | 7.9 | 0.1 | 178.7 | 362.7 | 0.1 | 2.6 | 33.7 | 0.2 | 52.8 | 101.1 | 8.9 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.4 | 16.0 | 34.4 | 2.3 | 9.6 | 3.7 | 4.5 | 22.5 | 10.6 | 20.0 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.4 | 61.8 | 248.7 | 422.7 | 39.2 | 48.8 | 106.7 | 44.3 | 109.3 | 168.6 | 56.1 | 32.4 |
| LnGrp LOS | F | E | F | F | D | D | F | D | F | F | E | C |
| Approach Vol, veh/h | | 290 | | | 1235 | | | 788 | | | 1377 | |
| Approach Delay, s/veh | | 215.4 | | | 313.1 | | | 85.4 | | | 84.5 | |
| Approach LOS | | F | | | F | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 32.0 | 54.0 | 47.0 | 27.0 | 19.7 | 66.3 | 16.0 | 58.0 |
| Change Period (Y+Rc), s | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Max Green Setting (Gmax), s | 25.0 | 47.0 | 40.0 | 20.0 | 20.0 | 47.0 | 20.0 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 27.0 | 49.0 | 42.0 | 22.0 | 13.1 | 51.4 | 6.8 | 28.8 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 171.5 |
| HCM 6th LOS | F |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 381 | 1 | 613 | 2 | 129 | 0 | 0 | 1172 | 811 |
| Future Volume (veh/h) | 0 | 0 | 0 | 381 | 1 | 613 | 2 | 129 | 0 | 0 | 1172 | 811 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 410 | 1 | 0 | 2 | 139 | 0 | 0 | 1260 | 872 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 687 | 2 | | 2 | 164 | 0 | 0 | 624 | 529 |
| Arrive On Green | | | | 0.43 | 0.43 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.37 | 0.37 |
| Sat Flow, veh/h | | | | 1594 | 4 | 1422 | 24 | 1653 | 0 | 0 | 1678 | 1422 |
| Grp Volume(v), veh/h | | | | 411 | 0 | 0 | 141 | 0 | 0 | 0 | 1260 | 872 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1422 | 1677 | 0 | 0 | 0 | 1678 | 1422 |
| Q Serve(g_s), s | | | | 33.5 | 0.0 | 0.0 | 14.1 | 0.0 | 0.0 | 0.0 | 63.2 | 63.2 |
| Cycle Q Clear(g_c), s | | | | 33.5 | 0.0 | 0.0 | 14.1 | 0.0 | 0.0 | 0.0 | 63.2 | 63.2 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.01 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 689 | 0 | | 166 | 0 | 0 | 0 | 624 | 529 |
| V/C Ratio(X) | | | | 0.60 | 0.00 | | 0.85 | 0.00 | 0.00 | 0.00 | 2.02 | 1.65 |
| Avail Cap(c_a), veh/h | | | | 689 | 0 | | 288 | 0 | 0 | 0 | 624 | 529 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.98 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 37.0 | 0.0 | 0.0 | 75.4 | 0.0 | 0.0 | 0.0 | 53.4 | 53.4 |
| Incr Delay (d2), s/veh | | | | 3.8 | 0.0 | 0.0 | 21.2 | 0.0 | 0.0 | 0.0 | 464.7 | 300.8 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 14.0 | 0.0 | 0.0 | 7.1 | 0.0 | 0.0 | 0.0 | 107.1 | 66.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 40.8 | 0.0 | 0.0 | 96.6 | 0.0 | 0.0 | 0.0 | 518.1 | 354.2 |
| LnGrp LOS | | | | D | A | | F | A | A | A | F | F |
| Approach Vol, veh/h | | | | | 411 | A | | 141 | | | 2132 | |
| Approach Delay, s/veh | | | | | 40.8 | | | 96.6 | | | 451.1 | |
| Approach LOS | | | | | D | | | F | | | F | |

| Timer - Assigned Phs | 2 | | 6 | | 8 | |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.6 | | 69.0 | | 78.4 | |
| Change Period (Y+Rc), s | 5.8 | | 5.8 | | 5.1 | |
| Max Green Setting (Gmax), s | 29.2 | | 63.2 | | 60.9 | |
| Max Q Clear Time (g_c+I1), s | 16.1 | | 65.2 | | 35.5 | |
| Green Ext Time (p_c), s | 0.8 | | 0.0 | | 1.8 | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 369.6 | |
| HCM 6th LOS | F | |

**Notes**

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 122 | 2 | 14 | 0 | 0 | 0 | 0 | 12 | 11 | 286 | 1266 | 0 |
| Future Volume (veh/h) | 122 | 2 | 14 | 0 | 0 | 0 | 0 | 12 | 11 | 286 | 1266 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 1678 | 1678 | 0 |
| Adj Flow Rate, veh/h | 131 | 2 | 0 | | | | 0 | 13 | 12 | 308 | 1361 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 15 | 15 | 0 |
| Cap, veh/h | 150 | 2 | | | | | 0 | 127 | 108 | 224 | 990 | 0 |
| Arrive On Green | 0.10 | 0.10 | 0.00 | | | | 0.00 | 0.08 | 0.08 | 1.00 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1575 | 24 | 1422 | | | | 0 | 1678 | 1422 | 307 | 1356 | 0 |
| Grp Volume(v), veh/h | 133 | 0 | 0 | | | | 0 | 13 | 12 | 1669 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1599 | 0 | 1422 | | | | 0 | 1678 | 1422 | 1662 | 0 | 0 |
| Q Serve(g_s), s | 14.0 | 0.0 | 0.0 | | | | 0.0 | 1.2 | 1.3 | 121.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 14.0 | 0.0 | 0.0 | | | | 0.0 | 1.2 | 1.3 | 121.3 | 0.0 | 0.0 |
| Prop In Lane | 0.98 | | 1.00 | | | | 0.00 | | 1.00 | 0.18 | | 0.00 |
| Lane Grp Cap(c), veh/h | 152 | 0 | | | | | 0 | 127 | 108 | 1215 | 0 | 0 |
| V/C Ratio(X) | 0.87 | 0.00 | | | | | 0.00 | 0.10 | 0.11 | 1.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 215 | 0 | | | | | 0 | 127 | 108 | 1215 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | | | | 0.00 | 1.00 | 1.00 | 0.09 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 75.9 | 0.0 | 0.0 | | | | 0.0 | 73.2 | 73.2 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 24.6 | 0.0 | 0.0 | | | | 0.0 | 0.3 | 0.5 | 168.9 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.8 | 0.0 | 0.0 | | | | 0.0 | 0.5 | 0.5 | 57.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 100.5 | 0.0 | 0.0 | | | | 0.0 | 73.5 | 73.7 | 168.9 | 0.0 | 0.0 |
| LnGrp LOS | F | A | | | | | A | E | E | F | A | A |
| Approach Vol, veh/h | | 133 | A | | | | | 25 | | | 1669 | |
| Approach Delay, s/veh | | 100.5 | | | | | | 73.6 | | | 168.9 | |
| Approach LOS | | F | | | | | | E | | | F | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.7 | 21.3 | 130.0 |
| Change Period (Y+Rc), s | 5.8 | 5.1 | 5.8 |
| Max Green Setting (Gmax), s | 6.2 | 22.9 | 124.2 |
| Max Q Clear Time (g_c+I1), s | 3.3 | 16.0 | 123.3 |
| Green Ext Time (p_c), s | 0.0 | 0.3 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 162.6 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 116 | 395 | 19 | 8 | 662 | 151 | 15 | 5 | 10 | 113 | 9 | 184 |
| Future Volume (veh/h) | 116 | 395 | 19 | 8 | 662 | 151 | 15 | 5 | 10 | 113 | 9 | 184 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 138 | 470 | 23 | 10 | 788 | 180 | 18 | 6 | 12 | 135 | 11 | 219 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 168 | 857 | 727 | 35 | 718 | 609 | 57 | 53 | 107 | 165 | 292 | 247 |
| Arrive On Green | 0.10 | 0.51 | 0.51 | 0.02 | 0.43 | 0.43 | 0.04 | 0.11 | 0.11 | 0.10 | 0.17 | 0.17 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 499 | 999 | 1598 | 1678 | 1422 |
| Grp Volume(v), veh/h | 138 | 470 | 23 | 10 | 788 | 180 | 18 | 0 | 18 | 135 | 11 | 219 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 0 | 1498 | 1598 | 1678 | 1422 |
| Q Serve(g_s), s | 7.9 | 17.8 | 0.8 | 0.6 | 40.0 | 7.7 | 1.0 | 0.0 | 1.0 | 7.7 | 0.5 | 14.0 |
| Cycle Q Clear(g_c), s | 7.9 | 17.8 | 0.8 | 0.6 | 40.0 | 7.7 | 1.0 | 0.0 | 1.0 | 7.7 | 0.5 | 14.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 168 | 857 | 727 | 35 | 718 | 609 | 57 | 0 | 160 | 165 | 292 | 247 |
| V/C Ratio(X) | 0.82 | 0.55 | 0.03 | 0.28 | 1.10 | 0.30 | 0.31 | 0.00 | 0.11 | 0.82 | 0.04 | 0.89 |
| Avail Cap(c_a), veh/h | 257 | 857 | 727 | 257 | 718 | 609 | 257 | 0 | 241 | 257 | 292 | 247 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.0 | 15.5 | 11.3 | 44.9 | 26.7 | 17.5 | 43.9 | 0.0 | 37.7 | 41.0 | 32.1 | 37.7 |
| Incr Delay (d2), s/veh | 12.0 | 0.9 | 0.0 | 4.3 | 63.1 | 0.4 | 3.1 | 0.0 | 0.4 | 11.3 | 0.1 | 29.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.5 | 6.2 | 0.2 | 0.3 | 26.8 | 2.5 | 0.5 | 0.0 | 0.4 | 3.5 | 0.2 | 6.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.0 | 16.5 | 11.4 | 49.3 | 89.8 | 17.9 | 47.0 | 0.0 | 38.1 | 52.3 | 32.1 | 67.6 |
| LnGrp LOS | D | B | B | D | F | B | D | A | D | D | C | E |
| Approach Vol, veh/h | | 631 | | | 978 | | | 36 | | | 365 | |
| Approach Delay, s/veh | | 24.3 | | | 76.2 | | | 42.5 | | | 60.9 | |
| Approach LOS | | C | | | E | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.6 | 54.2 | 15.1 | 15.5 | 16.3 | 46.5 | 8.9 | 21.8 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 5.5 | 5.5 | 6.5 | 6.5 | 5.5 | 5.5 |
| Max Green Setting (Gmax), s | 15.0 | 40.0 | 15.0 | 15.0 | 15.0 | 40.0 | 15.0 | 15.0 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 19.8 | 9.7 | 3.0 | 9.9 | 42.0 | 3.0 | 16.0 |
| Green Ext Time (p_c), s | 0.0 | 3.0 | 0.2 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 56.5 |
| HCM 6th LOS | E |

**Notes**

User approved pedestrian interval to be less than phase max green.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 31 | 415 | 72 | 80 | 800 | 77 | 13 | 0 | 2 | 22 | 0 | 13 |
| Future Volume (veh/h) | 31 | 415 | 72 | 80 | 800 | 77 | 13 | 0 | 2 | 22 | 0 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 34 | 451 | 78 | 87 | 870 | 84 | 14 | 0 | 2 | 24 | 0 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 53 | 1076 | 480 | 108 | 1205 | 537 | 21 | 0 | 86 | 55 | 0 | 116 |
| Arrive On Green | 0.03 | 0.34 | 0.34 | 0.07 | 0.38 | 0.38 | 0.01 | 0.00 | 0.06 | 0.03 | 0.00 | 0.08 |
| Sat Flow, veh/h | 1598 | 3188 | 1422 | 1598 | 3188 | 1422 | 1598 | 0 | 1422 | 1598 | 0 | 1422 |
| Grp Volume(v), veh/h | 34 | 451 | 78 | 87 | 870 | 84 | 14 | 0 | 2 | 24 | 0 | 14 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1594 | 1422 | 1598 | 1594 | 1422 | 1598 | 0 | 1422 | 1598 | 0 | 1422 |
| Q Serve(g_s), s | 1.7 | 8.7 | 3.1 | 4.3 | 18.7 | 3.1 | 0.7 | 0.0 | 0.1 | 1.2 | 0.0 | 0.7 |
| Cycle Q Clear(g_c), s | 1.7 | 8.7 | 3.1 | 4.3 | 18.7 | 3.1 | 0.7 | 0.0 | 0.1 | 1.2 | 0.0 | 0.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 53 | 1076 | 480 | 108 | 1205 | 537 | 21 | 0 | 86 | 55 | 0 | 116 |
| V/C Ratio(X) | 0.64 | 0.42 | 0.16 | 0.81 | 0.72 | 0.16 | 0.66 | 0.00 | 0.02 | 0.44 | 0.00 | 0.12 |
| Avail Cap(c_a), veh/h | 100 | 1076 | 480 | 108 | 1205 | 537 | 80 | 0 | 427 | 80 | 0 | 427 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.2 | 20.4 | 18.6 | 36.8 | 21.3 | 16.5 | 39.3 | 0.0 | 35.3 | 37.9 | 0.0 | 34.1 |
| Incr Delay (d2), s/veh | 12.2 | 1.2 | 0.7 | 35.0 | 3.8 | 0.6 | 29.2 | 0.0 | 0.1 | 5.4 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 3.1 | 1.1 | 2.6 | 6.8 | 1.1 | 0.4 | 0.0 | 0.0 | 0.5 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.5 | 21.7 | 19.3 | 71.8 | 25.1 | 17.1 | 68.4 | 0.0 | 35.4 | 43.3 | 0.0 | 34.5 |
| LnGrp LOS | D | C | B | E | C | B | E | A | D | D | A | C |
| Approach Vol, veh/h | | 563 | | | 1041 | | | 16 | | | 38 | |
| Approach Delay, s/veh | | 23.1 | | | 28.3 | | | 64.3 | | | 40.1 | |
| Approach LOS | | C | | | C | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 33.5 | 6.7 | 9.5 | 6.7 | 36.7 | 5.1 | 11.1 |
| Change Period (Y+Rc), s | 4.5 | 6.5 | 4.0 | 4.6 | 4.0 | 6.5 | 4.0 | 4.6 |
| Max Green Setting (Gmax), s | 5.4 | 27.0 | 4.0 | 24.0 | 5.0 | 27.9 | 4.0 | 24.0 |
| Max Q Clear Time (g_c+I1), s | 5.3 | 10.7 | 3.2 | 2.1 | 3.7 | 20.7 | 2.7 | 2.7 |
| Green Ext Time (p_c), s | 0.0 | 2.7 | 0.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 27.2 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 331 | 108 | 0 | 957 | 0 | 3 |
| Future Vol, veh/h | 331 | 108 | 0 | 957 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 15 | 0 | 0 | 15 | 0 | 0 |
| Mvmt Flow | 360 | 117 | 0 | 1040 | 0 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | - | - | - | 239 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 0 | 768 |
| Stage 1 | - | - | 0 | - | 0 | - |
| Stage 2 | - | - | 0 | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 768 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 9.7 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|---|---|---|---|---|
| Capacity (veh/h) | 768 | - | - | - |
| HCM Lane V/C Ratio | 0.004 | - | - | - |
| HCM Control Delay (s) | 9.7 | - | - | - |
| HCM Lane LOS | A | - | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 217 | 117 | 0 | 951 | 6 | 0 |
| Future Volume (veh/h) | 217 | 117 | 0 | 951 | 6 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 418 | 418 | 1678 | 418 | 418 |
| Adj Flow Rate, veh/h | 236 | 127 | 0 | 1034 | 127 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 15 | 100 | 100 | 15 | 100 | 100 |
| Cap, veh/h | 1612 | 179 | 1 | 1612 | 9999 | 9999 |
| Arrive On Green | 0.51 | 0.51 | 0.00 | 0.51 | 0.20 | 0.20 |
| Sat Flow, veh/h | 3272 | 354 | 398 | 4272 | 1206 | 1240 |
| Grp Volume(v), veh/h | 236 | 127 | 0 | 1034 | 127 | 1 |
| Grp Sat Flow(s),veh/h/ln | 1594 | 354 | 398 | 1594 | 398 | 354 |
| Q Serve(g_s), s | 1.4 | 9.9 | 0.0 | 8.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.4 | 9.9 | 0.0 | 8.5 | 0.0 | 0.0 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1612 | 179 | 1 | 1612 | 9999 | 9999 |
| V/C Ratio(X) | 0.15 | 0.71 | 0.00 | 0.64 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 2538 | 282 | 44 | 2538 | 4603 | 4603 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.7 | 6.8 | 0.0 | 6.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 5.1 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.5 | 0.0 | 1.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.8 | 11.9 | 0.0 | 6.9 | 0.0 | 0.0 |
| LnGrp LOS | A | B | A | A | A | A |
| Approach Vol, veh/h | 363 | | | 1034 | 128 | |
| Approach Delay, s/veh | 7.3 | | | 6.9 | 0.0 | |
| Approach LOS | A | | | A | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 24.6 | | 11.2 | | 24.6 |
| Change Period (Y+Rc), s | 4.0 | 6.5 | | 4.0 | | 6.5 |
| Max Green Setting (Gmax), s | 4.0 | 28.5 | | 18.0 | | 36.5 |
| Max Q Clear Time (g_c+I1), s | 0.0 | 11.9 | | 2.0 | | 10.5 |
| Green Ext Time (p_c), s | 0.0 | 1.6 | | 0.4 | | 7.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.4 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 8 | 229 | 2 | 0 | 912 | 13 | 1 | 0 | 2 | 34 | 0 | 2 |
| Future Volume (veh/h) | 8 | 229 | 2 | 0 | 912 | 13 | 1 | 0 | 2 | 34 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 11 | 309 | 3 | 0 | 1232 | 18 | 1 | 0 | 3 | 46 | 0 | 3 |
| Peak Hour Factor | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 18 | 1458 | 14 | 2 | 1325 | 19 | 2 | 0 | 5 | 55 | 0 | 4 |
| Arrive On Green | 0.01 | 0.79 | 0.79 | 0.00 | 0.72 | 0.72 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.04 |
| Sat Flow, veh/h | 1668 | 1849 | 18 | 1668 | 1839 | 27 | 382 | 0 | 1145 | 1554 | 0 | 101 |
| Grp Volume(v), veh/h | 11 | 0 | 312 | 0 | 0 | 1250 | 4 | 0 | 0 | 49 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 0 | 1867 | 1668 | 0 | 1866 | 1527 | 0 | 0 | 1656 | 0 | 0 |
| Q Serve(g_s), s | 0.5 | 0.0 | 3.0 | 0.0 | 0.0 | 39.7 | 0.2 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.5 | 0.0 | 3.0 | 0.0 | 0.0 | 39.7 | 0.2 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.01 | 1.00 | | 0.01 | 0.25 | | 0.75 | 0.94 | | 0.06 |
| Lane Grp Cap(c), veh/h | 18 | 0 | 1472 | 2 | 0 | 1344 | 7 | 0 | 0 | 59 | 0 | 0 |
| V/C Ratio(X) | 0.60 | 0.00 | 0.21 | 0.00 | 0.00 | 0.93 | 0.61 | 0.00 | 0.00 | 0.83 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 95 | 0 | 1655 | 95 | 0 | 1653 | 87 | 0 | 0 | 95 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 34.4 | 0.0 | 1.9 | 0.0 | 0.0 | 8.3 | 34.8 | 0.0 | 0.0 | 33.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 27.5 | 0.0 | 0.1 | 0.0 | 0.0 | 8.6 | 67.8 | 0.0 | 0.0 | 27.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.5 | 0.0 | 0.0 | 12.9 | 0.2 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 61.9 | 0.0 | 1.9 | 0.0 | 0.0 | 16.9 | 102.6 | 0.0 | 0.0 | 60.5 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | A | A | B | F | A | A | E | A | A |
| Approach Vol, veh/h | | 323 | | | 1250 | | | 4 | | | 49 | |
| Approach Delay, s/veh | | 4.0 | | | 16.9 | | | 102.6 | | | 60.5 | |
| Approach LOS | | A | | | B | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.0 | 59.2 | | 4.3 | 4.8 | 54.4 | | 6.5 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 62.0 | | 4.0 | 4.0 | 62.0 | | 4.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.0 | 5.0 | | 2.2 | 2.5 | 41.7 | | 4.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | 0.0 | 0.0 | 8.7 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 15.9 |
| HCM 6th LOS | | B |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 70 | 207 | 506 | 393 | 308 | 286 |
| Future Volume (veh/h) | 70 | 207 | 506 | 393 | 308 | 286 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 79 | 233 | 569 | 442 | 346 | 321 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 239 | 213 | 557 | 1417 | 349 | 324 |
| Arrive On Green | 0.13 | 0.13 | 0.31 | 0.76 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 1870 | 893 | 828 |
| Grp Volume(v), veh/h | 79 | 233 | 569 | 442 | 0 | 667 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1870 | 0 | 1721 |
| Q Serve(g_s), s | 4.8 | 16.1 | 37.5 | 9.0 | 0.0 | 46.2 |
| Cycle Q Clear(g_c), s | 4.8 | 16.1 | 37.5 | 9.0 | 0.0 | 46.2 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.48 |
| Lane Grp Cap(c), veh/h | 239 | 213 | 557 | 1417 | 0 | 673 |
| V/C Ratio(X) | 0.33 | 1.10 | 1.02 | 0.31 | 0.00 | 0.99 |
| Avail Cap(c_a), veh/h | 239 | 213 | 557 | 1417 | 0 | 673 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.1 | 52.0 | 41.3 | 4.6 | 0.0 | 36.4 |
| Incr Delay (d2), s/veh | 0.8 | 89.6 | 43.9 | 0.1 | 0.0 | 32.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 18.5 | 23.0 | 3.0 | 0.0 | 25.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 47.9 | 141.6 | 85.1 | 4.7 | 0.0 | 68.8 |
| LnGrp LOS | D | F | F | A | A | E |
| Approach Vol, veh/h | 312 | | | 1011 | 667 | |
| Approach Delay, s/veh | 117.8 | | | 50.0 | 68.8 | |
| Approach LOS | F | | | D | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 97.4 | | 22.6 | 44.0 | 53.4 |
| Change Period (Y+Rc), s | | 6.5 | | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | | 90.9 | | 16.1 | 37.5 | 46.9 |
| Max Q Clear Time (g_c+I1), s | | 11.0 | | 18.1 | 39.5 | 48.2 |
| Green Ext Time (p_c), s | | 2.0 | | 0.0 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 66.9 |
| HCM 6th LOS | | E |

| Intersection | |
|---|---|
| Int Delay, s/veh | 40.6 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 296 | 561 | 1 | 125 | 390 |
| Future Vol, veh/h | 53 | 296 | 561 | 1 | 125 | 390 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 62 | 344 | 652 | 1 | 145 | 453 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1396 | 653 | 0 | 0 | 653 | 0 |
| Stage 1 | 653 | - | - | - | - | - |
| Stage 2 | 743 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 156 | 467 | - | - | 934 | - |
| Stage 1 | 518 | - | - | - | - | - |
| Stage 2 | 470 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 124 | 467 | - | - | 934 | - |
| Mov Cap-2 Maneuver | 124 | - | - | - | - | - |
| Stage 1 | 518 | - | - | - | - | - |
| Stage 2 | 372 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 162.5 | 0 | 2.3 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 329 | 934 | - |
| HCM Lane V/C Ratio | - | - | 1.233 | 0.156 | - |
| HCM Control Delay (s) | - | - | 162.5 | 9.6 | 0 |
| HCM Lane LOS | - | - | F | A | A |
| HCM 95th %tile Q(veh) | - | - | 18 | 0.6 | - |

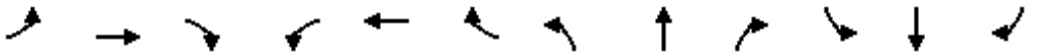
| Intersection | |
|---|---|
| Int Delay, s/veh | 72.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 108 | 0 | 441 | 0 | 20 | 8 | 373 | 17 | 1 |
| Future Vol, veh/h | 0 | 0 | 0 | 108 | 0 | 441 | 0 | 20 | 8 | 373 | 17 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 129 | 0 | 525 | 0 | 24 | 10 | 444 | 20 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1201 | 943 | 21 | 938 | 938 | 29 | - | 0 | 0 | 34 | 0 | 0 |
| Stage 1 | 909 | 909 | - | 29 | 29 | - | - | - | - | - | - | - |
| Stage 2 | 292 | 34 | - | 909 | 909 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 162 | 263 | 1056 | 244 | 264 | 1046 | 0 | - | - | 1578 | - | - |
| Stage 1 | 329 | 354 | - | 988 | 871 | - | 0 | - | - | - | - | - |
| Stage 2 | 716 | 867 | - | 329 | 354 | - | 0 | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 63 | 188 | 1056 | 190 | 189 | 1046 | - | - | - | 1578 | - | - |
| Mov Cap-2 Maneuver | 63 | 188 | - | 190 | 189 | - | - | - | - | - | - | - |
| Stage 1 | 329 | 253 | - | 988 | 871 | - | - | - | - | - | - | - |
| Stage 2 | 357 | 867 | - | 235 | 253 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 122.4 | 0 | 7.8 |
| HCM LOS | A | F | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 555 | 1578 | - | - |
| HCM Lane V/C Ratio | - | - | - | 1.178 | 0.281 | - | - |
| HCM Control Delay (s) | - | - | 0 | 122.4 | 8.2 | 0 | - |
| HCM Lane LOS | - | - | A | F | A | A | - |
| HCM 95th %tile Q(veh) | - | - | - | 23 | 1.2 | - | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 428 | 4 | 301 | 37 | 457 | 0 | 0 | 532 | 34 |
| Future Volume (veh/h) | 0 | 0 | 0 | 428 | 4 | 301 | 37 | 457 | 0 | 0 | 532 | 34 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 465 | 4 | 327 | 40 | 497 | 0 | 0 | 578 | 0 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 562 | 5 | 887 | 110 | 1331 | 0 | 0 | 1160 | |
| Arrive On Green | | | | 0.38 | 0.35 | 0.35 | 0.07 | 0.42 | 0.00 | 0.00 | 0.25 | 0.00 |
| Sat Flow, veh/h | | | | 1585 | 14 | 2502 | 1598 | 3272 | 0 | 0 | 4731 | 1422 |
| Grp Volume(v), veh/h | | | | 469 | 0 | 327 | 40 | 497 | 0 | 0 | 578 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1251 | 1598 | 1594 | 0 | 0 | 1527 | 1422 |
| Q Serve(g_s), s | | | | 12.6 | 0.0 | 4.6 | 1.1 | 5.1 | 0.0 | 0.0 | 5.1 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 12.6 | 0.0 | 4.6 | 1.1 | 5.1 | 0.0 | 0.0 | 5.1 | 0.0 |
| Prop In Lane | | | | 0.99 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 566 | 0 | 887 | 110 | 1331 | 0 | 0 | 1160 | |
| V/C Ratio(X) | | | | 0.83 | 0.00 | 0.37 | 0.36 | 0.37 | 0.00 | 0.00 | 0.50 | |
| Avail Cap(c_a), veh/h | | | | 841 | 0 | 1316 | 557 | 2983 | 0 | 0 | 2254 | |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 13.4 | 0.0 | 11.4 | 21.0 | 9.5 | 0.0 | 0.0 | 15.1 | 0.0 |
| Incr Delay (d2), s/veh | | | | 3.4 | 0.0 | 0.2 | 0.7 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 4.1 | 0.0 | 1.1 | 0.4 | 1.4 | 0.0 | 0.0 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 16.8 | 0.0 | 11.5 | 21.8 | 9.6 | 0.0 | 0.0 | 15.2 | 0.0 |
| LnGrp LOS | | | | B | A | B | C | A | A | A | B | |
| Approach Vol, veh/h | | | | | 796 | | | 537 | | | 578 | A |
| Approach Delay, s/veh | | | | | 14.6 | | | 10.5 | | | 15.2 | |
| Approach LOS | | | | | B | | | B | | | B | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 25.5 | | | 7.8 | 17.7 | | 21.9 | | | | |
| Change Period (Y+Rc), s | | 5.7 | | | 4.5 | 5.7 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 44.3 | | | 16.5 | 23.3 | | 24.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.1 | | | 3.1 | 7.1 | | 14.6 | | | | |
| Green Ext Time (p_c), s | | 1.4 | | | 0.0 | 1.6 | | 2.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.7 | |
| HCM 6th LOS | B | |

**Notes**

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 112 | 1 | 54 | 0 | 0 | 0 | 0 | 381 | 863 | 0 | 682 | 0 |
| Future Volume (veh/h) | 112 | 1 | 54 | 0 | 0 | 0 | 0 | 381 | 863 | 0 | 682 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 0 | 1678 | 0 |
| Adj Flow Rate, veh/h | 125 | 0 | 60 | | | | 0 | 423 | 959 | 0 | 758 | 0 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | | | | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 0 | 15 | 0 |
| Cap, veh/h | 365 | 0 | 162 | | | | 0 | 2316 | 1033 | 0 | 2316 | 0 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | | | | 0.00 | 0.73 | 0.73 | 0.00 | 0.73 | 0.00 |
| Sat Flow, veh/h | 3196 | 0 | 1422 | | | | 0 | 3272 | 1422 | 0 | 3355 | 0 |
| Grp Volume(v), veh/h | 125 | 0 | 60 | | | | 0 | 423 | 959 | 0 | 758 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 0 | 1422 | | | | 0 | 1594 | 1422 | 0 | 1594 | 0 |
| Q Serve(g_s), s | 2.4 | 0.0 | 2.6 | | | | 0.0 | 2.8 | 38.5 | 0.0 | 5.8 | 0.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 2.6 | | | | 0.0 | 2.8 | 38.5 | 0.0 | 5.8 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 365 | 0 | 162 | | | | 0 | 2316 | 1033 | 0 | 2316 | 0 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.37 | | | | 0.00 | 0.18 | 0.93 | 0.00 | 0.33 | 0.00 |
| Avail Cap(c_a), veh/h | 937 | 0 | 417 | | | | 0 | 2316 | 1033 | 0 | 2316 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 27.7 | 0.0 | 27.8 | | | | 0.0 | 2.9 | 7.8 | 0.0 | 3.3 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.5 | | | | 0.0 | 0.2 | 15.3 | 0.0 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 0.9 | | | | 0.0 | 0.6 | 11.1 | 0.0 | 1.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.9 | 0.0 | 28.3 | | | | 0.0 | 3.1 | 23.1 | 0.0 | 3.7 | 0.0 |
| LnGrp LOS | C | A | C | | | | A | A | C | A | A | A |
| Approach Vol, veh/h | | 185 | | | | | | 1382 | | | 758 | |
| Approach Delay, s/veh | | 28.0 | | | | | | 17.0 | | | 3.7 | |
| Approach LOS | | C | | | | | | B | | | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 55.0 | 12.9 | 55.0 |
| Change Period (Y+Rc), s | 5.7 | 5.1 | 5.7 |
| Max Green Setting (Gmax), s | 49.3 | 19.9 | 49.3 |
| Max Q Clear Time (g_c+I1), s | 40.5 | 4.6 | 7.8 |
| Green Ext Time (p_c), s | 3.6 | 0.1 | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.5 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 43 | 77 | 646 | 36 | 302 | 121 | 834 | 514 | 219 | 979 | 23 |
| Future Volume (veh/h) | 45 | 43 | 77 | 646 | 36 | 302 | 121 | 834 | 514 | 219 | 979 | 23 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1060 | 1589 | 1324 | 1060 | 1589 | 1324 | 1060 | 1589 | 1324 | 1060 | 1589 | 1324 |
| Adj Flow Rate, veh/h | 51 | 48 | 87 | 726 | 40 | 339 | 136 | 937 | 578 | 246 | 1100 | 26 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 64 | 330 | 123 | 512 | 488 | 345 | 132 | 928 | 345 | 273 | 954 | 354 |
| Arrive On Green | 0.06 | 0.11 | 0.11 | 0.26 | 0.31 | 0.31 | 0.13 | 0.31 | 0.31 | 0.14 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1009 | 3020 | 1122 | 1958 | 1589 | 1122 | 1009 | 3020 | 1122 | 1958 | 3020 | 1122 |
| Grp Volume(v), veh/h | 51 | 48 | 87 | 726 | 40 | 339 | 136 | 937 | 578 | 246 | 1100 | 26 |
| Grp Sat Flow(s),veh/h/ln | 1009 | 1510 | 1122 | 979 | 1589 | 1122 | 1009 | 1510 | 1122 | 979 | 1510 | 1122 |
| Q Serve(g_s), s | 7.6 | 2.2 | 11.5 | 40.0 | 2.7 | 45.9 | 20.0 | 47.0 | 47.0 | 18.9 | 48.3 | 2.5 |
| Cycle Q Clear(g_c), s | 7.6 | 2.2 | 11.5 | 40.0 | 2.7 | 45.9 | 20.0 | 47.0 | 47.0 | 18.9 | 48.3 | 2.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 64 | 330 | 123 | 512 | 488 | 345 | 132 | 928 | 345 | 273 | 954 | 354 |
| V/C Ratio(X) | 0.80 | 0.15 | 0.71 | 1.42 | 0.08 | 0.98 | 1.03 | 1.01 | 1.68 | 0.90 | 1.15 | 0.07 |
| Avail Cap(c_a), veh/h | 132 | 395 | 147 | 512 | 488 | 345 | 132 | 928 | 345 | 320 | 954 | 354 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 70.7 | 61.7 | 65.8 | 56.5 | 37.7 | 52.6 | 66.5 | 53.0 | 53.0 | 64.8 | 52.4 | 36.7 |
| Incr Delay (d2), s/veh | 19.6 | 0.2 | 11.9 | 199.7 | 0.1 | 43.8 | 86.9 | 32.1 | 316.9 | 24.8 | 81.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.9 | 3.6 | 23.8 | 1.1 | 16.8 | 8.4 | 21.9 | 43.2 | 5.7 | 29.0 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 90.3 | 61.9 | 77.8 | 256.2 | 37.7 | 96.5 | 153.4 | 85.1 | 369.9 | 89.6 | 133.5 | 36.8 |
| LnGrp LOS | F | E | E | F | D | F | F | F | F | F | F | D |
| Approach Vol, veh/h | | 186 | | | 1105 | | | 1651 | | | 1372 | |
| Approach Delay, s/veh | | 77.1 | | | 199.3 | | | 190.4 | | | 123.8 | |
| Approach LOS | | E | | | F | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 28.3 | 54.0 | 47.0 | 23.7 | 27.0 | 55.3 | 16.7 | 54.0 |
| Change Period (Y+Rc), s | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Max Green Setting (Gmax), s | 25.0 | 47.0 | 40.0 | 20.0 | 20.0 | 47.0 | 20.0 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 20.9 | 49.0 | 42.0 | 13.5 | 22.0 | 50.3 | 9.6 | 47.9 |
| Green Ext Time (p_c), s | 0.4 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 166.6 |
| HCM 6th LOS | F |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 5 | 0 | 447 | 10 | 1031 | 0 | 0 | 1312 | 401 |
| Future Volume (veh/h) | 0 | 0 | 0 | 5 | 0 | 447 | 10 | 1031 | 0 | 0 | 1312 | 401 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 5 | 0 | 0 | 11 | 1085 | 0 | 0 | 1381 | 422 |
| Peak Hour Factor | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 12 | 0 | | 10 | 975 | 0 | 0 | 515 | 437 |
| Arrive On Green | | | | 0.01 | 0.00 | 0.00 | 0.59 | 0.59 | 0.00 | 0.00 | 0.31 | 0.31 |
| Sat Flow, veh/h | | | | 1598 | 0 | 1422 | 17 | 1660 | 0 | 0 | 1678 | 1422 |
| Grp Volume(v), veh/h | | | | 5 | 0 | 0 | 1096 | 0 | 0 | 0 | 1381 | 422 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1422 | 1677 | 0 | 0 | 0 | 1678 | 1422 |
| Q Serve(g_s), s | | | | 0.5 | 0.0 | 0.0 | 99.8 | 0.0 | 0.0 | 0.0 | 52.2 | 49.7 |
| Cycle Q Clear(g_c), s | | | | 0.5 | 0.0 | 0.0 | 99.8 | 0.0 | 0.0 | 0.0 | 52.2 | 49.7 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.01 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 12 | 0 | | 985 | 0 | 0 | 0 | 515 | 437 |
| V/C Ratio(X) | | | | 0.42 | 0.00 | | 1.11 | 0.00 | 0.00 | 0.00 | 2.68 | 0.97 |
| Avail Cap(c_a), veh/h | | | | 131 | 0 | | 985 | 0 | 0 | 0 | 515 | 437 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 84.0 | 0.0 | 0.0 | 35.1 | 0.0 | 0.0 | 0.0 | 58.9 | 58.0 |
| Incr Delay (d2), s/veh | | | | 22.0 | 0.0 | 0.0 | 52.4 | 0.0 | 0.0 | 0.0 | 761.9 | 35.2 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.0 | 53.9 | 0.0 | 0.0 | 0.0 | 131.2 | 22.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 106.0 | 0.0 | 0.0 | 87.5 | 0.0 | 0.0 | 0.0 | 820.8 | 93.2 |
| LnGrp LOS | | | | F | A | | F | A | A | A | F | F |
| Approach Vol, veh/h | | | | | 5 | A | | 1096 | | | 1803 | |
| Approach Delay, s/veh | | | | | 106.0 | | | 87.5 | | | 650.5 | |
| Approach LOS | | | | | F | | | F | | | F | |

| Timer - Assigned Phs | 2 | | 6 | | 8 | | | |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 105.6 | | 58.0 | | 6.4 | | | |
| Change Period (Y+Rc), s | 5.8 | | 5.8 | | 5.1 | | | |
| Max Green Setting (Gmax), s | 87.2 | | 52.2 | | 13.9 | | | |
| Max Q Clear Time (g_c+I1), s | 101.8 | | 54.2 | | 2.5 | | | |
| Green Ext Time (p_c), s | 0.0 | | 0.0 | | 0.0 | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 437.1 | |
| HCM 6th LOS | F | |

**Notes**

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 189 | 4 | 66 | 0 | 0 | 0 | 0 | 859 | 433 | 1254 | 55 | 0 |
| Future Volume (veh/h) | 189 | 4 | 66 | 0 | 0 | 0 | 0 | 859 | 433 | 1254 | 55 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 1678 | 1678 | 0 |
| Adj Flow Rate, veh/h | 201 | 4 | 0 | | | | 0 | 914 | 461 | 1334 | 59 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | | | | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 15 | 15 | 0 |
| Cap, veh/h | 222 | 4 | | | | | 0 | 711 | 602 | 516 | 23 | 0 |
| Arrive On Green | 0.14 | 0.14 | 0.00 | | | | 0.00 | 0.42 | 0.42 | 0.34 | 0.34 | 0.00 |
| Sat Flow, veh/h | 1568 | 31 | 1422 | | | | 0 | 1678 | 1422 | 1533 | 68 | 0 |
| Grp Volume(v), veh/h | 205 | 0 | 0 | | | | 0 | 914 | 461 | 1393 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1599 | 0 | 1422 | | | | 0 | 1678 | 1422 | 1601 | 0 | 0 |
| Q Serve(g_s), s | 21.5 | 0.0 | 0.0 | | | | 0.0 | 72.0 | 47.0 | 57.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 21.5 | 0.0 | 0.0 | | | | 0.0 | 72.0 | 47.0 | 57.2 | 0.0 | 0.0 |
| Prop In Lane | 0.98 | | 1.00 | | | | 0.00 | | 1.00 | 0.96 | | 0.00 |
| Lane Grp Cap(c), veh/h | 227 | 0 | | | | | 0 | 711 | 602 | 539 | 0 | 0 |
| V/C Ratio(X) | 0.90 | 0.00 | | | | | 0.00 | 1.29 | 0.77 | 2.59 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 310 | 0 | | | | | 0 | 711 | 602 | 539 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | | | | 0.00 | 1.00 | 1.00 | 0.09 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 71.8 | 0.0 | 0.0 | | | | 0.0 | 49.0 | 41.8 | 56.4 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 24.2 | 0.0 | 0.0 | | | | 0.0 | 139.2 | 9.0 | 714.1 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.4 | 0.0 | 0.0 | | | | 0.0 | 57.5 | 18.1 | 129.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 96.0 | 0.0 | 0.0 | | | | 0.0 | 188.2 | 50.8 | 770.5 | 0.0 | 0.0 |
| LnGrp LOS | F | A | | | | | A | F | D | F | A | A |
| Approach Vol, veh/h | | 205 | A | | | | | 1375 | | | 1393 | |
| Approach Delay, s/veh | | 96.0 | | | | | | 142.1 | | | 770.5 | |
| Approach LOS | | F | | | | | | F | | | F | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 77.8 | 29.2 | 63.0 |
| Change Period (Y+Rc), s | 5.8 | 5.1 | 5.8 |
| Max Green Setting (Gmax), s | 63.2 | 32.9 | 57.2 |
| Max Q Clear Time (g_c+I1), s | 74.0 | 23.5 | 59.2 |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 433.4 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 159 | 513 | 26 | 8 | 192 | 94 | 20 | 6 | 15 | 194 | 2 | 185 |
| Future Volume (veh/h) | 159 | 513 | 26 | 8 | 192 | 94 | 20 | 6 | 15 | 194 | 2 | 185 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 189 | 611 | 31 | 10 | 229 | 112 | 24 | 7 | 18 | 231 | 2 | 220 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 224 | 674 | 571 | 36 | 477 | 404 | 74 | 50 | 129 | 265 | 403 | 341 |
| Arrive On Green | 0.14 | 0.40 | 0.40 | 0.02 | 0.28 | 0.28 | 0.05 | 0.12 | 0.12 | 0.17 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 416 | 1069 | 1598 | 1678 | 1422 |
| Grp Volume(v), veh/h | 189 | 611 | 31 | 10 | 229 | 112 | 24 | 0 | 25 | 231 | 2 | 220 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 0 | 1485 | 1598 | 1678 | 1422 |
| Q Serve(g_s), s | 9.6 | 28.4 | 1.1 | 0.5 | 9.4 | 5.1 | 1.2 | 0.0 | 1.2 | 11.7 | 0.1 | 11.5 |
| Cycle Q Clear(g_c), s | 9.6 | 28.4 | 1.1 | 0.5 | 9.4 | 5.1 | 1.2 | 0.0 | 1.2 | 11.7 | 0.1 | 11.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.72 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 224 | 674 | 571 | 36 | 477 | 404 | 74 | 0 | 179 | 265 | 403 | 341 |
| V/C Ratio(X) | 0.84 | 0.91 | 0.05 | 0.28 | 0.48 | 0.28 | 0.33 | 0.00 | 0.14 | 0.87 | 0.00 | 0.64 |
| Avail Cap(c_a), veh/h | 289 | 810 | 686 | 289 | 810 | 686 | 289 | 0 | 269 | 289 | 403 | 341 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.7 | 23.3 | 15.2 | 39.8 | 24.6 | 23.0 | 38.3 | 0.0 | 32.6 | 33.7 | 23.9 | 28.3 |
| Incr Delay (d2), s/veh | 16.2 | 13.0 | 0.1 | 4.2 | 1.1 | 0.5 | 2.5 | 0.0 | 0.5 | 22.7 | 0.0 | 4.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.5 | 12.2 | 0.4 | 0.2 | 3.6 | 1.7 | 0.5 | 0.0 | 0.5 | 6.1 | 0.0 | 4.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.0 | 36.4 | 15.2 | 44.0 | 25.7 | 23.6 | 40.8 | 0.0 | 33.1 | 56.4 | 24.0 | 33.0 |
| LnGrp LOS | D | D | B | D | C | C | D | A | C | E | C | C |
| Approach Vol, veh/h | | 831 | | | 351 | | | 49 | | | 453 | |
| Approach Delay, s/veh | | 38.9 | | | 25.5 | | | 36.9 | | | 44.9 | |
| Approach LOS | | D | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.4 | 39.8 | 19.2 | 15.5 | 18.1 | 30.0 | 9.3 | 25.4 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 5.5 | 5.5 | 6.5 | 6.5 | 5.5 | 5.5 |
| Max Green Setting (Gmax), s | 15.0 | 40.0 | 15.0 | 15.0 | 15.0 | 40.0 | 15.0 | 15.0 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 30.4 | 13.7 | 3.2 | 11.6 | 11.4 | 3.2 | 13.5 |
| Green Ext Time (p_c), s | 0.0 | 2.9 | 0.1 | 0.0 | 0.2 | 2.1 | 0.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.7 |
| HCM 6th LOS | D |

**Notes**

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 698 | 4 | 6 | 222 | 64 | 40 | 0 | 6 | 84 | 0 | 28 |
| Future Volume (veh/h) | 20 | 698 | 4 | 6 | 222 | 64 | 40 | 0 | 6 | 84 | 0 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 22 | 759 | 4 | 7 | 241 | 70 | 43 | 0 | 7 | 91 | 0 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 100 | 1887 | 842 | 14 | 1737 | 775 | 51 | 0 | 148 | 80 | 0 | 173 |
| Arrive On Green | 0.06 | 0.59 | 0.59 | 0.01 | 0.54 | 0.54 | 0.03 | 0.00 | 0.10 | 0.05 | 0.00 | 0.12 |
| Sat Flow, veh/h | 1598 | 3188 | 1422 | 1598 | 3188 | 1422 | 1598 | 0 | 1422 | 1598 | 0 | 1422 |
| Grp Volume(v), veh/h | 22 | 759 | 4 | 7 | 241 | 70 | 43 | 0 | 7 | 91 | 0 | 30 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1594 | 1422 | 1598 | 1594 | 1422 | 1598 | 0 | 1422 | 1598 | 0 | 1422 |
| Q Serve(g_s), s | 1.0 | 10.2 | 0.1 | 0.3 | 3.0 | 1.9 | 2.1 | 0.0 | 0.4 | 4.0 | 0.0 | 1.5 |
| Cycle Q Clear(g_c), s | 1.0 | 10.2 | 0.1 | 0.3 | 3.0 | 1.9 | 2.1 | 0.0 | 0.4 | 4.0 | 0.0 | 1.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 100 | 1887 | 842 | 14 | 1737 | 775 | 51 | 0 | 148 | 80 | 0 | 173 |
| V/C Ratio(X) | 0.22 | 0.40 | 0.00 | 0.49 | 0.14 | 0.09 | 0.84 | 0.00 | 0.05 | 1.14 | 0.00 | 0.17 |
| Avail Cap(c_a), veh/h | 100 | 1887 | 842 | 100 | 1737 | 775 | 80 | 0 | 427 | 80 | 0 | 428 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.6 | 8.7 | 6.7 | 39.5 | 9.0 | 8.7 | 38.5 | 0.0 | 32.3 | 38.0 | 0.0 | 31.5 |
| Incr Delay (d2), s/veh | 1.1 | 0.6 | 0.0 | 23.3 | 0.2 | 0.2 | 35.3 | 0.0 | 0.1 | 143.2 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.9 | 0.0 | 0.2 | 0.9 | 0.6 | 1.3 | 0.0 | 0.1 | 4.7 | 0.0 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.7 | 9.4 | 6.7 | 62.7 | 9.1 | 8.9 | 73.8 | 0.0 | 32.4 | 181.2 | 0.0 | 32.0 |
| LnGrp LOS | D | A | A | E | A | A | E | A | C | F | A | C |
| Approach Vol, veh/h | | 785 | | | 318 | | | 50 | | | 121 | |
| Approach Delay, s/veh | | 10.1 | | | 10.3 | | | 68.0 | | | 144.2 | |
| Approach LOS | | B | | | B | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 53.9 | 8.0 | 12.9 | 9.0 | 50.1 | 6.5 | 14.4 |
| Change Period (Y+Rc), s | 4.5 | 6.5 | 4.0 | 4.6 | 4.0 | 6.5 | 4.0 | * 4.6 |
| Max Green Setting (Gmax), s | 5.0 | 27.4 | 4.0 | 24.0 | 5.0 | 27.9 | 4.0 | * 24 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 12.2 | 6.0 | 2.4 | 3.0 | 5.0 | 4.1 | 3.5 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.2 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 783 | 5 | 0 | 292 | 0 | 10 |
| Future Vol, veh/h | 783 | 5 | 0 | 292 | 0 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 15 | 0 | 0 | 15 | 0 | 0 |
| Mvmt Flow | 851 | 5 | 0 | 317 | 0 | 11 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | - | - | - | 428 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 0 | 581 |
| Stage 1 | - | - | 0 | - | 0 | - |
| Stage 2 | - | - | 0 | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 581 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 11.3 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|---|---|---|---|---|
| Capacity (veh/h) | 581 | - | - | - |
| HCM Lane V/C Ratio | 0.019 | - | - | - |
| HCM Control Delay (s) | 11.3 | - | - | - |
| HCM Lane LOS | B | - | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 789 | 4 | 0 | 280 | 12 | 0 |
| Future Volume (veh/h) | 789 | 4 | 0 | 280 | 12 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 418 | 418 | 1678 | 418 | 418 |
| Adj Flow Rate, veh/h | 858 | 4 | 0 | 304 | 4 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 15 | 100 | 100 | 15 | 100 | 100 |
| Cap, veh/h | 1677 | 186 | 2 | 1677 | 9999 | 9999 |
| Arrive On Green | 0.53 | 0.53 | 0.00 | 0.53 | 0.01 | 0.01 |
| Sat Flow, veh/h | 3272 | 354 | 398 | 4272 | 1206 | 1247 | 0 | 205 | 440 |
| Grp Volume(v), veh/h | 858 | 4 | 0 | 304 | 4 | 1 |
| Grp Sat Flow(s),veh/h/ln | 1594 | 354 | 398 | 1594 | 398 | 354 |
| Q Serve(g_s), s | 4.0 | 0.1 | 0.0 | 1.1 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.0 | 0.1 | 0.0 | 1.1 | 0.0 | 0.0 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1677 | 186 | 2 | 1677 | 1076 | 1483 | 64 | 800 |
| V/C Ratio(X) | 0.51 | 0.02 | 0.00 | 0.18 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 3982 | 443 | 70 | 3982 | 1165 | 1726 | 405 | 976 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 3.5 | 2.6 | 0.0 | 2.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 3.7 | 2.6 | 0.0 | 2.9 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A |
| Approach Vol, veh/h | 862 | | | 304 | 5 | |
| Approach Delay, s/veh | 3.7 | | | 2.9 | 0.0 | |
| Approach LOS | A | | | A | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 18.5 | | 4.3 | | 18.5 |
| Change Period (Y+Rc), s | 4.0 | 6.5 | | 4.0 | | 6.5 |
| Max Green Setting (Gmax), s | 4.0 | 28.5 | | 18.0 | | 36.5 |
| Max Q Clear Time (g_c+I1), s | 0.0 | 6.0 | | 2.0 | | 3.1 |
| Green Ext Time (p_c), s | 0.0 | 5.8 | | 0.0 | | 1.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.5 |
| HCM 6th LOS | A |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 16 | 725 | 1 | 4 | 263 | 25 | 2 | 0 | 1 | 14 | 0 | 1 |
| Future Volume (veh/h) | 16 | 725 | 1 | 4 | 263 | 25 | 2 | 0 | 1 | 14 | 0 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 19 | 873 | 1 | 5 | 317 | 30 | 2 | 0 | 1 | 17 | 0 | 1 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 32 | 1006 | 1 | 9 | 884 | 84 | 3 | 0 | 2 | 28 | 0 | 2 |
| Arrive On Green | 0.02 | 0.54 | 0.54 | 0.01 | 0.53 | 0.53 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 |
| Sat Flow, veh/h | 1668 | 1868 | 2 | 1668 | 1682 | 159 | 1068 | 0 | 534 | 1565 | 0 | 92 |
| Grp Volume(v), veh/h | 19 | 0 | 874 | 5 | 0 | 347 | 3 | 0 | 0 | 18 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 0 | 1870 | 1668 | 0 | 1842 | 1602 | 0 | 0 | 1657 | 0 | 0 |
| Q Serve(g_s), s | 0.5 | 0.0 | 16.8 | 0.1 | 0.0 | 4.6 | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.5 | 0.0 | 16.8 | 0.1 | 0.0 | 4.6 | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.09 | 0.67 | | 0.33 | 0.94 | | 0.06 |
| Lane Grp Cap(c), veh/h | 32 | 0 | 1007 | 9 | 0 | 967 | 5 | 0 | 0 | 30 | 0 | 0 |
| V/C Ratio(X) | 0.60 | 0.00 | 0.87 | 0.56 | 0.00 | 0.36 | 0.57 | 0.00 | 0.00 | 0.60 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 161 | 0 | 1354 | 161 | 0 | 1334 | 155 | 0 | 0 | 160 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 20.2 | 0.0 | 8.3 | 20.6 | 0.0 | 5.8 | 20.6 | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 16.9 | 0.0 | 4.8 | 44.1 | 0.0 | 0.2 | 71.9 | 0.0 | 0.0 | 17.8 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 5.4 | 0.2 | 0.0 | 1.2 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.1 | 0.0 | 13.1 | 64.7 | 0.0 | 6.0 | 92.6 | 0.0 | 0.0 | 38.0 | 0.0 | 0.0 |
| LnGrp LOS | D | A | B | E | A | A | F | A | A | D | A | A |
| Approach Vol, veh/h | | 893 | | | 352 | | | 3 | | | 18 | |
| Approach Delay, s/veh | | 13.6 | | | 6.8 | | | 92.6 | | | 38.0 | |
| Approach LOS | | B | | | A | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.2 | 28.3 | | 4.1 | 4.8 | 27.8 | | 4.7 |
| Change Period (Y+Rc), s | 4.0 | 6.0 | | 4.0 | 4.0 | 6.0 | | 4.0 |
| Max Green Setting (Gmax), s | 4.0 | 30.0 | | 4.0 | 4.0 | 30.0 | | 4.0 |
| Max Q Clear Time (g_c+I2), s | 2.1 | 18.8 | | 2.1 | 2.5 | 6.6 | | 2.4 |
| Green Ext Time (p_c), s | 0.0 | 3.6 | | 0.0 | 0.0 | 1.4 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.2 |
| HCM 6th LOS | B |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 202 | 533 | 232 | 172 | 199 | 60 |
| Future Volume (veh/h) | 202 | 533 | 232 | 172 | 199 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 222 | 586 | 255 | 189 | 219 | 66 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 696 | 619 | 306 | 831 | 262 | 79 |
| Arrive On Green | 0.39 | 0.39 | 0.17 | 0.44 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 1870 | 1380 | 416 |
| Grp Volume(v), veh/h | 222 | 586 | 255 | 189 | 0 | 285 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1870 | 0 | 1796 |
| Q Serve(g_s), s | 6.8 | 28.1 | 10.9 | 4.9 | 0.0 | 12.0 |
| Cycle Q Clear(g_c), s | 6.8 | 28.1 | 10.9 | 4.9 | 0.0 | 12.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.23 |
| Lane Grp Cap(c), veh/h | 696 | 619 | 306 | 831 | 0 | 341 |
| V/C Ratio(X) | 0.32 | 0.95 | 0.83 | 0.23 | 0.00 | 0.84 |
| Avail Cap(c_a), veh/h | 713 | 635 | 509 | 1319 | 0 | 605 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.7 | 23.2 | 31.5 | 13.5 | 0.0 | 30.7 |
| Incr Delay (d2), s/veh | 0.3 | 23.1 | 5.9 | 0.1 | 0.0 | 5.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 24.6 | 5.0 | 2.0 | 0.0 | 5.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 16.9 | 46.2 | 37.4 | 13.7 | 0.0 | 36.2 |
| LnGrp LOS | B | D | D | B | A | D |
| Approach Vol, veh/h | 808 | | | 444 | 285 | |
| Approach Delay, s/veh | 38.2 | | | 27.3 | 36.2 | |
| Approach LOS | D | | | C | D | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 41.4 | | 37.2 | 20.0 | 21.4 |
| Change Period (Y+Rc), s | | 6.5 | | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | | 55.5 | | 31.5 | 22.5 | 26.5 |
| Max Q Clear Time (g_c+I1), s | | 6.9 | | 30.1 | 12.9 | 14.0 |
| Green Ext Time (p_c), s | | 0.7 | | 0.6 | 0.7 | 0.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 34.7 |
| HCM 6th LOS | | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 26 | 75 | 306 | 0 | 225 | 510 |
| Future Vol, veh/h | 26 | 75 | 306 | 0 | 225 | 510 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 29 | 83 | 340 | 0 | 250 | 567 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1407 | 340 | 0 | 0 | 340 | 0 |
| Stage 1 | 340 | - | - | - | - | - |
| Stage 2 | 1067 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 153 | 702 | - | - | 1219 | - |
| Stage 1 | 721 | - | - | - | - | - |
| Stage 2 | 331 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 107 | 702 | - | - | 1219 | - |
| Mov Cap-2 Maneuver | 107 | - | - | - | - | - |
| Stage 1 | 721 | - | - | - | - | - |
| Stage 2 | 232 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 25.2 | 0 | 2.7 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 289 | 1219 | - |
| HCM Lane V/C Ratio | - | - | 0.388 | 0.205 | - |
| HCM Control Delay (s) | - | - | 25.2 | 8.7 | 0 |
| HCM Lane LOS | - | - | D | A | A |
| HCM 95th %tile Q(veh) | - | - | 1.8 | 0.8 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 14.7 |

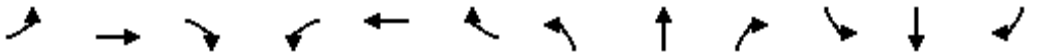
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 48 | 0 | 233 | 0 | 20 | 24 | 492 | 25 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 48 | 0 | 233 | 0 | 20 | 24 | 492 | 25 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 54 | 0 | 262 | 0 | 22 | 27 | 553 | 28 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1301 | 1183 | 28 | 1170 | 1170 | 36 | - | 0 | 0 | 49 | 0 | 0 |
| Stage 1 | 1134 | 1134 | - | 36 | 36 | - | - | - | - | - | - | - |
| Stage 2 | 167 | 49 | - | 1134 | 1134 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 138 | 189 | 1047 | 170 | 193 | 1037 | 0 | - | - | 1558 | - | 0 |
| Stage 1 | 246 | 278 | - | 980 | 865 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 835 | 854 | - | 246 | 278 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | - | - | | - | |
| Mov Cap-1 Maneuver | 74 | 121 | 1047 | 122 | 123 | 1037 | - | - | - | 1558 | - | - |
| Mov Cap-2 Maneuver | 74 | 121 | - | 122 | 123 | - | - | - | - | - | - | - |
| Stage 1 | 246 | 178 | - | 980 | 865 | - | - | - | - | - | - | - |
| Stage 2 | 624 | 854 | - | 157 | 178 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 29 | 0 | 8.2 |
| HCM LOS | A | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 455 | 1558 | - |
| HCM Lane V/C Ratio | - | - | - | 0.694 | 0.355 | - |
| HCM Control Delay (s) | - | - | 0 | 29 | 8.6 | 0 |
| HCM Lane LOS | - | - | A | D | A | A |
| HCM 95th %tile Q(veh) | - | - | - | 5.2 | 1.6 | - |

**E. Background Plus Project Conditions (Mitigated) Synchro Outputs**



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 871 | 323 | 178 | 25 | 241 | 0 | 0 | 807 | 656 |
| Future Volume (veh/h) | 0 | 0 | 0 | 871 | 323 | 178 | 25 | 241 | 0 | 0 | 807 | 656 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 916 | 413 | 0 | 27 | 265 | 0 | 0 | 887 | 0 |
| Peak Hour Factor | | | | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 15 | 0 | 15 | 15 |
| Cap, veh/h | | | | 1365 | 668 | | 144 | 894 | | 0 | 1828 | |
| Arrive On Green | | | | 0.43 | 0.40 | 0.00 | 0.32 | 0.32 | 0.00 | 0.00 | 0.32 | 0.00 |
| Sat Flow, veh/h | | | | 3196 | 1678 | 2844 | 102 | 2824 | 2502 | 0 | 6006 | 1422 |
| Grp Volume(v), veh/h | | | | 916 | 413 | 0 | 154 | 138 | 0 | 0 | 887 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 1678 | 1422 | 1475 | 1450 | 1251 | 0 | 1443 | 1422 |
| Q Serve(g_s), s | | | | 8.7 | 7.4 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | 4.7 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 8.7 | 7.4 | 0.0 | 2.6 | 2.7 | 0.0 | 0.0 | 4.7 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.18 | | 1.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 1365 | 668 | | 579 | 459 | | 0 | 1828 | |
| V/C Ratio(X) | | | | 0.67 | 0.62 | | 0.27 | 0.30 | | 0.00 | 0.49 | |
| Avail Cap(c_a), veh/h | | | | 2193 | 1103 | | 1640 | 1696 | | 0 | 3550 | |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 8.7 | 9.1 | 0.0 | 9.7 | 9.8 | 0.0 | 0.0 | 10.4 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.4 | 0.6 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 2.1 | 2.0 | 0.0 | 0.7 | 0.7 | 0.0 | 0.0 | 1.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 9.1 | 9.7 | 0.0 | 9.8 | 9.9 | 0.0 | 0.0 | 10.5 | 0.0 |
| LnGrp LOS | | | | A | A | | A | A | | A | B | |
| Approach Vol, veh/h | | | | | 1329 | A | | 292 | A | | 887 | A |
| Approach Delay, s/veh | | | | | 9.3 | | | 9.9 | | | 10.5 | |
| Approach LOS | | | | | A | | | A | | | B | |

| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 17.7 | | | | 17.7 | | 20.2 | | | | |
| Change Period (Y+Rc), s | | 5.7 | | | | 5.7 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 44.3 | | | | 23.3 | | 24.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.7 | | | | 6.7 | | 10.7 | | | | |
| Green Ext Time (p_c), s | | 0.8 | | | | 2.6 | | 4.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.8 | |
| HCM 6th LOS | A | |

**Notes**

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 116 | 395 | 19 | 8 | 662 | 151 | 15 | 5 | 10 | 113 | 9 | 184 |
| Future Volume (veh/h) | 116 | 395 | 19 | 8 | 662 | 151 | 15 | 5 | 10 | 113 | 9 | 184 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 138 | 470 | 23 | 10 | 788 | 180 | 18 | 6 | 12 | 135 | 11 | 219 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 180 | 1320 | 589 | 36 | 1033 | 461 | 60 | 66 | 132 | 180 | 347 | 294 |
| Arrive On Green | 0.11 | 0.41 | 0.41 | 0.02 | 0.32 | 0.32 | 0.04 | 0.13 | 0.13 | 0.11 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1598 | 3188 | 1422 | 1598 | 3188 | 1422 | 1598 | 499 | 999 | 1598 | 1678 | 1422 |
| Grp Volume(v), veh/h | 138 | 470 | 23 | 10 | 788 | 180 | 18 | 0 | 18 | 135 | 11 | 219 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1594 | 1422 | 1598 | 1594 | 1422 | 1598 | 0 | 1498 | 1598 | 1678 | 1422 |
| Q Serve(g_s), s | 6.3 | 7.6 | 0.7 | 0.5 | 16.7 | 7.4 | 0.8 | 0.0 | 0.8 | 6.2 | 0.4 | 10.9 |
| Cycle Q Clear(g_c), s | 6.3 | 7.6 | 0.7 | 0.5 | 16.7 | 7.4 | 0.8 | 0.0 | 0.8 | 6.2 | 0.4 | 10.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 180 | 1320 | 589 | 36 | 1033 | 461 | 60 | 0 | 198 | 180 | 347 | 294 |
| V/C Ratio(X) | 0.77 | 0.36 | 0.04 | 0.28 | 0.76 | 0.39 | 0.30 | 0.00 | 0.09 | 0.75 | 0.03 | 0.74 |
| Avail Cap(c_a), veh/h | 201 | 1439 | 642 | 191 | 1418 | 632 | 191 | 0 | 573 | 301 | 757 | 642 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.5 | 15.2 | 13.1 | 36.2 | 22.9 | 19.7 | 35.3 | 0.0 | 28.7 | 32.4 | 23.8 | 28.0 |
| Incr Delay (d2), s/veh | 14.5 | 0.2 | 0.0 | 4.1 | 2.1 | 0.8 | 2.8 | 0.0 | 0.3 | 6.2 | 0.1 | 5.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.0 | 2.4 | 0.2 | 0.2 | 5.8 | 2.4 | 0.4 | 0.0 | 0.3 | 2.6 | 0.2 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.0 | 15.4 | 13.2 | 40.3 | 25.0 | 20.5 | 38.1 | 0.0 | 29.0 | 38.6 | 23.9 | 33.2 |
| LnGrp LOS | D | B | B | D | C | C | D | A | C | D | C | C |
| Approach Vol, veh/h | | 631 | | | 978 | | | 36 | | | 365 | |
| Approach Delay, s/veh | | 22.2 | | | 24.3 | | | 33.5 | | | 34.9 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 37.7 | 14.0 | 15.5 | 15.0 | 30.9 | 8.3 | 21.1 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 5.5 | 5.5 | 6.5 | 6.5 | 5.5 | 5.5 |
| Max Green Setting (Gmax), s | 9.6 | 34.0 | 14.2 | 28.8 | 9.5 | 33.5 | 9.0 | 34.0 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 9.6 | 8.2 | 2.8 | 8.3 | 18.7 | 2.8 | 12.9 |
| Green Ext Time (p_c), s | 0.0 | 3.3 | 0.2 | 0.0 | 0.0 | 5.7 | 0.0 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.7 |
| HCM 6th LOS | C |

**Notes**

User approved pedestrian interval to be less than phase max green.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 8 | 229 | 2 | 0 | 912 | 13 | 1 | 0 | 2 | 34 | 0 | 2 |
| Future Volume (veh/h) | 8 | 229 | 2 | 0 | 912 | 13 | 1 | 0 | 2 | 34 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 11 | 309 | 3 | 0 | 1232 | 18 | 1 | 0 | 3 | 46 | 0 | 3 |
| Peak Hour Factor | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 253 | 1392 | 14 | 148 | 1384 | 20 | 255 | 0 | 122 | 255 | 0 | 122 |
| Arrive On Green | 0.75 | 0.75 | 0.75 | 0.00 | 0.75 | 0.75 | 0.08 | 0.00 | 0.08 | 0.08 | 0.00 | 0.08 |
| Sat Flow, veh/h | 416 | 1849 | 18 | 1000 | 1839 | 27 | 1324 | 0 | 1485 | 1324 | 0 | 1485 |
| Grp Volume(v), veh/h | 11 | 0 | 312 | 0 | 0 | 1250 | 1 | 0 | 3 | 46 | 0 | 3 |
| Grp Sat Flow(s),veh/h/ln | 416 | 0 | 1867 | 1000 | 0 | 1866 | 1324 | 0 | 1485 | 1324 | 0 | 1485 |
| Q Serve(g_s), s | 1.0 | 0.0 | 2.4 | 0.0 | 0.0 | 24.4 | 0.0 | 0.0 | 0.1 | 1.6 | 0.0 | 0.1 |
| Cycle Q Clear(g_c), s | 25.4 | 0.0 | 2.4 | 0.0 | 0.0 | 24.4 | 0.1 | 0.0 | 0.1 | 1.7 | 0.0 | 0.1 |
| Prop In Lane | 1.00 | | 0.01 | 1.00 | | 0.01 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 253 | 0 | 1405 | 148 | 0 | 1404 | 255 | 0 | 122 | 255 | 0 | 122 |
| V/C Ratio(X) | 0.04 | 0.00 | 0.22 | 0.00 | 0.00 | 0.89 | 0.00 | 0.00 | 0.02 | 0.18 | 0.00 | 0.02 |
| Avail Cap(c_a), veh/h | 420 | 0 | 2154 | 549 | 0 | 2152 | 582 | 0 | 489 | 582 | 0 | 489 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.0 | 0.0 | 1.8 | 0.0 | 0.0 | 4.5 | 20.5 | 0.0 | 20.5 | 21.3 | 0.0 | 20.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 | 0.1 | 0.3 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.1 | 0.0 | 1.9 | 0.0 | 0.0 | 7.8 | 20.5 | 0.0 | 20.6 | 21.6 | 0.0 | 20.6 |
| LnGrp LOS | B | A | A | A | A | A | C | A | C | C | A | C |
| Approach Vol, veh/h | | 323 | | | 1250 | | | 4 | | | 49 | |
| Approach Delay, s/veh | | 2.3 | | | 7.8 | | | 20.5 | | | 21.5 | |
| Approach LOS | | A | | | A | | | C | | | C | |

| Timer - Assigned Phs | 2 | 4 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 40.5 | 8.0 | 40.5 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 |
| Max Green Setting (Gmax), s | 16.0 | 56.0 | 16.0 | 56.0 |
| Max Q Clear Time (g_c+I1), s | 2.1 | 27.4 | 3.7 | 26.4 |
| Green Ext Time (p_c), s | 0.0 | 1.4 | 0.1 | 10.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.2 |
| HCM 6th LOS | A |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 70 | 207 | 506 | 393 | 308 | 286 |
| Future Volume (veh/h) | 70 | 207 | 506 | 393 | 308 | 286 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 79 | 233 | 569 | 442 | 346 | 321 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 206 | 710 | 593 | 1446 | 344 | 319 |
| Arrive On Green | 0.12 | 0.12 | 0.33 | 0.77 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 1870 | 893 | 828 |
| Grp Volume(v), veh/h | 79 | 233 | 569 | 442 | 0 | 667 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1870 | 0 | 1721 |
| Q Serve(g_s), s | 4.8 | 11.1 | 36.6 | 8.2 | 0.0 | 45.0 |
| Cycle Q Clear(g_c), s | 4.8 | 11.1 | 36.6 | 8.2 | 0.0 | 45.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.48 |
| Lane Grp Cap(c), veh/h | 206 | 710 | 593 | 1446 | 0 | 663 |
| V/C Ratio(X) | 0.38 | 0.33 | 0.96 | 0.31 | 0.00 | 1.01 |
| Avail Cap(c_a), veh/h | 244 | 744 | 602 | 1456 | 0 | 663 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.8 | 20.9 | 38.2 | 3.9 | 0.0 | 35.9 |
| Incr Delay (d2), s/veh | 1.2 | 0.3 | 26.8 | 0.1 | 0.0 | 36.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 11.8 | 20.1 | 2.6 | 0.0 | 25.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 49.0 | 21.1 | 65.0 | 4.1 | 0.0 | 72.5 |
| LnGrp LOS | D | C | E | A | A | F |
| Approach Vol, veh/h | 312 | | | 1011 | 667 | |
| Approach Delay, s/veh | 28.2 | | | 38.4 | 72.5 | |
| Approach LOS | C | | | D | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 96.9 | | 20.0 | 45.4 | 51.5 |
| Change Period (Y+Rc), s | | 6.5 | | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | | 91.0 | | 16.0 | 39.5 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 10.2 | | 13.1 | 38.6 | 47.0 |
| Green Ext Time (p_c), s | | 2.0 | | 0.4 | 0.3 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 48.2 |
| HCM 6th LOS | | D |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 53 | 296 | 561 | 1 | 125 | 390 |
| Future Volume (veh/h) | 53 | 296 | 561 | 1 | 125 | 390 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 62 | 344 | 652 | 1 | 145 | 453 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 69 | 385 | 732 | 620 | 185 | 1065 |
| Arrive On Green | 0.28 | 0.28 | 0.39 | 0.39 | 0.10 | 0.57 |
| Sat Flow, veh/h | 246 | 1363 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 407 | 0 | 652 | 1 | 145 | 453 |
| Grp Sat Flow(s),veh/h/ln | 1613 | 0 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 13.1 | 0.0 | 17.6 | 0.0 | 4.3 | 7.4 |
| Cycle Q Clear(g_c), s | 13.1 | 0.0 | 17.6 | 0.0 | 4.3 | 7.4 |
| Prop In Lane | 0.15 | 0.85 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 456 | 0 | 732 | 620 | 185 | 1065 |
| V/C Ratio(X) | 0.89 | 0.00 | 0.89 | 0.00 | 0.78 | 0.43 |
| Avail Cap(c_a), veh/h | 479 | 0 | 867 | 735 | 231 | 1249 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.6 | 0.0 | 15.3 | 10.0 | 23.6 | 6.6 |
| Incr Delay (d2), s/veh | 18.4 | 0.0 | 10.2 | 0.0 | 13.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.6 | 0.0 | 8.3 | 0.0 | 2.3 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.9 | 0.0 | 25.5 | 10.0 | 36.5 | 6.9 |
| LnGrp LOS | D | A | C | A | D | A |
| Approach Vol, veh/h | 407 | | 653 | | | 598 |
| Approach Delay, s/veh | 36.9 | | 25.5 | | | 14.1 |
| Approach LOS | D | | C | | | B |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.6 | 25.1 | | | | 34.7 | 19.2 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | | | 4.0 | 4.0 |
| Max Green Setting (Gmax), s | 7.6 | 25.0 | | | | 36.0 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 6.3 | 19.6 | | | | 9.4 | 15.1 |
| Green Ext Time (p_c), s | 0.0 | 1.5 | | | | 1.9 | 0.2 |

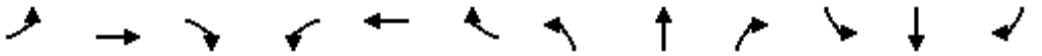
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 24.2 |
| HCM 6th LOS | C |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 108 | 0 | 441 | 0 | 20 | 8 | 373 | 17 | 1 |
| Future Volume (veh/h) | 0 | 0 | 0 | 108 | 0 | 441 | 0 | 20 | 8 | 373 | 17 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 129 | 0 | 525 | 0 | 24 | 10 | 444 | 20 | 1 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 721 | 0 | 183 | 23 | 485 | 0 | 102 | 42 | 516 | 798 | 40 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.39 | 0.00 | 0.39 | 0.00 | 0.08 | 0.08 | 0.29 | 0.45 | 0.45 |
| Sat Flow, veh/h | 0 | 1870 | 0 | 248 | 60 | 1256 | 0 | 1254 | 522 | 1781 | 1766 | 88 |
| Grp Volume(v), veh/h | 0 | 0 | 0 | 654 | 0 | 0 | 0 | 0 | 34 | 444 | 0 | 21 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1870 | 0 | 1565 | 0 | 0 | 0 | 0 | 1776 | 1781 | 0 | 1854 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 15.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 11.6 | 0.0 | 0.3 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 19.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 11.6 | 0.0 | 0.3 |
| Prop In Lane | 0.00 | | 0.00 | 0.20 | | 0.80 | 0.00 | | 0.29 | 1.00 | | 0.05 |
| Lane Grp Cap(c), veh/h | 0 | 721 | 0 | 691 | 0 | 0 | 0 | 0 | 144 | 516 | 0 | 838 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.00 | 0.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 0.86 | 0.00 | 0.03 |
| Avail Cap(c_a), veh/h | 0 | 721 | 0 | 691 | 0 | 0 | 0 | 0 | 613 | 615 | 0 | 1431 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 15.8 | 0.0 | 0.0 | 0.0 | 0.0 | 21.2 | 16.6 | 0.0 | 7.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 22.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 10.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 5.5 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 0.0 | 37.8 | 0.0 | 0.0 | 0.0 | 0.0 | 22.0 | 27.0 | 0.0 | 7.5 |
| LnGrp LOS | A | A | A | D | A | A | A | A | C | C | A | A |
| Approach Vol, veh/h | | 0 | | | 654 | | | 34 | | | 465 | |
| Approach Delay, s/veh | | 0.0 | | | 37.8 | | | 22.0 | | | 26.2 | |
| Approach LOS | | | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.3 | 8.0 | | 23.0 | | 26.3 | | 23.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 17.0 | 17.0 | | 19.0 | | 38.0 | | 19.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.6 | 2.9 | | 0.0 | | 2.3 | | 21.0 | | | | |
| Green Ext Time (p_c), s | 0.7 | 0.0 | | 0.0 | | 0.0 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.6 |
| HCM 6th LOS | C |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 428 | 4 | 301 | 37 | 457 | 0 | 0 | 532 | 34 |
| Future Volume (veh/h) | 0 | 0 | 0 | 428 | 4 | 301 | 37 | 457 | 0 | 0 | 532 | 34 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 468 | 0 | 0 | 40 | 497 | 0 | 0 | 578 | 0 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 15 | 0 | 15 | 15 |
| Cap, veh/h | | | | 1400 | 0 | | 174 | 1136 | | 0 | 2259 | |
| Arrive On Green | | | | 0.29 | 0.00 | 0.00 | 0.39 | 0.39 | 0.00 | 0.00 | 0.39 | 0.00 |
| Sat Flow, veh/h | | | | 4793 | 0 | 2844 | 101 | 2902 | 2502 | 0 | 6006 | 1422 |
| Grp Volume(v), veh/h | | | | 468 | 0 | 0 | 284 | 253 | 0 | 0 | 578 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1422 | 1553 | 1450 | 1251 | 0 | 1443 | 1422 |
| Q Serve(g_s), s | | | | 2.3 | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 2.1 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 2.3 | 0.0 | 0.0 | 3.8 | 3.9 | 0.0 | 0.0 | 2.1 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.14 | | 1.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 1400 | 0 | | 742 | 568 | | 0 | 2259 | |
| V/C Ratio(X) | | | | 0.33 | 0.00 | | 0.38 | 0.45 | | 0.00 | 0.26 | |
| Avail Cap(c_a), veh/h | | | | 4066 | 0 | | 2247 | 2096 | | 0 | 4387 | |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 8.5 | 0.0 | 0.0 | 6.8 | 6.9 | 0.0 | 0.0 | 6.3 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.6 | 0.0 | 0.0 | 0.8 | 0.7 | 0.0 | 0.0 | 0.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 8.6 | 0.0 | 0.0 | 6.9 | 7.1 | 0.0 | 0.0 | 6.3 | 0.0 |
| LnGrp LOS | | | | A | A | | A | A | | A | A | |
| Approach Vol, veh/h | | | | | 468 | A | | 537 | A | | 578 | A |
| Approach Delay, s/veh | | | | | 8.6 | | | 7.0 | | | 6.3 | |
| Approach LOS | | | | | A | | | A | | | A | |

| Timer - Assigned Phs | 2 | | 6 | | 8 | | | |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.7 | | 17.7 | | 13.0 | | | |
| Change Period (Y+Rc), s | 5.7 | | 5.7 | | 5.1 | | | |
| Max Green Setting (Gmax), s | 44.3 | | 23.3 | | 24.9 | | | |
| Max Q Clear Time (g_c+I1), s | 5.9 | | 4.1 | | 4.3 | | | |
| Green Ext Time (p_c), s | 1.3 | | 1.7 | | 1.7 | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.2 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 159 | 513 | 26 | 8 | 192 | 94 | 20 | 6 | 15 | 194 | 2 | 185 |
| Future Volume (veh/h) | 159 | 513 | 26 | 8 | 192 | 94 | 20 | 6 | 15 | 194 | 2 | 185 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 189 | 611 | 31 | 10 | 229 | 112 | 24 | 7 | 18 | 231 | 2 | 220 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 225 | 943 | 421 | 36 | 567 | 253 | 77 | 61 | 158 | 284 | 465 | 394 |
| Arrive On Green | 0.14 | 0.30 | 0.30 | 0.02 | 0.18 | 0.18 | 0.05 | 0.15 | 0.15 | 0.18 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1598 | 3188 | 1422 | 1598 | 3188 | 1422 | 1598 | 416 | 1069 | 1598 | 1678 | 1422 |
| Grp Volume(v), veh/h | 189 | 611 | 31 | 10 | 229 | 112 | 24 | 0 | 25 | 231 | 2 | 220 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1594 | 1422 | 1598 | 1594 | 1422 | 1598 | 0 | 1485 | 1598 | 1678 | 1422 |
| Q Serve(g_s), s | 7.8 | 11.3 | 1.1 | 0.4 | 4.3 | 4.7 | 1.0 | 0.0 | 1.0 | 9.4 | 0.1 | 8.9 |
| Cycle Q Clear(g_c), s | 7.8 | 11.3 | 1.1 | 0.4 | 4.3 | 4.7 | 1.0 | 0.0 | 1.0 | 9.4 | 0.1 | 8.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.72 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 225 | 943 | 421 | 36 | 567 | 253 | 77 | 0 | 219 | 284 | 465 | 394 |
| V/C Ratio(X) | 0.84 | 0.65 | 0.07 | 0.27 | 0.40 | 0.44 | 0.31 | 0.00 | 0.11 | 0.81 | 0.00 | 0.56 |
| Avail Cap(c_a), veh/h | 225 | 1608 | 717 | 213 | 1584 | 707 | 213 | 0 | 361 | 631 | 846 | 717 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.2 | 20.7 | 17.1 | 32.4 | 24.5 | 24.7 | 31.0 | 0.0 | 24.9 | 26.6 | 17.6 | 20.9 |
| Incr Delay (d2), s/veh | 23.7 | 1.1 | 0.1 | 4.0 | 0.7 | 1.7 | 2.3 | 0.0 | 0.3 | 5.6 | 0.0 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.2 | 3.8 | 0.3 | 0.2 | 1.5 | 1.6 | 0.4 | 0.0 | 0.4 | 3.8 | 0.0 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.9 | 21.7 | 17.2 | 36.4 | 25.2 | 26.4 | 33.2 | 0.0 | 25.2 | 32.2 | 17.7 | 22.6 |
| LnGrp LOS | D | C | B | D | C | C | C | A | C | C | B | C |
| Approach Vol, veh/h | | 831 | | | 351 | | | 49 | | | 453 | |
| Approach Delay, s/veh | | 28.4 | | | 25.9 | | | 29.2 | | | 27.5 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 26.4 | 17.5 | 15.4 | 16.0 | 18.5 | 8.8 | 24.2 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 5.5 | 5.5 | 6.5 | 6.5 | 5.5 | 5.5 |
| Max Green Setting (Gmax), s | 9.6 | 34.0 | 26.6 | 16.4 | 9.5 | 33.5 | 9.0 | 34.0 |
| Max Q Clear Time (g_c+I1), s | 2.4 | 13.3 | 11.4 | 3.0 | 9.8 | 6.7 | 3.0 | 10.9 |
| Green Ext Time (p_c), s | 0.0 | 4.2 | 0.8 | 0.0 | 0.0 | 2.2 | 0.0 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 27.7 |
| HCM 6th LOS | C |

**Notes**

User approved pedestrian interval to be less than phase max green.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 16 | 725 | 1 | 4 | 263 | 25 | 2 | 0 | 1 | 14 | 0 | 1 |
| Future Volume (veh/h) | 16 | 725 | 1 | 4 | 263 | 25 | 2 | 0 | 1 | 14 | 0 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 19 | 873 | 1 | 5 | 317 | 30 | 2 | 0 | 1 | 17 | 0 | 1 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 726 | 1105 | 1 | 384 | 995 | 94 | 425 | 0 | 202 | 425 | 0 | 202 |
| Arrive On Green | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.14 | 0.00 | 0.14 | 0.14 | 0.00 | 0.14 |
| Sat Flow, veh/h | 968 | 1868 | 2 | 594 | 1682 | 159 | 1326 | 0 | 1485 | 1326 | 0 | 1485 |
| Grp Volume(v), veh/h | 19 | 0 | 874 | 5 | 0 | 347 | 2 | 0 | 1 | 17 | 0 | 1 |
| Grp Sat Flow(s),veh/h/ln | 968 | 0 | 1870 | 594 | 0 | 1842 | 1326 | 0 | 1485 | 1326 | 0 | 1485 |
| Q Serve(g_s), s | 0.3 | 0.0 | 10.5 | 0.2 | 0.0 | 2.8 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 3.1 | 0.0 | 10.5 | 10.7 | 0.0 | 2.8 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 726 | 0 | 1106 | 384 | 0 | 1090 | 425 | 0 | 202 | 425 | 0 | 202 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.79 | 0.01 | 0.00 | 0.32 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1340 | 0 | 2291 | 760 | 0 | 2257 | 967 | 0 | 808 | 967 | 0 | 808 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 3.8 | 0.0 | 4.6 | 8.7 | 0.0 | 3.0 | 11.0 | 0.0 | 11.0 | 11.1 | 0.0 | 11.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 3.8 | 0.0 | 5.9 | 8.7 | 0.0 | 3.2 | 11.0 | 0.0 | 11.0 | 11.2 | 0.0 | 11.0 |
| LnGrp LOS | A | A | A | A | A | A | B | A | B | B | A | B |
| Approach Vol, veh/h | | 893 | | | 352 | | | 3 | | | 18 | |
| Approach Delay, s/veh | | 5.9 | | | 3.3 | | | 11.0 | | | 11.1 | |
| Approach LOS | | A | | | A | | | B | | | B | |

| Timer - Assigned Phs | 2 | | 4 | | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | | 21.4 | | 8.0 | | 21.4 | | | | | |
| Change Period (Y+Rc), s | 4.0 | | 4.0 | | 4.0 | | 4.0 | | | | | |
| Max Green Setting (Gmax), s | 16.0 | | 36.0 | | 16.0 | | 36.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | | 12.5 | | 2.3 | | 12.7 | | | | | |
| Green Ext Time (p_c), s | 0.0 | | 4.9 | | 0.0 | | 1.4 | | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 5.2 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 202 | 533 | 232 | 172 | 199 | 60 |
| Future Volume (veh/h) | 202 | 533 | 232 | 172 | 199 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 222 | 586 | 255 | 189 | 219 | 66 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 504 | 726 | 312 | 911 | 272 | 82 |
| Arrive On Green | 0.28 | 0.28 | 0.17 | 0.49 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 1870 | 1380 | 416 |
| Grp Volume(v), veh/h | 222 | 586 | 255 | 189 | 0 | 285 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1870 | 0 | 1796 |
| Q Serve(g_s), s | 5.8 | 16.0 | 7.8 | 3.3 | 0.0 | 8.6 |
| Cycle Q Clear(g_c), s | 5.8 | 16.0 | 7.8 | 3.3 | 0.0 | 8.6 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.23 |
| Lane Grp Cap(c), veh/h | 504 | 726 | 312 | 911 | 0 | 354 |
| V/C Ratio(X) | 0.44 | 0.81 | 0.82 | 0.21 | 0.00 | 0.80 |
| Avail Cap(c_a), veh/h | 504 | 726 | 400 | 1191 | 0 | 533 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.6 | 13.2 | 22.5 | 8.3 | 0.0 | 21.7 |
| Incr Delay (d2), s/veh | 0.6 | 6.7 | 10.0 | 0.1 | 0.0 | 5.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 1.4 | 3.9 | 1.1 | 0.0 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 17.2 | 19.9 | 32.5 | 8.4 | 0.0 | 27.0 |
| LnGrp LOS | B | B | C | A | A | C |
| Approach Vol, veh/h | 808 | | | 444 | 285 | |
| Approach Delay, s/veh | 19.2 | | | 22.2 | 27.0 | |
| Approach LOS | B | | | C | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 34.0 | | 22.5 | 16.4 | 17.7 |
| Change Period (Y+Rc), s | | 6.5 | | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | | 36.0 | | 16.0 | 12.7 | 16.8 |
| Max Q Clear Time (g_c+I1), s | | 5.3 | | 18.0 | 9.8 | 10.6 |
| Green Ext Time (p_c), s | | 0.7 | | 0.0 | 0.3 | 0.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 21.5 |
| HCM 6th LOS | | C |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 26 | 75 | 306 | 0 | 225 | 510 |
| Future Volume (veh/h) | 26 | 75 | 306 | 0 | 225 | 510 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 29 | 83 | 340 | 0 | 250 | 567 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 37 | 104 | 513 | 435 | 345 | 1152 |
| Arrive On Green | 0.09 | 0.09 | 0.27 | 0.00 | 0.19 | 0.62 |
| Sat Flow, veh/h | 419 | 1200 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 113 | 0 | 340 | 0 | 250 | 567 |
| Grp Sat Flow(s),veh/h/ln | 1633 | 0 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 1.8 | 0.0 | 4.3 | 0.0 | 3.5 | 4.5 |
| Cycle Q Clear(g_c), s | 1.8 | 0.0 | 4.3 | 0.0 | 3.5 | 4.5 |
| Prop In Lane | 0.26 | 0.73 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 142 | 0 | 513 | 435 | 345 | 1152 |
| V/C Ratio(X) | 0.79 | 0.00 | 0.66 | 0.00 | 0.73 | 0.49 |
| Avail Cap(c_a), veh/h | 970 | 0 | 1249 | 1059 | 925 | 2498 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.1 | 0.0 | 8.7 | 0.0 | 10.2 | 2.9 |
| Incr Delay (d2), s/veh | 9.6 | 0.0 | 1.5 | 0.0 | 2.9 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 1.3 | 0.0 | 1.2 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 21.6 | 0.0 | 10.2 | 0.0 | 13.1 | 3.2 |
| LnGrp LOS | C | A | B | A | B | A |
| Approach Vol, veh/h | 113 | | 340 | | | 817 |
| Approach Delay, s/veh | 21.6 | | 10.2 | | | 6.2 |
| Approach LOS | C | | B | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.2 | 11.4 | | | | 20.6 | 6.3 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | | | 4.0 | 4.0 |
| Max Green Setting (Gmax), s | 14.0 | 18.0 | | | | 36.0 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 5.5 | 6.3 | | | | 6.5 | 3.8 |
| Green Ext Time (p_c), s | 0.6 | 1.0 | | | | 2.6 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.6 |
| HCM 6th LOS | A |

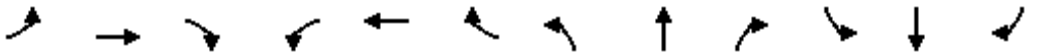


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 48 | 0 | 233 | 0 | 20 | 24 | 492 | 25 | 0 |
| Future Volume (veh/h) | 0 | 0 | 0 | 48 | 0 | 233 | 0 | 20 | 24 | 492 | 25 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 0 | 0 | 54 | 0 | 262 | 0 | 22 | 27 | 553 | 28 | 0 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 470 | 0 | 145 | 23 | 329 | 0 | 73 | 89 | 655 | 1044 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.00 | 0.25 | 0.00 | 0.25 | 0.00 | 0.10 | 0.10 | 0.37 | 0.56 | 0.00 |
| Sat Flow, veh/h | 0 | 1870 | 0 | 176 | 93 | 1309 | 0 | 764 | 938 | 1781 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 0 | 316 | 0 | 0 | 0 | 0 | 49 | 553 | 28 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1870 | 0 | 1578 | 0 | 0 | 0 | 0 | 1702 | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 12.0 | 0.3 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 7.8 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 12.0 | 0.3 | 0.0 |
| Prop In Lane | 0.00 | | 0.00 | 0.17 | | 0.83 | 0.00 | | 0.55 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 470 | 0 | 497 | 0 | 0 | 0 | 0 | 162 | 655 | 1044 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.00 | 0.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.30 | 0.84 | 0.03 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 712 | 0 | 698 | 0 | 0 | 0 | 0 | 648 | 890 | 1825 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 14.7 | 0.0 | 0.0 | 0.0 | 0.0 | 17.7 | 12.2 | 4.2 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 5.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 4.6 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 0.0 | 16.0 | 0.0 | 0.0 | 0.0 | 0.0 | 18.7 | 17.7 | 4.2 | 0.0 |
| LnGrp LOS | A | A | A | B | A | A | A | A | B | B | A | A |
| Approach Vol, veh/h | | 0 | | | 316 | | | 49 | | | 581 | |
| Approach Delay, s/veh | | 0.0 | | | 16.0 | | | 18.7 | | | 17.1 | |
| Approach LOS | | | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.5 | 8.0 | | 14.6 | | 27.5 | | 14.6 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 21.0 | 16.0 | | 16.0 | | 41.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.0 | 3.1 | | 0.0 | | 2.3 | | 9.8 | | | | |
| Green Ext Time (p_c), s | 1.5 | 0.1 | | 0.0 | | 0.1 | | 1.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 16.8 |
| HCM 6th LOS | | B |

**F. Cumulative Conditions Synchro Outputs**



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1393 | 381 | 919 | 0 | 468 | 0 | 0 | 1066 | 700 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1393 | 381 | 919 | 0 | 468 | 0 | 0 | 1066 | 700 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 0 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 1288 | 528 | 0 | 0 | 468 | 0 | 0 | 1066 | 0 |
| Peak Hour Factor | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 0 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 1570 | 785 | | 0 | 961 | 0 | 0 | 1741 | |
| Arrive On Green | | | | 0.49 | 0.47 | 0.00 | 0.00 | 0.30 | 0.00 | 0.00 | 0.30 | 0.00 |
| Sat Flow, veh/h | | | | 3196 | 1678 | 2844 | 0 | 3355 | 0 | 0 | 6006 | 1422 |
| Grp Volume(v), veh/h | | | | 1288 | 528 | 0 | 0 | 468 | 0 | 0 | 1066 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 1678 | 1422 | 0 | 1594 | 0 | 0 | 1443 | 1422 |
| Q Serve(g_s), s | | | | 16.1 | 11.5 | 0.0 | 0.0 | 5.6 | 0.0 | 0.0 | 7.4 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 16.1 | 11.5 | 0.0 | 0.0 | 5.6 | 0.0 | 0.0 | 7.4 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 1570 | 785 | | 0 | 961 | 0 | 0 | 1741 | |
| V/C Ratio(X) | | | | 0.82 | 0.67 | | 0.00 | 0.49 | 0.00 | 0.00 | 0.61 | |
| Avail Cap(c_a), veh/h | | | | 1773 | 891 | | 0 | 3013 | 0 | 0 | 2869 | |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 10.2 | 9.7 | 0.0 | 0.0 | 13.4 | 0.0 | 0.0 | 14.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | 2.7 | 1.4 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 4.6 | 3.4 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 2.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 12.8 | 11.0 | 0.0 | 0.0 | 13.5 | 0.0 | 0.0 | 14.2 | 0.0 |
| LnGrp LOS | | | | B | B | | A | B | A | A | B | |
| Approach Vol, veh/h | | | | | 1816 | A | | 468 | | | 1066 | A |
| Approach Delay, s/veh | | | | | 12.3 | | | 13.5 | | | 14.2 | |
| Approach LOS | | | | | B | | | B | | | B | |

| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 19.8 | | | | 19.8 | | 27.0 | | | | |
| Change Period (Y+Rc), s | | 5.7 | | | | 5.7 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 44.3 | | | | 23.3 | | 24.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.6 | | | | 9.4 | | 18.1 | | | | |
| Green Ext Time (p_c), s | | 2.3 | | | | 4.7 | | 3.8 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.1 | |
| HCM 6th LOS | B | |

**Notes**

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 126 | 0 | 204 | 0 | 0 | 0 | 0 | 392 | 981 | 0 | 1557 | 0 |
| Future Volume (veh/h) | 126 | 0 | 204 | 0 | 0 | 0 | 0 | 392 | 981 | 0 | 1557 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 0 | 1678 | 0 |
| Adj Flow Rate, veh/h | 84 | 0 | 249 | | | | 0 | 392 | 981 | 0 | 1557 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 0 | 15 | 0 |
| Cap, veh/h | 187 | 0 | 334 | | | | 0 | 3316 | 1812 | 0 | 3316 | 0 |
| Arrive On Green | 0.12 | 0.00 | 0.12 | | | | 0.00 | 0.72 | 0.72 | 0.00 | 0.72 | 0.00 |
| Sat Flow, veh/h | 1598 | 0 | 2844 | | | | 0 | 4731 | 2502 | 0 | 4882 | 0 |
| Grp Volume(v), veh/h | 84 | 0 | 249 | | | | 0 | 392 | 981 | 0 | 1557 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 0 | 1422 | | | | 0 | 1527 | 1251 | 0 | 1527 | 0 |
| Q Serve(g_s), s | 3.3 | 0.0 | 5.8 | | | | 0.0 | 1.8 | 12.1 | 0.0 | 9.7 | 0.0 |
| Cycle Q Clear(g_c), s | 3.3 | 0.0 | 5.8 | | | | 0.0 | 1.8 | 12.1 | 0.0 | 9.7 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 187 | 0 | 334 | | | | 0 | 3316 | 1812 | 0 | 3316 | 0 |
| V/C Ratio(X) | 0.45 | 0.00 | 0.75 | | | | 0.00 | 0.12 | 0.54 | 0.00 | 0.47 | 0.00 |
| Avail Cap(c_a), veh/h | 467 | 0 | 831 | | | | 0 | 3316 | 1812 | 0 | 3316 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 28.0 | 0.0 | 29.1 | | | | 0.0 | 2.8 | 4.3 | 0.0 | 3.9 | 0.0 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 1.3 | | | | 0.0 | 0.1 | 1.2 | 0.0 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 1.9 | | | | 0.0 | 0.4 | 2.2 | 0.0 | 2.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 28.6 | 0.0 | 30.3 | | | | 0.0 | 2.9 | 5.4 | 0.0 | 4.4 | 0.0 |
| LnGrp LOS | C | A | C | | | | A | A | A | A | A | A |
| Approach Vol, veh/h | | 333 | | | | | | 1373 | | | 1557 | |
| Approach Delay, s/veh | | 29.9 | | | | | | 4.7 | | | 4.4 | |
| Approach LOS | | C | | | | | | A | | | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 55.0 | 13.1 | 55.0 |
| Change Period (Y+Rc), s | 5.7 | 5.1 | 5.7 |
| Max Green Setting (Gmax), s | 49.3 | 19.9 | 49.3 |
| Max Q Clear Time (g_c+I1), s | 14.1 | 7.8 | 11.7 |
| Green Ext Time (p_c), s | 5.0 | 0.1 | 10.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.1 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 33 | 25 | 257 | 874 | 85 | 299 | 77 | 322 | 360 | 219 | 1092 | 31 |
| Future Volume (veh/h) | 33 | 25 | 257 | 874 | 85 | 299 | 77 | 322 | 360 | 219 | 1092 | 31 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1870 | 1870 | 1678 | 1678 | 1870 | 1870 | 1870 | 1678 | 1870 | 1678 |
| Adj Flow Rate, veh/h | 33 | 25 | 257 | 874 | 85 | 299 | 77 | 322 | 360 | 219 | 1092 | 31 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 2 | 2 | 15 | 15 | 2 | 2 | 2 | 15 | 2 | 15 |
| Cap, veh/h | 107 | 200 | 189 | 945 | 546 | 462 | 113 | 1177 | 924 | 208 | 1191 | 476 |
| Arrive On Green | 0.07 | 0.12 | 0.12 | 0.27 | 0.33 | 0.33 | 0.06 | 0.33 | 0.33 | 0.07 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1598 | 1678 | 1585 | 3456 | 1678 | 1419 | 1781 | 3554 | 2790 | 3100 | 3554 | 1422 |
| Grp Volume(v), veh/h | 33 | 25 | 257 | 874 | 85 | 299 | 77 | 322 | 360 | 219 | 1092 | 31 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1585 | 1728 | 1678 | 1419 | 1781 | 1777 | 1395 | 1550 | 1777 | 1422 |
| Q Serve(g_s), s | 2.6 | 1.8 | 16.0 | 33.0 | 4.8 | 24.1 | 5.7 | 8.9 | 13.3 | 9.0 | 39.5 | 2.0 |
| Cycle Q Clear(g_c), s | 2.6 | 1.8 | 16.0 | 33.0 | 4.8 | 24.1 | 5.7 | 8.9 | 13.3 | 9.0 | 39.5 | 2.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 107 | 200 | 189 | 945 | 546 | 462 | 113 | 1177 | 924 | 208 | 1191 | 476 |
| V/C Ratio(X) | 0.31 | 0.12 | 1.36 | 0.93 | 0.16 | 0.65 | 0.68 | 0.27 | 0.39 | 1.05 | 0.92 | 0.07 |
| Avail Cap(c_a), veh/h | 107 | 200 | 189 | 1031 | 588 | 498 | 120 | 1246 | 978 | 208 | 1246 | 499 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 59.5 | 52.8 | 59.0 | 47.4 | 32.1 | 38.6 | 61.5 | 33.0 | 34.4 | 62.5 | 42.8 | 30.3 |
| Incr Delay (d2), s/veh | 1.6 | 0.3 | 191.6 | 13.0 | 0.1 | 2.6 | 13.8 | 0.1 | 0.3 | 76.8 | 10.5 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.8 | 16.3 | 15.4 | 1.9 | 8.5 | 3.0 | 3.9 | 4.4 | 5.8 | 19.0 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 61.1 | 53.0 | 250.6 | 60.3 | 32.2 | 41.2 | 75.3 | 33.1 | 34.7 | 139.3 | 53.3 | 30.3 |
| LnGrp LOS | E | D | F | E | C | D | E | C | C | F | D | C |
| Approach Vol, veh/h | | 315 | | | 1258 | | | 759 | | | 1342 | |
| Approach Delay, s/veh | | 215.0 | | | 53.9 | | | 38.1 | | | 66.8 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 51.4 | 43.6 | 23.0 | 15.5 | 51.9 | 16.0 | 50.6 |
| Change Period (Y+Rc), s | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Max Green Setting (Gmax), s | 9.0 | 47.0 | 40.0 | 16.0 | 9.0 | 47.0 | 9.0 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 15.3 | 35.0 | 18.0 | 7.7 | 41.5 | 4.6 | 26.1 |
| Green Ext Time (p_c), s | 0.0 | 3.9 | 1.7 | 0.0 | 0.0 | 3.4 | 0.0 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 69.2 |
| HCM 6th LOS | E |



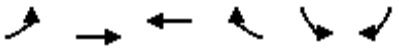
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 213 | 48 | 33 | 19 | 438 | 346 | 163 | 176 | 80 | 127 | 68 | 269 |
| Future Volume (veh/h) | 213 | 48 | 33 | 19 | 438 | 346 | 163 | 176 | 80 | 127 | 68 | 269 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 213 | 48 | 33 | 19 | 438 | 346 | 163 | 176 | 80 | 127 | 68 | 269 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 226 | 206 | 175 | 466 | 495 | 420 | 194 | 515 | 224 | 156 | 341 | 304 |
| Arrive On Green | 0.14 | 0.12 | 0.12 | 0.29 | 0.30 | 0.30 | 0.12 | 0.24 | 0.24 | 0.10 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 2160 | 942 | 1598 | 1594 | 1422 |
| Grp Volume(v), veh/h | 213 | 48 | 33 | 19 | 438 | 346 | 163 | 128 | 128 | 127 | 68 | 269 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 1594 | 1508 | 1598 | 1594 | 1422 |
| Q Serve(g_s), s | 10.7 | 2.1 | 1.3 | 0.7 | 20.2 | 18.4 | 8.1 | 5.4 | 5.7 | 6.3 | 2.8 | 14.9 |
| Cycle Q Clear(g_c), s | 10.7 | 2.1 | 1.3 | 0.7 | 20.2 | 18.4 | 8.1 | 5.4 | 5.7 | 6.3 | 2.8 | 14.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.62 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 226 | 206 | 175 | 466 | 495 | 420 | 194 | 380 | 359 | 156 | 341 | 304 |
| V/C Ratio(X) | 0.94 | 0.23 | 0.19 | 0.04 | 0.88 | 0.82 | 0.84 | 0.34 | 0.36 | 0.82 | 0.20 | 0.88 |
| Avail Cap(c_a), veh/h | 226 | 531 | 450 | 466 | 531 | 450 | 206 | 380 | 359 | 206 | 369 | 329 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.6 | 32.2 | 18.1 | 20.6 | 27.3 | 26.7 | 34.9 | 25.6 | 25.8 | 36.0 | 26.2 | 31.0 |
| Incr Delay (d2), s/veh | 43.9 | 0.8 | 0.7 | 0.0 | 16.1 | 11.9 | 24.4 | 0.7 | 0.9 | 16.9 | 0.4 | 23.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.6 | 0.8 | 0.6 | 0.2 | 9.5 | 7.3 | 4.4 | 2.1 | 2.1 | 3.1 | 1.1 | 6.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 78.5 | 33.0 | 18.8 | 20.7 | 43.4 | 38.6 | 59.3 | 26.4 | 26.6 | 52.9 | 26.6 | 54.2 |
| LnGrp LOS | E | C | B | C | D | D | E | C | C | D | C | D |
| Approach Vol, veh/h | | 294 | | | 803 | | | 419 | | | 464 | |
| Approach Delay, s/veh | | 64.3 | | | 40.8 | | | 39.3 | | | 49.8 | |
| Approach LOS | | E | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.5 | 15.8 | 11.9 | 24.1 | 15.5 | 29.8 | 13.9 | 22.1 |
| Change Period (Y+Rc), s | 5.8 | * 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 4.5 | * 26 | 10.5 | * 19 | 11.5 | 25.7 | 10.5 | * 19 |
| Max Q Clear Time (g_c+I2), s | 2.7 | 4.1 | 8.3 | 7.7 | 12.7 | 22.2 | 10.1 | 16.9 |
| Green Ext Time (p_c), s | 0.0 | 0.4 | 0.1 | 1.4 | 0.0 | 1.8 | 0.0 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.1 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 21 | 234 | 775 | 66 | 15 | 28 |
| Future Volume (veh/h) | 21 | 234 | 775 | 66 | 15 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 21 | 234 | 775 | 66 | 15 | 28 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 39 | 972 | 844 | 715 | 511 | 455 |
| Arrive On Green | 0.02 | 0.56 | 0.48 | 0.48 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1668 | 1752 | 1752 | 1485 | 1668 | 1485 |
| Grp Volume(v), veh/h | 21 | 234 | 775 | 66 | 15 | 28 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1752 | 1752 | 1485 | 1668 | 1485 |
| Q Serve(g_s), s | 1.0 | 5.5 | 32.9 | 1.9 | 0.5 | 1.1 |
| Cycle Q Clear(g_c), s | 1.0 | 5.5 | 32.9 | 1.9 | 0.5 | 1.1 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 39 | 972 | 844 | 715 | 511 | 455 |
| V/C Ratio(X) | 0.54 | 0.24 | 0.92 | 0.09 | 0.03 | 0.06 |
| Avail Cap(c_a), veh/h | 175 | 972 | 844 | 715 | 511 | 455 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.87 | 0.87 | 0.35 | 0.35 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.6 | 9.1 | 19.3 | 11.2 | 19.4 | 19.6 |
| Incr Delay (d2), s/veh | 9.8 | 0.5 | 7.1 | 0.1 | 0.1 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 2.0 | 13.6 | 0.6 | 0.2 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 48.4 | 9.7 | 26.3 | 11.3 | 19.5 | 19.9 |
| LnGrp LOS | D | A | C | B | B | B |
| Approach Vol, veh/h | | 255 | 841 | | 43 | |
| Approach Delay, s/veh | | 12.8 | 25.1 | | 19.8 | |
| Approach LOS | | B | C | | B | |

| Timer - Assigned Phs | 2 | | | 5 | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 50.9 | | | 5.9 | 45.0 | 29.1 |
| Change Period (Y+Rc), s | 6.5 | | | 4.0 | 6.5 | 4.6 |
| Max Green Setting (Gmax), s | 44.4 | | | 8.4 | 32.0 | 24.5 |
| Max Q Clear Time (g_c+I1), s | 7.5 | | | 3.0 | 34.9 | 3.1 |
| Green Ext Time (p_c), s | 1.5 | | | 0.0 | 0.0 | 0.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 22.2 |
| HCM 6th LOS | | C |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 77 | 155 | 93 | 80 | 929 | 22 | 38 | 32 | 10 | 87 | 1 | 49 |
| Future Volume (veh/h) | 77 | 155 | 93 | 80 | 929 | 22 | 38 | 32 | 10 | 87 | 1 | 49 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 77 | 155 | 93 | 80 | 929 | 22 | 38 | 32 | 10 | 87 | 1 | 49 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 97 | 597 | 358 | 100 | 985 | 23 | 58 | 385 | 172 | 109 | 487 | 217 |
| Arrive On Green | 0.06 | 0.54 | 0.54 | 0.06 | 0.54 | 0.54 | 0.03 | 0.12 | 0.12 | 0.07 | 0.15 | 0.15 |
| Sat Flow, veh/h | 1668 | 1095 | 657 | 1668 | 1820 | 43 | 1668 | 3328 | 1485 | 1668 | 3328 | 1485 |
| Grp Volume(v), veh/h | 77 | 0 | 248 | 80 | 0 | 951 | 38 | 32 | 10 | 87 | 1 | 49 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 0 | 1752 | 1668 | 0 | 1863 | 1668 | 1664 | 1485 | 1668 | 1664 | 1485 |
| Q Serve(g_s), s | 3.9 | 0.0 | 6.5 | 4.1 | 0.0 | 41.4 | 1.9 | 0.7 | 0.5 | 4.4 | 0.0 | 2.5 |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 6.5 | 4.1 | 0.0 | 41.4 | 1.9 | 0.7 | 0.5 | 4.4 | 0.0 | 2.5 |
| Prop In Lane | 1.00 | | 0.38 | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 97 | 0 | 954 | 100 | 0 | 1008 | 58 | 385 | 172 | 109 | 487 | 217 |
| V/C Ratio(X) | 0.80 | 0.00 | 0.26 | 0.80 | 0.00 | 0.94 | 0.66 | 0.08 | 0.06 | 0.80 | 0.00 | 0.23 |
| Avail Cap(c_a), veh/h | 112 | 0 | 1016 | 106 | 0 | 1062 | 108 | 755 | 337 | 122 | 782 | 349 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.2 | 0.0 | 10.4 | 40.1 | 0.0 | 18.6 | 41.2 | 34.1 | 34.0 | 39.8 | 31.5 | 32.6 |
| Incr Delay (d2), s/veh | 28.5 | 0.0 | 0.1 | 32.0 | 0.0 | 15.5 | 12.0 | 0.1 | 0.1 | 27.7 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 0.0 | 2.4 | 2.5 | 0.0 | 20.1 | 1.0 | 0.3 | 0.2 | 2.6 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.7 | 0.0 | 10.6 | 72.1 | 0.0 | 34.0 | 53.2 | 34.2 | 34.2 | 67.5 | 31.5 | 33.1 |
| LnGrp LOS | E | A | B | E | A | C | D | C | C | E | C | C |
| Approach Vol, veh/h | | 325 | | | 1031 | | | 80 | | | 137 | |
| Approach Delay, s/veh | | 24.3 | | | 37.0 | | | 43.2 | | | 55.0 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.6 | 15.8 | 9.2 | 51.8 | 7.0 | 18.5 | 9.5 | 51.5 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.5 | * 4.7 |
| Max Green Setting (Gmax), s | 6.3 | 19.6 | 5.5 | * 50 | 5.6 | 20.3 | 5.8 | * 49 |
| Max Q Clear Time (g_c+I1), s | 5.4 | 2.7 | 6.1 | 8.5 | 3.9 | 4.5 | 5.9 | 43.4 |
| Green Ext Time (p_c), s | 0.0 | 0.1 | 0.0 | 1.7 | 0.0 | 0.1 | 0.0 | 3.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.3 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 82 | 174 | 463 | 1569 | 1154 | 343 |
| Future Volume (veh/h) | 82 | 174 | 463 | 1569 | 1154 | 343 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 82 | 174 | 463 | 1569 | 1154 | 343 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 268 | 238 | 529 | 3415 | 1547 | 480 |
| Arrive On Green | 0.15 | 0.15 | 0.30 | 0.67 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 5274 | 5274 | 1585 |
| Grp Volume(v), veh/h | 82 | 174 | 463 | 1569 | 1154 | 343 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1702 | 1702 | 1585 |
| Q Serve(g_s), s | 2.4 | 6.1 | 14.3 | 8.5 | 11.8 | 11.2 |
| Cycle Q Clear(g_c), s | 2.4 | 6.1 | 14.3 | 8.5 | 11.8 | 11.2 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 268 | 238 | 529 | 3415 | 1547 | 480 |
| V/C Ratio(X) | 0.31 | 0.73 | 0.88 | 0.46 | 0.75 | 0.71 |
| Avail Cap(c_a), veh/h | 952 | 847 | 706 | 4269 | 1892 | 587 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.0 | 23.5 | 19.4 | 4.6 | 18.2 | 18.0 |
| Incr Delay (d2), s/veh | 0.6 | 4.3 | 9.4 | 0.1 | 1.3 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.3 | 6.7 | 1.9 | 4.3 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.6 | 27.8 | 28.8 | 4.7 | 19.5 | 21.2 |
| LnGrp LOS | C | C | C | A | B | C |
| Approach Vol, veh/h | 256 | | | 2032 | 1497 | |
| Approach Delay, s/veh | 26.1 | | | 10.2 | 19.9 | |
| Approach LOS | C | | | B | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 44.6 | | 13.4 | 21.2 | 23.4 |
| Change Period (Y+Rc), s | 5.8 | | * 4.7 | 4.0 | 5.8 |
| Max Green Setting (Gmax), s | 48.5 | | * 31 | 23.0 | 21.5 |
| Max Q Clear Time (g_c+I1), s | 10.5 | | 8.1 | 16.3 | 13.8 |
| Green Ext Time (p_c), s | 16.5 | | 0.8 | 0.9 | 3.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.1 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 74 | 313 | 1990 | 28 | 116 | 1218 |
| Future Volume (veh/h) | 74 | 313 | 1990 | 28 | 116 | 1218 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 74 | 313 | 1990 | 28 | 116 | 1218 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 414 | 368 | 2480 | 770 | 147 | 3184 |
| Arrive On Green | 0.23 | 0.23 | 0.49 | 0.49 | 0.08 | 0.62 |
| Sat Flow, veh/h | 1781 | 1585 | 5274 | 1585 | 1781 | 5274 |
| Grp Volume(v), veh/h | 74 | 313 | 1990 | 28 | 116 | 1218 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1702 | 1585 | 1781 | 1702 |
| Q Serve(g_s), s | 2.4 | 13.7 | 23.9 | 0.7 | 4.6 | 8.6 |
| Cycle Q Clear(g_c), s | 2.4 | 13.7 | 23.9 | 0.7 | 4.6 | 8.6 |
| Prop In Lane | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 414 | 368 | 2480 | 770 | 147 | 3184 |
| V/C Ratio(X) | 0.18 | 0.85 | 0.80 | 0.04 | 0.79 | 0.38 |
| Avail Cap(c_a), veh/h | 759 | 675 | 2631 | 817 | 171 | 3403 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.4 | 26.7 | 15.8 | 9.8 | 32.7 | 6.8 |
| Incr Delay (d2), s/veh | 0.2 | 5.5 | 1.8 | 0.0 | 18.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 5.5 | 8.6 | 0.2 | 2.7 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.6 | 32.3 | 17.5 | 9.8 | 51.4 | 6.9 |
| LnGrp LOS | C | C | B | A | D | A |
| Approach Vol, veh/h | 387 | | 2018 | | | 1334 |
| Approach Delay, s/veh | 30.4 | | 17.4 | | | 10.7 |
| Approach LOS | C | | B | | | B |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.0 | 41.2 | | | | 51.2 | 21.6 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | | | | 5.8 | 4.7 |
| Max Green Setting (Gmax), s | 7.0 | 37.5 | | | | 48.5 | 31.0 |
| Max Q Clear Time (g_c+I1), s | 5.6 | 25.9 | | | | 10.6 | 15.7 |
| Green Ext Time (p_c), s | 0.0 | 9.5 | | | | 11.5 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.4 |
| HCM 6th LOS | B |



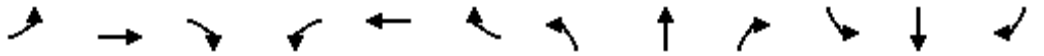
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 3 | 17 | 204 | 1 | 410 | 127 | 1697 | 20 | 250 | 1019 | 48 |
| Future Volume (veh/h) | 7 | 3 | 17 | 204 | 1 | 410 | 127 | 1697 | 20 | 250 | 1019 | 48 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 3 | 17 | 204 | 1 | 410 | 127 | 1697 | 20 | 250 | 1019 | 48 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 16 | 139 | 118 | 240 | 374 | 317 | 160 | 2119 | 658 | 286 | 2578 | 800 |
| Arrive On Green | 0.01 | 0.07 | 0.07 | 0.13 | 0.20 | 0.20 | 0.09 | 0.41 | 0.41 | 0.16 | 0.50 | 0.50 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 |
| Grp Volume(v), veh/h | 7 | 3 | 17 | 204 | 1 | 410 | 127 | 1697 | 20 | 250 | 1019 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 |
| Q Serve(g_s), s | 0.4 | 0.1 | 0.9 | 10.5 | 0.0 | 12.4 | 6.6 | 27.4 | 0.4 | 12.9 | 11.6 | 1.5 |
| Cycle Q Clear(g_c), s | 0.4 | 0.1 | 0.9 | 10.5 | 0.0 | 12.4 | 6.6 | 27.4 | 0.4 | 12.9 | 11.6 | 1.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 16 | 139 | 118 | 240 | 374 | 317 | 160 | 2119 | 658 | 286 | 2578 | 800 |
| V/C Ratio(X) | 0.44 | 0.02 | 0.14 | 0.85 | 0.00 | 1.29 | 0.79 | 0.80 | 0.03 | 0.87 | 0.40 | 0.06 |
| Avail Cap(c_a), veh/h | 104 | 695 | 589 | 284 | 883 | 749 | 331 | 2336 | 725 | 348 | 2578 | 800 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.5 | 40.4 | 40.8 | 39.8 | 30.2 | 16.4 | 42.0 | 24.1 | 5.7 | 38.6 | 14.4 | 11.9 |
| Incr Delay (d2), s/veh | 18.2 | 0.1 | 0.6 | 18.7 | 0.0 | 138.9 | 8.6 | 1.9 | 0.0 | 18.4 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.1 | 0.4 | 5.8 | 0.0 | 16.6 | 3.2 | 10.9 | 0.3 | 7.0 | 4.3 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.6 | 40.5 | 41.4 | 58.6 | 30.2 | 155.3 | 50.6 | 26.1 | 5.7 | 57.0 | 14.5 | 11.9 |
| LnGrp LOS | E | D | D | E | C | F | D | C | A | E | B | B |
| Approach Vol, veh/h | | 27 | | | 615 | | | 1844 | | | 1317 | |
| Approach Delay, s/veh | | 47.3 | | | 123.0 | | | 27.5 | | | 22.5 | |
| Approach LOS | | D | | | F | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.9 | 44.9 | 16.7 | 11.7 | 12.5 | 53.4 | 4.8 | 23.5 |
| Change Period (Y+Rc), s | 5.8 | * 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 10.4 | * 43 | 15.0 | * 35 | 17.5 | 44.0 | 5.5 | * 45 |
| Max Q Clear Time (g_c+I1), s | 14.9 | 29.4 | 12.5 | 2.9 | 8.6 | 13.6 | 2.4 | 14.4 |
| Green Ext Time (p_c), s | 0.2 | 9.7 | 0.1 | 0.0 | 0.2 | 8.8 | 0.0 | 1.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 41.4 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1021 | 9 | 1367 | 0 | 697 | 0 | 0 | 1456 | 88 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1021 | 9 | 1367 | 0 | 697 | 0 | 0 | 1456 | 88 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 0 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 1027 | 0 | 0 | 0 | 697 | 0 | 0 | 1456 | 0 |
| Peak Hour Factor | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 0 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 1596 | 0 | | 0 | 1330 | 0 | 0 | 2408 | |
| Arrive On Green | | | | 0.33 | 0.00 | 0.00 | 0.00 | 0.42 | 0.00 | 0.00 | 0.42 | 0.00 |
| Sat Flow, veh/h | | | | 4793 | 0 | 2844 | 0 | 3355 | 0 | 0 | 6006 | 1422 |
| Grp Volume(v), veh/h | | | | 1027 | 0 | 0 | 0 | 697 | 0 | 0 | 1456 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1422 | 0 | 1594 | 0 | 0 | 1443 | 1422 |
| Q Serve(g_s), s | | | | 7.1 | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 0.0 | 7.6 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 7.1 | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 0.0 | 7.6 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 1596 | 0 | | 0 | 1330 | 0 | 0 | 2408 | |
| V/C Ratio(X) | | | | 0.64 | 0.00 | | 0.00 | 0.52 | 0.00 | 0.00 | 0.60 | |
| Avail Cap(c_a), veh/h | | | | 3210 | 0 | | 0 | 3637 | 0 | 0 | 3463 | |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 11.0 | 0.0 | 0.0 | 0.0 | 8.4 | 0.0 | 0.0 | 8.8 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.9 | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 1.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 11.3 | 0.0 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 | 8.9 | 0.0 |
| LnGrp LOS | | | | B | A | | A | A | A | A | A | |
| Approach Vol, veh/h | | | | | 1027 | A | | 697 | | | 1456 | A |
| Approach Delay, s/veh | | | | | 11.3 | | | 8.6 | | | 8.9 | |
| Approach LOS | | | | | B | | | A | | | A | |

| Timer - Assigned Phs | 2 | | 6 | | 8 | | | |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.9 | | 21.9 | | 16.9 | | | |
| Change Period (Y+Rc), s | 5.7 | | 5.7 | | 5.1 | | | |
| Max Green Setting (Gmax), s | 44.3 | | 23.3 | | 24.9 | | | |
| Max Q Clear Time (g_c+I1), s | 8.3 | | 9.6 | | 9.1 | | | |
| Green Ext Time (p_c), s | 3.6 | | 6.6 | | 2.8 | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.6 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 182 | 0 | 86 | 0 | 0 | 0 | 0 | 538 | 1946 | 0 | 1485 | 0 |
| Future Volume (veh/h) | 182 | 0 | 86 | 0 | 0 | 0 | 0 | 538 | 1946 | 0 | 1485 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 0 | 1678 | 0 |
| Adj Flow Rate, veh/h | 209 | 0 | 57 | | | | 0 | 538 | 1946 | 0 | 1485 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 0 | 15 | 0 |
| Cap, veh/h | 425 | 0 | 189 | | | | 0 | 3433 | 1875 | 0 | 3433 | 0 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | | | | 0.00 | 0.75 | 0.75 | 0.00 | 0.75 | 0.00 |
| Sat Flow, veh/h | 3196 | 0 | 1422 | | | | 0 | 4731 | 2502 | 0 | 4882 | 0 |
| Grp Volume(v), veh/h | 209 | 0 | 57 | | | | 0 | 538 | 1946 | 0 | 1485 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 0 | 1422 | | | | 0 | 1527 | 1251 | 0 | 1527 | 0 |
| Q Serve(g_s), s | 4.1 | 0.0 | 2.5 | | | | 0.0 | 2.3 | 51.0 | 0.0 | 8.2 | 0.0 |
| Cycle Q Clear(g_c), s | 4.1 | 0.0 | 2.5 | | | | 0.0 | 2.3 | 51.0 | 0.0 | 8.2 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 425 | 0 | 189 | | | | 0 | 3433 | 1875 | 0 | 3433 | 0 |
| V/C Ratio(X) | 0.49 | 0.00 | 0.30 | | | | 0.00 | 0.16 | 1.04 | 0.00 | 0.43 | 0.00 |
| Avail Cap(c_a), veh/h | 986 | 0 | 439 | | | | 0 | 3433 | 1875 | 0 | 3433 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 27.4 | 0.0 | 26.6 | | | | 0.0 | 2.4 | 8.5 | 0.0 | 3.2 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.3 | | | | 0.0 | 0.1 | 31.3 | 0.0 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.0 | 0.8 | | | | 0.0 | 0.4 | 15.1 | 0.0 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.7 | 0.0 | 27.0 | | | | 0.0 | 2.5 | 39.8 | 0.0 | 3.6 | 0.0 |
| LnGrp LOS | C | A | C | | | | A | A | F | A | A | A |
| Approach Vol, veh/h | | 266 | | | | | | 2484 | | | 1485 | |
| Approach Delay, s/veh | | 27.5 | | | | | | 31.7 | | | 3.6 | |
| Approach LOS | | C | | | | | | C | | | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 55.0 | 13.0 | 55.0 |
| Change Period (Y+Rc), s | 5.7 | 5.1 | 5.7 |
| Max Green Setting (Gmax), s | 49.3 | 19.9 | 49.3 |
| Max Q Clear Time (g_c+I1), s | 53.0 | 6.1 | 10.2 |
| Green Ext Time (p_c), s | 0.0 | 0.1 | 10.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.6 |
| HCM 6th LOS | C |

**Notes**

User approved volume balancing among the lanes for turning movement.



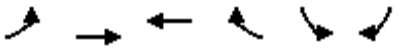
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 338 | 550 | 372 | 169 | 200 | 286 | 49 | 366 | 61 | 506 | 728 | 353 |
| Future Volume (veh/h) | 338 | 550 | 372 | 169 | 200 | 286 | 49 | 366 | 61 | 506 | 728 | 353 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 338 | 550 | 372 | 169 | 200 | 286 | 49 | 366 | 61 | 506 | 728 | 353 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 327 | 574 | 457 | 167 | 406 | 315 | 80 | 441 | 73 | 487 | 865 | 419 |
| Arrive On Green | 0.20 | 0.34 | 0.32 | 0.10 | 0.24 | 0.22 | 0.05 | 0.16 | 0.15 | 0.30 | 0.42 | 0.40 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 2738 | 452 | 1598 | 2082 | 1008 |
| Grp Volume(v), veh/h | 338 | 550 | 372 | 169 | 200 | 286 | 49 | 212 | 215 | 506 | 557 | 524 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 1594 | 1596 | 1598 | 1594 | 1496 |
| Q Serve(g_s), s | 24.5 | 38.4 | 28.8 | 12.5 | 12.3 | 23.5 | 3.6 | 15.4 | 15.7 | 36.5 | 37.6 | 37.8 |
| Cycle Q Clear(g_c), s | 24.5 | 38.4 | 28.8 | 12.5 | 12.3 | 23.5 | 3.6 | 15.4 | 15.7 | 36.5 | 37.6 | 37.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | 327 | 574 | 457 | 167 | 406 | 315 | 80 | 257 | 257 | 487 | 662 | 622 |
| V/C Ratio(X) | 1.03 | 0.96 | 0.81 | 1.01 | 0.49 | 0.91 | 0.61 | 0.82 | 0.84 | 1.04 | 0.84 | 0.84 |
| Avail Cap(c_a), veh/h | 327 | 574 | 457 | 167 | 406 | 315 | 87 | 259 | 260 | 487 | 662 | 622 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.6 | 38.6 | 37.4 | 53.6 | 39.1 | 45.5 | 55.8 | 48.6 | 48.9 | 41.6 | 31.4 | 32.0 |
| Incr Delay (d2), s/veh | 58.9 | 27.4 | 11.3 | 73.3 | 1.3 | 29.2 | 10.6 | 19.7 | 21.3 | 51.4 | 9.9 | 10.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.8 | 19.4 | 11.4 | 8.3 | 5.1 | 10.8 | 1.7 | 7.5 | 7.8 | 21.1 | 16.0 | 15.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 106.6 | 66.0 | 48.6 | 127.0 | 40.4 | 74.7 | 66.4 | 68.3 | 70.3 | 93.0 | 41.3 | 42.5 |
| LnGrp LOS | F | E | D | F | D | E | E | E | E | F | D | D |
| Approach Vol, veh/h | | 1260 | | | 655 | | | 476 | | | 1587 | |
| Approach Delay, s/veh | | 71.8 | | | 77.7 | | | 69.0 | | | 58.2 | |
| Approach LOS | | E | | | E | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 44.3 | 39.0 | 22.5 | 26.0 | 32.3 | 8.5 | 53.0 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 10.0 | 38.5 | 35.0 | * 18 | 22.0 | 26.5 | 5.0 | * 48 |
| Max Q Clear Time (g_c+I1), s | 14.5 | 40.4 | 38.5 | 17.7 | 26.5 | 25.5 | 5.6 | 39.8 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.0 | 5.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 67.0 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 50 | 1050 | 497 | 57 | 67 | 100 |
| Future Volume (veh/h) | 50 | 1050 | 497 | 57 | 67 | 100 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 54 | 1141 | 540 | 62 | 73 | 109 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 83 | 1012 | 848 | 718 | 526 | 468 |
| Arrive On Green | 0.05 | 0.58 | 0.48 | 0.48 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1668 | 1752 | 1752 | 1485 | 1668 | 1485 |
| Grp Volume(v), veh/h | 54 | 1141 | 540 | 62 | 73 | 109 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1752 | 1752 | 1485 | 1668 | 1485 |
| Q Serve(g_s), s | 2.5 | 46.2 | 18.4 | 1.8 | 2.5 | 4.3 |
| Cycle Q Clear(g_c), s | 2.5 | 46.2 | 18.4 | 1.8 | 2.5 | 4.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 83 | 1012 | 848 | 718 | 526 | 468 |
| V/C Ratio(X) | 0.65 | 1.13 | 0.64 | 0.09 | 0.14 | 0.23 |
| Avail Cap(c_a), veh/h | 177 | 1012 | 848 | 718 | 526 | 468 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.09 | 0.09 | 0.80 | 0.80 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.3 | 16.9 | 15.4 | 11.1 | 19.6 | 20.3 |
| Incr Delay (d2), s/veh | 0.8 | 58.9 | 2.9 | 0.2 | 0.6 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 32.1 | 7.4 | 0.6 | 1.0 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 38.1 | 75.8 | 18.3 | 11.3 | 20.2 | 21.4 |
| LnGrp LOS | D | F | B | B | C | C |
| Approach Vol, veh/h | | 1195 | 602 | | 182 | |
| Approach Delay, s/veh | | 74.1 | 17.6 | | 20.9 | |
| Approach LOS | | E | B | | C | |

| Timer - Assigned Phs | 2 | | | 5 | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 50.9 | | | 7.5 | 43.4 | 29.1 |
| Change Period (Y+Rc), s | 6.5 | | | 4.0 | 6.5 | 4.6 |
| Max Green Setting (Gmax), s | 44.4 | | | 8.0 | 32.0 | 24.5 |
| Max Q Clear Time (g_c+I1), s | 48.2 | | | 4.5 | 20.4 | 6.3 |
| Green Ext Time (p_c), s | 0.0 | | | 0.0 | 2.9 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 52.0 |
| HCM 6th LOS | D |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 267 | 376 | 344 | 138 | 164 | 107 | 93 | 61 | 86 | 378 | 345 | 408 |
| Future Volume (veh/h) | 267 | 376 | 344 | 138 | 164 | 107 | 93 | 61 | 86 | 378 | 345 | 408 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 267 | 376 | 344 | 138 | 164 | 107 | 93 | 61 | 86 | 378 | 345 | 408 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 299 | 378 | 346 | 155 | 353 | 230 | 113 | 434 | 194 | 398 | 1002 | 447 |
| Arrive On Green | 0.18 | 0.42 | 0.42 | 0.09 | 0.33 | 0.33 | 0.07 | 0.13 | 0.13 | 0.24 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1668 | 899 | 823 | 1668 | 1057 | 689 | 1668 | 3328 | 1485 | 1668 | 3328 | 1485 |
| Grp Volume(v), veh/h | 267 | 0 | 720 | 138 | 0 | 271 | 93 | 61 | 86 | 378 | 345 | 408 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 0 | 1722 | 1668 | 0 | 1746 | 1668 | 1664 | 1485 | 1668 | 1664 | 1485 |
| Q Serve(g_s), s | 21.2 | 0.0 | 56.5 | 11.1 | 0.0 | 16.6 | 7.5 | 2.2 | 7.3 | 30.3 | 11.0 | 35.9 |
| Cycle Q Clear(g_c), s | 21.2 | 0.0 | 56.5 | 11.1 | 0.0 | 16.6 | 7.5 | 2.2 | 7.3 | 30.3 | 11.0 | 35.9 |
| Prop In Lane | 1.00 | | 0.48 | 1.00 | | 0.39 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 299 | 0 | 724 | 155 | 0 | 583 | 113 | 434 | 194 | 398 | 1002 | 447 |
| V/C Ratio(X) | 0.89 | 0.00 | 0.99 | 0.89 | 0.00 | 0.46 | 0.82 | 0.14 | 0.44 | 0.95 | 0.34 | 0.91 |
| Avail Cap(c_a), veh/h | 428 | 0 | 724 | 155 | 0 | 583 | 146 | 525 | 234 | 406 | 1043 | 465 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.4 | 0.0 | 39.3 | 60.8 | 0.0 | 35.7 | 62.4 | 52.3 | 54.4 | 50.8 | 37.0 | 45.7 |
| Incr Delay (d2), s/veh | 15.6 | 0.0 | 32.1 | 42.2 | 0.0 | 0.6 | 23.9 | 0.1 | 1.6 | 31.7 | 0.2 | 21.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.2 | 0.0 | 30.0 | 6.5 | 0.0 | 7.2 | 3.9 | 0.9 | 2.8 | 16.1 | 4.5 | 15.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.0 | 0.0 | 71.5 | 103.0 | 0.0 | 36.3 | 86.3 | 52.4 | 56.0 | 82.5 | 37.2 | 67.6 |
| LnGrp LOS | E | A | E | F | A | D | F | D | E | F | D | E |
| Approach Vol, veh/h | | 987 | | | 409 | | | 240 | | | 1131 | |
| Approach Delay, s/veh | | 71.1 | | | 58.8 | | | 66.9 | | | 63.3 | |
| Approach LOS | | E | | | E | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.4 | 21.7 | 16.6 | 61.0 | 13.2 | 44.8 | 28.3 | 49.3 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.5 | * 4.7 |
| Max Green Setting (Gmax), s | 33.0 | 19.6 | 12.6 | * 56 | 11.9 | 40.7 | 34.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 12.3 | 9.3 | 13.1 | 58.5 | 9.5 | 37.9 | 23.2 | 18.6 |
| Green Ext Time (p_c), s | 0.1 | 0.4 | 0.0 | 0.0 | 0.0 | 1.1 | 0.6 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 65.7 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 273 | 562 | 305 | 1615 | 1725 | 92 |
| Future Volume (veh/h) | 273 | 562 | 305 | 1615 | 1725 | 92 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 273 | 562 | 305 | 1615 | 1725 | 92 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 627 | 558 | 297 | 2854 | 1776 | 551 |
| Arrive On Green | 0.35 | 0.35 | 0.17 | 0.56 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 5274 | 5274 | 1585 |
| Grp Volume(v), veh/h | 273 | 562 | 305 | 1615 | 1725 | 92 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1702 | 1702 | 1585 |
| Q Serve(g_s), s | 10.6 | 31.7 | 15.0 | 18.4 | 29.9 | 3.6 |
| Cycle Q Clear(g_c), s | 10.6 | 31.7 | 15.0 | 18.4 | 29.9 | 3.6 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 627 | 558 | 297 | 2854 | 1776 | 551 |
| V/C Ratio(X) | 0.44 | 1.01 | 1.03 | 0.57 | 0.97 | 0.17 |
| Avail Cap(c_a), veh/h | 627 | 558 | 297 | 2854 | 1776 | 551 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.3 | 29.1 | 37.5 | 12.8 | 28.9 | 20.3 |
| Incr Delay (d2), s/veh | 0.5 | 39.7 | 59.5 | 0.3 | 15.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.4 | 29.1 | 11.3 | 6.5 | 14.1 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.8 | 68.9 | 97.0 | 13.1 | 44.0 | 20.5 |
| LnGrp LOS | C | F | F | B | D | C |
| Approach Vol, veh/h | 835 | | | 1920 | 1817 | |
| Approach Delay, s/veh | 53.8 | | | 26.4 | 42.8 | |
| Approach LOS | D | | | C | D | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 54.3 | | 35.7 | 19.0 | 35.3 |
| Change Period (Y+Rc), s | 5.8 | | * 4.7 | 4.0 | 5.8 |
| Max Green Setting (Gmax), s | 48.5 | | * 31 | 15.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 20.4 | | 33.7 | 17.0 | 31.9 |
| Green Ext Time (p_c), s | 14.9 | | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.9 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 206 | 100 | 1917 | 302 | 300 | 1900 |
| Future Volume (veh/h) | 206 | 100 | 1917 | 302 | 300 | 1900 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 206 | 100 | 1917 | 302 | 300 | 1900 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 280 | 250 | 2504 | 777 | 344 | 3761 |
| Arrive On Green | 0.16 | 0.16 | 0.49 | 0.49 | 0.19 | 0.74 |
| Sat Flow, veh/h | 1781 | 1585 | 5274 | 1585 | 1781 | 5274 |
| Grp Volume(v), veh/h | 206 | 100 | 1917 | 302 | 300 | 1900 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1702 | 1585 | 1781 | 1702 |
| Q Serve(g_s), s | 8.3 | 4.3 | 23.1 | 9.0 | 12.3 | 11.8 |
| Cycle Q Clear(g_c), s | 8.3 | 4.3 | 23.1 | 9.0 | 12.3 | 11.8 |
| Prop In Lane | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 280 | 250 | 2504 | 777 | 344 | 3761 |
| V/C Ratio(X) | 0.73 | 0.40 | 0.77 | 0.39 | 0.87 | 0.51 |
| Avail Cap(c_a), veh/h | 748 | 666 | 2653 | 823 | 404 | 4080 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.3 | 28.6 | 15.7 | 12.1 | 29.5 | 4.2 |
| Incr Delay (d2), s/veh | 3.7 | 1.0 | 1.3 | 0.3 | 16.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 1.6 | 8.3 | 3.0 | 6.6 | 2.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 34.0 | 29.6 | 17.0 | 12.4 | 46.1 | 4.3 |
| LnGrp LOS | C | C | B | B | D | A |
| Approach Vol, veh/h | 306 | | 2219 | | | 2200 |
| Approach Delay, s/veh | 32.6 | | 16.4 | | | 10.0 |
| Approach LOS | C | | B | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.6 | 41.0 | | | | 59.6 | 15.9 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | | | | 5.8 | 4.7 |
| Max Green Setting (Gmax), s | 17.1 | 37.4 | | | | 58.5 | 31.0 |
| Max Q Clear Time (g_c+I1), s | 14.3 | 25.1 | | | | 13.8 | 10.3 |
| Green Ext Time (p_c), s | 0.3 | 10.1 | | | | 23.6 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.4 |
| HCM 6th LOS | B |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 244 | 322 | 285 | 172 | 3 | 343 | 177 | 1572 | 179 | 368 | 1884 | 47 |
| Future Volume (veh/h) | 244 | 322 | 285 | 172 | 3 | 343 | 177 | 1572 | 179 | 368 | 1884 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 244 | 322 | 285 | 172 | 3 | 343 | 177 | 1572 | 179 | 368 | 1884 | 47 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 239 | 481 | 407 | 195 | 433 | 367 | 192 | 1658 | 515 | 359 | 2138 | 664 |
| Arrive On Green | 0.13 | 0.26 | 0.26 | 0.11 | 0.23 | 0.23 | 0.11 | 0.32 | 0.32 | 0.20 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 |
| Grp Volume(v), veh/h | 244 | 322 | 285 | 172 | 3 | 343 | 177 | 1572 | 179 | 368 | 1884 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 |
| Q Serve(g_s), s | 20.0 | 23.0 | 24.2 | 14.2 | 0.2 | 31.6 | 14.6 | 44.7 | 12.8 | 30.0 | 50.6 | 2.6 |
| Cycle Q Clear(g_c), s | 20.0 | 23.0 | 24.2 | 14.2 | 0.2 | 31.6 | 14.6 | 44.7 | 12.8 | 30.0 | 50.6 | 2.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 481 | 407 | 195 | 433 | 367 | 192 | 1658 | 515 | 359 | 2138 | 664 |
| V/C Ratio(X) | 1.02 | 0.67 | 0.70 | 0.88 | 0.01 | 0.93 | 0.92 | 0.95 | 0.35 | 1.02 | 0.88 | 0.07 |
| Avail Cap(c_a), veh/h | 239 | 481 | 407 | 216 | 449 | 380 | 192 | 1658 | 515 | 359 | 2138 | 664 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 64.4 | 49.6 | 50.1 | 65.3 | 44.0 | 56.0 | 65.8 | 49.0 | 38.2 | 59.4 | 39.8 | 25.9 |
| Incr Delay (d2), s/veh | 63.1 | 3.6 | 5.3 | 30.5 | 0.0 | 29.5 | 44.0 | 12.0 | 0.4 | 53.9 | 4.7 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 18.3 | 11.3 | 10.3 | 8.1 | 0.1 | 15.6 | 9.0 | 20.8 | 5.1 | 18.9 | 21.9 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 127.5 | 53.2 | 55.3 | 95.8 | 44.0 | 85.5 | 109.8 | 61.1 | 38.6 | 113.3 | 44.5 | 25.9 |
| LnGrp LOS | F | D | E | F | D | F | F | E | D | F | D | C |
| Approach Vol, veh/h | | 851 | | | 518 | | | 1928 | | | 2299 | |
| Approach Delay, s/veh | | 75.2 | | | 88.7 | | | 63.4 | | | 55.1 | |
| Approach LOS | | E | | | F | | | E | | | E | |

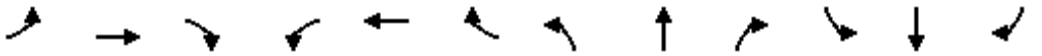
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 34.0 | 52.3 | 20.2 | 42.2 | 20.0 | 66.3 | 24.0 | 38.5 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 30.0 | 46.5 | 18.0 | * 37 | 16.0 | 60.5 | 20.0 | * 35 |
| Max Q Clear Time (g_c+I2), s | 32.0 | 46.7 | 16.2 | 26.2 | 16.6 | 52.6 | 22.0 | 33.6 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.1 | 2.3 | 0.0 | 6.6 | 0.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 64.1 |
| HCM 6th LOS | E |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

**G. Cumulative Plus Project Conditions Synchro Outputs**



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1446 | 381 | 919 | 1 | 470 | 0 | 0 | 1105 | 700 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1446 | 381 | 919 | 1 | 470 | 0 | 0 | 1105 | 700 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 1332 | 541 | 0 | 1 | 470 | 0 | 0 | 1105 | 0 |
| Peak Hour Factor | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 1579 | 791 | | 75 | 954 | 0 | 0 | 1762 | |
| Arrive On Green | | | | 0.49 | 0.47 | 0.00 | 0.31 | 0.31 | 0.00 | 0.00 | 0.31 | 0.00 |
| Sat Flow, veh/h | | | | 3196 | 1678 | 2844 | 1 | 3200 | 0 | 0 | 6006 | 1422 |
| Grp Volume(v), veh/h | | | | 1332 | 541 | 0 | 253 | 218 | 0 | 0 | 1105 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 1678 | 1422 | 1675 | 1450 | 0 | 0 | 1443 | 1422 |
| Q Serve(g_s), s | | | | 17.5 | 12.2 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 8.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 17.5 | 12.2 | 0.0 | 6.0 | 6.0 | 0.0 | 0.0 | 8.0 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 1579 | 791 | | 586 | 443 | 0 | 0 | 1762 | |
| V/C Ratio(X) | | | | 0.84 | 0.68 | | 0.43 | 0.49 | 0.00 | 0.00 | 0.63 | |
| Avail Cap(c_a), veh/h | | | | 1717 | 863 | | 1599 | 1328 | 0 | 0 | 2779 | |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 10.6 | 10.0 | 0.0 | 13.7 | 13.7 | 0.0 | 0.0 | 14.4 | 0.0 |
| Incr Delay (d2), s/veh | | | | 3.6 | 1.7 | 0.0 | 0.2 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 5.2 | 3.7 | 0.0 | 2.0 | 1.7 | 0.0 | 0.0 | 2.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 14.2 | 11.7 | 0.0 | 13.9 | 14.1 | 0.0 | 0.0 | 14.6 | 0.0 |
| LnGrp LOS | | | | B | B | | B | B | A | A | B | |
| Approach Vol, veh/h | | | | | 1873 | A | | 471 | | | 1105 | A |
| Approach Delay, s/veh | | | | | 13.5 | | | 14.0 | | | 14.6 | |
| Approach LOS | | | | | B | | | B | | | B | |

| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 20.5 | | | | 20.5 | | 27.9 | | | | |
| Change Period (Y+Rc), s | | 5.7 | | | | 5.7 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 44.3 | | | | 23.3 | | 24.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.0 | | | | 10.0 | | 19.5 | | | | |
| Green Ext Time (p_c), s | | 1.9 | | | | 4.8 | | 3.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.9 | |
| HCM 6th LOS | B | |

**Notes**

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 126 | 0 | 222 | 0 | 0 | 0 | 0 | 395 | 984 | 0 | 1649 | 0 |
| Future Volume (veh/h) | 126 | 0 | 222 | 0 | 0 | 0 | 0 | 395 | 984 | 0 | 1649 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 0 | 1678 | 0 |
| Adj Flow Rate, veh/h | 84 | 0 | 267 | | | | 0 | 395 | 984 | 0 | 1649 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 0 | 15 | 0 |
| Cap, veh/h | 194 | 0 | 346 | | | | 0 | 3301 | 1803 | 0 | 3301 | 0 |
| Arrive On Green | 0.12 | 0.00 | 0.12 | | | | 0.00 | 0.72 | 0.72 | 0.00 | 0.72 | 0.00 |
| Sat Flow, veh/h | 1598 | 0 | 2844 | | | | 0 | 4731 | 2502 | 0 | 4882 | 0 |
| Grp Volume(v), veh/h | 84 | 0 | 267 | | | | 0 | 395 | 984 | 0 | 1649 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 0 | 1422 | | | | 0 | 1527 | 1251 | 0 | 1527 | 0 |
| Q Serve(g_s), s | 3.3 | 0.0 | 6.2 | | | | 0.0 | 1.8 | 12.4 | 0.0 | 10.8 | 0.0 |
| Cycle Q Clear(g_c), s | 3.3 | 0.0 | 6.2 | | | | 0.0 | 1.8 | 12.4 | 0.0 | 10.8 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 194 | 0 | 346 | | | | 0 | 3301 | 1803 | 0 | 3301 | 0 |
| V/C Ratio(X) | 0.43 | 0.00 | 0.77 | | | | 0.00 | 0.12 | 0.55 | 0.00 | 0.50 | 0.00 |
| Avail Cap(c_a), veh/h | 465 | 0 | 827 | | | | 0 | 3301 | 1803 | 0 | 3301 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 27.9 | 0.0 | 29.1 | | | | 0.0 | 2.9 | 4.4 | 0.0 | 4.2 | 0.0 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 1.4 | | | | 0.0 | 0.1 | 1.2 | 0.0 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 2.1 | | | | 0.0 | 0.4 | 2.3 | 0.0 | 2.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 28.4 | 0.0 | 30.5 | | | | 0.0 | 3.0 | 5.6 | 0.0 | 4.7 | 0.0 |
| LnGrp LOS | C | A | C | | | | A | A | A | A | A | A |
| Approach Vol, veh/h | | 351 | | | | | | 1379 | | | 1649 | |
| Approach Delay, s/veh | | 30.0 | | | | | | 4.8 | | | 4.7 | |
| Approach LOS | | C | | | | | | A | | | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 55.0 | 13.4 | 55.0 |
| Change Period (Y+Rc), s | 5.7 | 5.1 | 5.7 |
| Max Green Setting (Gmax), s | 49.3 | 19.9 | 49.3 |
| Max Q Clear Time (g_c+I1), s | 14.4 | 8.2 | 12.8 |
| Green Ext Time (p_c), s | 5.0 | 0.1 | 11.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.4 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 33 | 25 | 257 | 880 | 85 | 305 | 77 | 322 | 464 | 319 | 1092 | 31 |
| Future Volume (veh/h) | 33 | 25 | 257 | 880 | 85 | 305 | 77 | 322 | 464 | 319 | 1092 | 31 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1870 | 1870 | 1678 | 1678 | 1870 | 1870 | 1870 | 1678 | 1870 | 1678 |
| Adj Flow Rate, veh/h | 33 | 25 | 257 | 880 | 85 | 305 | 77 | 322 | 464 | 319 | 1092 | 31 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 2 | 2 | 15 | 15 | 2 | 2 | 2 | 15 | 2 | 15 |
| Cap, veh/h | 107 | 200 | 189 | 949 | 548 | 464 | 113 | 1176 | 923 | 208 | 1189 | 476 |
| Arrive On Green | 0.07 | 0.12 | 0.12 | 0.27 | 0.33 | 0.33 | 0.06 | 0.33 | 0.33 | 0.07 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1598 | 1678 | 1585 | 3456 | 1678 | 1419 | 1781 | 3554 | 2790 | 3100 | 3554 | 1422 |
| Grp Volume(v), veh/h | 33 | 25 | 257 | 880 | 85 | 305 | 77 | 322 | 464 | 319 | 1092 | 31 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1585 | 1728 | 1678 | 1419 | 1781 | 1777 | 1395 | 1550 | 1777 | 1422 |
| Q Serve(g_s), s | 2.6 | 1.8 | 16.0 | 33.3 | 4.8 | 24.8 | 5.7 | 9.0 | 17.9 | 9.0 | 39.7 | 2.0 |
| Cycle Q Clear(g_c), s | 2.6 | 1.8 | 16.0 | 33.3 | 4.8 | 24.8 | 5.7 | 9.0 | 17.9 | 9.0 | 39.7 | 2.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 107 | 200 | 189 | 949 | 548 | 464 | 113 | 1176 | 923 | 208 | 1189 | 476 |
| V/C Ratio(X) | 0.31 | 0.13 | 1.36 | 0.93 | 0.16 | 0.66 | 0.68 | 0.27 | 0.50 | 1.54 | 0.92 | 0.07 |
| Avail Cap(c_a), veh/h | 107 | 200 | 189 | 1029 | 587 | 496 | 119 | 1243 | 976 | 208 | 1243 | 497 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 59.7 | 52.9 | 59.2 | 47.4 | 32.1 | 38.8 | 61.6 | 33.1 | 36.1 | 62.7 | 42.9 | 30.4 |
| Incr Delay (d2), s/veh | 1.6 | 0.3 | 192.9 | 13.3 | 0.1 | 2.9 | 14.0 | 0.1 | 0.4 | 264.0 | 10.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.8 | 16.4 | 15.6 | 1.9 | 8.7 | 3.0 | 3.9 | 6.0 | 11.2 | 19.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 61.3 | 53.2 | 252.1 | 60.7 | 32.2 | 41.7 | 75.6 | 33.2 | 36.5 | 326.7 | 53.6 | 30.5 |
| LnGrp LOS | E | D | F | E | C | D | E | C | D | F | D | C |
| Approach Vol, veh/h | | 315 | | | 1270 | | | 863 | | | 1442 | |
| Approach Delay, s/veh | | 216.3 | | | 54.2 | | | 38.8 | | | 113.5 | |
| Approach LOS | | F | | | D | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 51.5 | 43.9 | 23.0 | 15.5 | 52.0 | 16.0 | 50.9 |
| Change Period (Y+Rc), s | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Max Green Setting (Gmax), s | 9.0 | 47.0 | 40.0 | 16.0 | 9.0 | 47.0 | 9.0 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 19.9 | 35.3 | 18.0 | 7.7 | 41.7 | 4.6 | 26.8 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 1.6 | 0.0 | 0.0 | 3.3 | 0.0 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 85.9 |
| HCM 6th LOS | F |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 213 | 252 | 33 | 20 | 450 | 346 | 163 | 176 | 98 | 136 | 68 | 269 |
| Future Volume (veh/h) | 213 | 252 | 33 | 20 | 450 | 346 | 163 | 176 | 98 | 136 | 68 | 269 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 213 | 252 | 33 | 20 | 450 | 346 | 163 | 176 | 98 | 136 | 68 | 269 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 224 | 313 | 265 | 368 | 501 | 425 | 194 | 466 | 247 | 165 | 341 | 304 |
| Arrive On Green | 0.14 | 0.19 | 0.19 | 0.23 | 0.30 | 0.30 | 0.12 | 0.23 | 0.23 | 0.10 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 2012 | 1068 | 1598 | 1594 | 1422 |
| Grp Volume(v), veh/h | 213 | 252 | 33 | 20 | 450 | 346 | 163 | 138 | 136 | 136 | 68 | 269 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 1594 | 1486 | 1598 | 1594 | 1422 |
| Q Serve(g_s), s | 10.8 | 11.8 | 1.1 | 0.8 | 21.1 | 18.5 | 8.2 | 5.9 | 6.4 | 6.8 | 2.9 | 15.0 |
| Cycle Q Clear(g_c), s | 10.8 | 11.8 | 1.1 | 0.8 | 21.1 | 18.5 | 8.2 | 5.9 | 6.4 | 6.8 | 2.9 | 15.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.72 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 224 | 313 | 265 | 368 | 501 | 425 | 194 | 369 | 344 | 165 | 341 | 304 |
| V/C Ratio(X) | 0.95 | 0.80 | 0.12 | 0.05 | 0.90 | 0.81 | 0.84 | 0.37 | 0.40 | 0.82 | 0.20 | 0.89 |
| Avail Cap(c_a), veh/h | 224 | 526 | 446 | 368 | 526 | 446 | 205 | 369 | 344 | 205 | 366 | 326 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.9 | 31.9 | 14.6 | 24.6 | 27.5 | 26.6 | 35.2 | 26.5 | 26.6 | 36.0 | 26.4 | 31.2 |
| Incr Delay (d2), s/veh | 45.9 | 6.8 | 0.3 | 0.1 | 18.1 | 11.3 | 24.7 | 0.9 | 1.1 | 19.2 | 0.4 | 23.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.8 | 5.0 | 0.5 | 0.3 | 10.1 | 7.3 | 4.4 | 2.3 | 2.3 | 3.5 | 1.1 | 7.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 80.8 | 38.6 | 14.9 | 24.6 | 45.6 | 37.9 | 59.9 | 27.4 | 27.7 | 55.1 | 26.9 | 55.0 |
| LnGrp LOS | F | D | B | C | D | D | E | C | C | E | C | D |
| Approach Vol, veh/h | | 498 | | | 816 | | | 437 | | | 473 | |
| Approach Delay, s/veh | | 55.1 | | | 41.9 | | | 39.6 | | | 51.0 | |
| Approach LOS | | E | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 24.7 | 21.1 | 12.5 | 23.7 | 15.5 | 30.3 | 13.9 | 22.2 |
| Change Period (Y+Rc), s | 5.8 | * 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 14.5 | * 26 | 10.5 | * 19 | 11.5 | 25.7 | 10.5 | * 19 |
| Max Q Clear Time (g_c+I2), s | 12.8 | 13.8 | 8.8 | 8.4 | 12.8 | 23.1 | 10.2 | 17.0 |
| Green Ext Time (p_c), s | 0.0 | 1.5 | 0.1 | 1.5 | 0.0 | 1.4 | 0.0 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.3 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 21 | 420 | 46 | 145 | 781 | 66 | 7 | 0 | 4 | 15 | 0 | 28 |
| Future Volume (veh/h) | 21 | 420 | 46 | 145 | 781 | 66 | 7 | 0 | 4 | 15 | 0 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1752 | 1870 | 1870 | 1752 | 1752 | 1870 | 1870 | 1870 | 1752 | 1870 | 1752 |
| Adj Flow Rate, veh/h | 21 | 420 | 50 | 158 | 781 | 66 | 8 | 0 | 4 | 15 | 0 | 28 |
| Peak Hour Factor | 1.00 | 1.00 | 0.92 | 0.92 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 | 1.00 | 0.92 | 1.00 |
| Percent Heavy Veh, % | 10 | 10 | 2 | 2 | 10 | 10 | 2 | 2 | 2 | 10 | 2 | 10 |
| Cap, veh/h | 39 | 1877 | 894 | 120 | 2045 | 912 | 15 | 0 | 117 | 83 | 0 | 183 |
| Arrive On Green | 0.02 | 0.56 | 0.56 | 0.07 | 0.61 | 0.61 | 0.01 | 0.00 | 0.07 | 0.05 | 0.00 | 0.12 |
| Sat Flow, veh/h | 1668 | 3328 | 1585 | 1781 | 3328 | 1485 | 1781 | 0 | 1585 | 1668 | 0 | 1585 |
| Grp Volume(v), veh/h | 21 | 420 | 50 | 158 | 781 | 66 | 8 | 0 | 4 | 15 | 0 | 28 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1664 | 1585 | 1781 | 1664 | 1485 | 1781 | 0 | 1585 | 1668 | 0 | 1585 |
| Q Serve(g_s), s | 1.0 | 5.0 | 1.1 | 5.4 | 9.5 | 1.4 | 0.4 | 0.0 | 0.2 | 0.7 | 0.0 | 1.3 |
| Cycle Q Clear(g_c), s | 1.0 | 5.0 | 1.1 | 5.4 | 9.5 | 1.4 | 0.4 | 0.0 | 0.2 | 0.7 | 0.0 | 1.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 39 | 1877 | 894 | 120 | 2045 | 912 | 15 | 0 | 117 | 83 | 0 | 183 |
| V/C Ratio(X) | 0.54 | 0.22 | 0.06 | 1.31 | 0.38 | 0.07 | 0.55 | 0.00 | 0.03 | 0.18 | 0.00 | 0.15 |
| Avail Cap(c_a), veh/h | 104 | 1877 | 894 | 120 | 2045 | 912 | 89 | 0 | 476 | 83 | 0 | 476 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.6 | 8.7 | 7.9 | 37.3 | 7.8 | 6.2 | 39.5 | 0.0 | 34.4 | 36.4 | 0.0 | 31.9 |
| Incr Delay (d2), s/veh | 11.1 | 0.3 | 0.1 | 188.3 | 0.5 | 0.2 | 28.8 | 0.0 | 0.1 | 4.7 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 1.5 | 0.4 | 8.5 | 2.7 | 0.4 | 0.3 | 0.0 | 0.1 | 0.4 | 0.0 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.8 | 9.0 | 8.0 | 225.6 | 8.3 | 6.4 | 68.4 | 0.0 | 34.5 | 41.1 | 0.0 | 32.2 |
| LnGrp LOS | D | A | A | F | A | A | E | A | C | D | A | C |
| Approach Vol, veh/h | | 491 | | | 1005 | | | 12 | | | 43 | |
| Approach Delay, s/veh | | 10.6 | | | 42.4 | | | 57.1 | | | 35.3 | |
| Approach LOS | | B | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 51.6 | 8.0 | 10.5 | 5.9 | 55.6 | 4.7 | 13.8 |
| Change Period (Y+Rc), s | 4.5 | 6.5 | 4.0 | 4.6 | 4.0 | 6.5 | 4.0 | 4.6 |
| Max Green Setting (Gmax), s | 5.4 | 27.0 | 4.0 | 24.0 | 5.0 | 27.9 | 4.0 | 24.0 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 7.0 | 2.7 | 2.2 | 3.0 | 11.5 | 2.4 | 3.3 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 4.7 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.2 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 370 | 69 | 0 | 992 | 0 | 7 |
| Future Vol, veh/h | 370 | 69 | 0 | 992 | 0 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 402 | 75 | 0 | 1078 | 0 | 8 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | - | - | - | 239 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 0 | 762 |
| Stage 1 | - | - | 0 | - | 0 | - |
| Stage 2 | - | - | 0 | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 762 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 9.8 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|---|---|---|---|---|
| Capacity (veh/h) | 762 | - | - | - |
| HCM Lane V/C Ratio | 0.01 | - | - | - |
| HCM Control Delay (s) | 9.8 | - | - | - |
| HCM Lane LOS | A | - | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 260 | 117 | 0 | 986 | 6 | 0 |
| Future Volume (veh/h) | 260 | 117 | 0 | 986 | 6 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 283 | 127 | 0 | 1072 | 127 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2149 | 959 | 4 | 2149 | 9999 | 9999 |
| Arrive On Green | 0.60 | 0.60 | 0.00 | 0.60 | 0.17 | 0.17 |
| Sat Flow, veh/h | 3647 | 1585 | 1781 | 1863 | 5068 | 4462 |
| Grp Volume(v), veh/h | 283 | 127 | 0 | 1072 | 127 | 1 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1585 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 1.6 | 1.6 | 0.0 | 8.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.6 | 1.6 | 0.0 | 8.0 | 0.0 | 0.0 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 2149 | 959 | 4 | 2149 | 9999 | 9036 |
| V/C Ratio(X) | 0.13 | 0.13 | 0.00 | 0.50 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 2149 | 959 | 151 | 2149 | 9999 | 9036 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.0 | 4.0 | 0.0 | 5.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.3 | 0.0 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.4 | 0.0 | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 4.3 | 0.0 | 5.5 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A |
| Approach Vol, veh/h | 410 | | | 1072 | 128 | |
| Approach Delay, s/veh | 4.2 | | | 5.5 | 0.0 | |
| Approach LOS | A | | | A | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 35.0 | | 12.1 | | 35.0 |
| Change Period (Y+Rc), s | 4.0 | 6.5 | | 4.0 | | 6.5 |
| Max Green Setting (Gmax), s | 4.0 | 28.5 | | 18.0 | | 36.5 |
| Max Q Clear Time (g_c+I1), s | 0.0 | 3.6 | | 2.0 | | 10.0 |
| Green Ext Time (p_c), s | 0.0 | 2.3 | | 0.3 | | 7.9 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 4.7 | |
| HCM 6th LOS | | A | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 84 | 159 | 93 | 80 | 994 | 22 | 38 | 32 | 10 | 87 | 1 | 129 |
| Future Volume (veh/h) | 84 | 159 | 93 | 80 | 994 | 22 | 38 | 32 | 10 | 87 | 1 | 129 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 84 | 159 | 93 | 80 | 994 | 22 | 38 | 32 | 10 | 87 | 1 | 129 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 105 | 617 | 361 | 100 | 1000 | 22 | 57 | 371 | 165 | 109 | 474 | 212 |
| Arrive On Green | 0.06 | 0.56 | 0.56 | 0.06 | 0.55 | 0.55 | 0.03 | 0.11 | 0.11 | 0.07 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1668 | 1107 | 647 | 1668 | 1823 | 40 | 1668 | 3328 | 1485 | 1668 | 3328 | 1485 |
| Grp Volume(v), veh/h | 84 | 0 | 252 | 80 | 0 | 1016 | 38 | 32 | 10 | 87 | 1 | 129 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 0 | 1754 | 1668 | 0 | 1863 | 1668 | 1664 | 1485 | 1668 | 1664 | 1485 |
| Q Serve(g_s), s | 4.5 | 0.0 | 6.7 | 4.3 | 0.0 | 48.6 | 2.0 | 0.8 | 0.5 | 4.6 | 0.0 | 7.3 |
| Cycle Q Clear(g_c), s | 4.5 | 0.0 | 6.7 | 4.3 | 0.0 | 48.6 | 2.0 | 0.8 | 0.5 | 4.6 | 0.0 | 7.3 |
| Prop In Lane | 1.00 | | 0.37 | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 105 | 0 | 977 | 100 | 0 | 1022 | 57 | 371 | 165 | 109 | 474 | 212 |
| V/C Ratio(X) | 0.80 | 0.00 | 0.26 | 0.80 | 0.00 | 0.99 | 0.67 | 0.09 | 0.06 | 0.80 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | 108 | 0 | 978 | 102 | 0 | 1022 | 104 | 726 | 324 | 117 | 752 | 335 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.5 | 0.0 | 10.3 | 41.7 | 0.0 | 20.1 | 42.9 | 35.8 | 35.7 | 41.4 | 33.0 | 36.2 |
| Incr Delay (d2), s/veh | 32.6 | 0.0 | 0.1 | 33.9 | 0.0 | 26.5 | 12.7 | 0.1 | 0.2 | 29.6 | 0.0 | 2.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 0.0 | 2.4 | 2.7 | 0.0 | 26.3 | 1.0 | 0.3 | 0.2 | 2.8 | 0.0 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.1 | 0.0 | 10.4 | 75.6 | 0.0 | 46.6 | 55.6 | 35.9 | 35.9 | 71.0 | 33.0 | 39.0 |
| LnGrp LOS | E | A | B | E | A | D | E | D | D | E | C | D |
| Approach Vol, veh/h | | 336 | | | 1096 | | | 80 | | | 217 | |
| Approach Delay, s/veh | | 26.3 | | | 48.8 | | | 45.2 | | | 51.8 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 15.8 | 9.4 | 54.8 | 7.1 | 18.6 | 10.2 | 54.0 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.5 | * 4.7 |
| Max Green Setting (Gmax), s | 6.3 | 19.6 | 5.5 | * 50 | 5.6 | 20.3 | 5.8 | * 49 |
| Max Q Clear Time (g_c+I1), s | 6.6 | 2.8 | 6.3 | 8.7 | 4.0 | 9.3 | 6.5 | 50.6 |
| Green Ext Time (p_c), s | 0.0 | 0.1 | 0.0 | 1.7 | 0.0 | 0.3 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 44.6 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 84 | 176 | 502 | 1569 | 1154 | 369 |
| Future Volume (veh/h) | 84 | 176 | 502 | 1569 | 1154 | 369 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 84 | 176 | 502 | 1569 | 1154 | 369 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 267 | 237 | 560 | 3469 | 1532 | 476 |
| Arrive On Green | 0.15 | 0.15 | 0.31 | 0.68 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 5274 | 5274 | 1585 |
| Grp Volume(v), veh/h | 84 | 176 | 502 | 1569 | 1154 | 369 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1702 | 1702 | 1585 |
| Q Serve(g_s), s | 2.6 | 6.5 | 16.5 | 8.7 | 12.6 | 13.0 |
| Cycle Q Clear(g_c), s | 2.6 | 6.5 | 16.5 | 8.7 | 12.6 | 13.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 267 | 237 | 560 | 3469 | 1532 | 476 |
| V/C Ratio(X) | 0.31 | 0.74 | 0.90 | 0.45 | 0.75 | 0.78 |
| Avail Cap(c_a), veh/h | 899 | 800 | 667 | 4031 | 1787 | 555 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.3 | 25.0 | 20.1 | 4.6 | 19.4 | 19.6 |
| Incr Delay (d2), s/veh | 0.7 | 4.5 | 13.3 | 0.1 | 1.6 | 5.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.3 | 8.2 | 2.0 | 4.7 | 5.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 24.0 | 29.5 | 33.4 | 4.7 | 21.0 | 25.5 |
| LnGrp LOS | C | C | C | A | C | C |
| Approach Vol, veh/h | 260 | | | 2071 | 1523 | |
| Approach Delay, s/veh | 27.7 | | | 11.6 | 22.1 | |
| Approach LOS | C | | | B | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 47.5 | | 13.9 | 23.3 | 24.2 |
| Change Period (Y+Rc), s | | 5.8 | | * 4.7 | 4.0 | 5.8 |
| Max Green Setting (Gmax), s | | 48.5 | | * 31 | 23.0 | 21.5 |
| Max Q Clear Time (g_c+I1), s | | 10.7 | | 8.5 | 18.5 | 15.0 |
| Green Ext Time (p_c), s | | 16.5 | | 0.8 | 0.8 | 3.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 16.9 |
| HCM 6th LOS | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 74 | 313 | 2029 | 28 | 116 | 1220 |
| Future Volume (veh/h) | 74 | 313 | 2029 | 28 | 116 | 1220 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 74 | 313 | 2029 | 28 | 116 | 1220 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 413 | 368 | 2489 | 773 | 147 | 3190 |
| Arrive On Green | 0.23 | 0.23 | 0.49 | 0.49 | 0.08 | 0.62 |
| Sat Flow, veh/h | 1781 | 1585 | 5274 | 1585 | 1781 | 5274 |
| Grp Volume(v), veh/h | 74 | 313 | 2029 | 28 | 116 | 1220 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1702 | 1585 | 1781 | 1702 |
| Q Serve(g_s), s | 2.4 | 13.8 | 24.8 | 0.7 | 4.7 | 8.6 |
| Cycle Q Clear(g_c), s | 2.4 | 13.8 | 24.8 | 0.7 | 4.7 | 8.6 |
| Prop In Lane | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 413 | 368 | 2489 | 773 | 147 | 3190 |
| V/C Ratio(X) | 0.18 | 0.85 | 0.82 | 0.04 | 0.79 | 0.38 |
| Avail Cap(c_a), veh/h | 754 | 671 | 2614 | 811 | 170 | 3381 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.5 | 26.9 | 16.0 | 9.8 | 33.0 | 6.8 |
| Incr Delay (d2), s/veh | 0.2 | 5.6 | 2.0 | 0.0 | 18.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 5.5 | 8.9 | 0.2 | 2.7 | 2.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.7 | 32.5 | 18.0 | 9.8 | 51.9 | 6.9 |
| LnGrp LOS | C | C | B | A | D | A |
| Approach Vol, veh/h | 387 | | 2057 | | | 1336 |
| Approach Delay, s/veh | 30.6 | | 17.9 | | | 10.8 |
| Approach LOS | C | | B | | | B |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.1 | 41.5 | | | | 51.6 | 21.7 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | | | | 5.8 | 4.7 |
| Max Green Setting (Gmax), s | 7.0 | 37.5 | | | | 48.5 | 31.0 |
| Max Q Clear Time (g_c+I1), s | 6.7 | 26.8 | | | | 10.6 | 15.8 |
| Green Ext Time (p_c), s | 0.0 | 8.9 | | | | 11.5 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.7 |
| HCM 6th LOS | B |



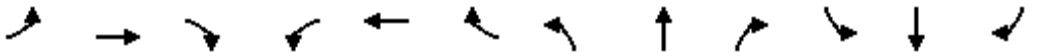
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 3 | 17 | 204 | 1 | 433 | 127 | 1713 | 20 | 251 | 1020 | 48 |
| Future Volume (veh/h) | 7 | 3 | 17 | 204 | 1 | 433 | 127 | 1713 | 20 | 251 | 1020 | 48 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 3 | 17 | 204 | 1 | 433 | 127 | 1713 | 20 | 251 | 1020 | 48 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 16 | 138 | 117 | 240 | 373 | 316 | 160 | 2124 | 659 | 287 | 2586 | 803 |
| Arrive On Green | 0.01 | 0.07 | 0.07 | 0.13 | 0.20 | 0.20 | 0.09 | 0.42 | 0.42 | 0.16 | 0.51 | 0.51 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 |
| Grp Volume(v), veh/h | 7 | 3 | 17 | 204 | 1 | 433 | 127 | 1713 | 20 | 251 | 1020 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 |
| Q Serve(g_s), s | 0.4 | 0.1 | 1.0 | 10.6 | 0.0 | 12.5 | 6.6 | 27.9 | 0.4 | 13.0 | 11.7 | 1.5 |
| Cycle Q Clear(g_c), s | 0.4 | 0.1 | 1.0 | 10.6 | 0.0 | 12.5 | 6.6 | 27.9 | 0.4 | 13.0 | 11.7 | 1.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 16 | 138 | 117 | 240 | 373 | 316 | 160 | 2124 | 659 | 287 | 2586 | 803 |
| V/C Ratio(X) | 0.44 | 0.02 | 0.15 | 0.85 | 0.00 | 1.37 | 0.79 | 0.81 | 0.03 | 0.87 | 0.39 | 0.06 |
| Avail Cap(c_a), veh/h | 104 | 692 | 586 | 282 | 879 | 745 | 329 | 2325 | 722 | 346 | 2586 | 803 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.7 | 40.6 | 41.0 | 40.0 | 30.3 | 16.5 | 42.2 | 24.3 | 5.7 | 38.8 | 14.4 | 11.9 |
| Incr Delay (d2), s/veh | 18.2 | 0.1 | 0.6 | 19.0 | 0.0 | 173.0 | 8.6 | 2.0 | 0.0 | 18.7 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.1 | 0.4 | 5.8 | 0.0 | 19.5 | 3.3 | 11.1 | 0.3 | 7.1 | 4.3 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.9 | 40.7 | 41.6 | 59.0 | 30.3 | 189.5 | 50.8 | 26.3 | 5.8 | 57.5 | 14.5 | 11.9 |
| LnGrp LOS | E | D | D | E | C | F | D | C | A | E | B | B |
| Approach Vol, veh/h | | 27 | | | 638 | | | 1860 | | | 1319 | |
| Approach Delay, s/veh | | 47.5 | | | 147.5 | | | 27.8 | | | 22.6 | |
| Approach LOS | | D | | | F | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 45.2 | 16.7 | 11.7 | 12.5 | 53.7 | 4.8 | 23.6 |
| Change Period (Y+Rc), s | 5.8 | * 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 10.4 | * 43 | 15.0 | * 35 | 17.5 | 44.0 | 5.5 | * 45 |
| Max Q Clear Time (g_c+I1), s | 15.0 | 29.9 | 12.6 | 3.0 | 8.6 | 13.7 | 2.4 | 14.5 |
| Green Ext Time (p_c), s | 0.2 | 9.5 | 0.1 | 0.0 | 0.2 | 8.8 | 0.0 | 1.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.0 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1023 | 9 | 1367 | 3 | 705 | 0 | 0 | 1458 | 88 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1023 | 9 | 1367 | 3 | 705 | 0 | 0 | 1458 | 88 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1678 | 1678 | 1678 | 1678 | 1678 | 0 | 0 | 1678 | 1678 |
| Adj Flow Rate, veh/h | | | | 1029 | 0 | 0 | 3 | 705 | 0 | 0 | 1458 | 0 |
| Peak Hour Factor | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | | | | 15 | 15 | 15 | 15 | 15 | 0 | 0 | 15 | 15 |
| Cap, veh/h | | | | 1597 | 0 | | 94 | 1300 | 0 | 0 | 2408 | |
| Arrive On Green | | | | 0.33 | 0.00 | 0.00 | 0.42 | 0.42 | 0.00 | 0.00 | 0.42 | 0.00 |
| Sat Flow, veh/h | | | | 4793 | 0 | 2844 | 3 | 3191 | 0 | 0 | 6006 | 1422 |
| Grp Volume(v), veh/h | | | | 1029 | 0 | 0 | 379 | 329 | 0 | 0 | 1458 | 0 |
| Grp Sat Flow(s),veh/h/ln | | | | 1598 | 0 | 1422 | 1667 | 1450 | 0 | 0 | 1443 | 1422 |
| Q Serve(g_s), s | | | | 7.1 | 0.0 | 0.0 | 0.0 | 6.7 | 0.0 | 0.0 | 7.7 | 0.0 |
| Cycle Q Clear(g_c), s | | | | 7.1 | 0.0 | 0.0 | 6.6 | 6.7 | 0.0 | 0.0 | 7.7 | 0.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.01 | | 0.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | | | | 1597 | 0 | | 789 | 605 | 0 | 0 | 2408 | |
| V/C Ratio(X) | | | | 0.64 | 0.00 | | 0.48 | 0.54 | 0.00 | 0.00 | 0.61 | |
| Avail Cap(c_a), veh/h | | | | 3205 | 0 | | 1962 | 1652 | 0 | 0 | 3458 | |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | | | | 11.0 | 0.0 | 0.0 | 8.5 | 8.5 | 0.0 | 0.0 | 8.8 | 0.0 |
| Incr Delay (d2), s/veh | | | | 0.3 | 0.0 | 0.0 | 0.2 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 1.9 | 0.0 | 0.0 | 1.7 | 1.5 | 0.0 | 0.0 | 1.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 11.3 | 0.0 | 0.0 | 8.7 | 8.8 | 0.0 | 0.0 | 8.9 | 0.0 |
| LnGrp LOS | | | | B | A | | A | A | A | A | A | |
| Approach Vol, veh/h | | | | | 1029 | A | | 708 | | | 1458 | A |
| Approach Delay, s/veh | | | | | 11.3 | | | 8.8 | | | 8.9 | |
| Approach LOS | | | | | B | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 21.9 | | | | 21.9 | | 17.0 | | | | |
| Change Period (Y+Rc), s | | 5.7 | | | | 5.7 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 44.3 | | | | 23.3 | | 24.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.7 | | | | 9.7 | | 9.1 | | | | |
| Green Ext Time (p_c), s | | 3.2 | | | | 6.6 | | 2.8 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.6 | |
| HCM 6th LOS | A | |

**Notes**

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 182 | 0 | 86 | 0 | 0 | 0 | 0 | 549 | 1951 | 0 | 1489 | 0 |
| Future Volume (veh/h) | 182 | 0 | 86 | 0 | 0 | 0 | 0 | 549 | 1951 | 0 | 1489 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | | | | 0 | 1678 | 1678 | 0 | 1678 | 0 |
| Adj Flow Rate, veh/h | 209 | 0 | 57 | | | | 0 | 549 | 1951 | 0 | 1489 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | | | | 0 | 15 | 15 | 0 | 15 | 0 |
| Cap, veh/h | 425 | 0 | 189 | | | | 0 | 3433 | 1875 | 0 | 3433 | 0 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | | | | 0.00 | 0.75 | 0.75 | 0.00 | 0.75 | 0.00 |
| Sat Flow, veh/h | 3196 | 0 | 1422 | | | | 0 | 4731 | 2502 | 0 | 4882 | 0 |
| Grp Volume(v), veh/h | 209 | 0 | 57 | | | | 0 | 549 | 1951 | 0 | 1489 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 0 | 1422 | | | | 0 | 1527 | 1251 | 0 | 1527 | 0 |
| Q Serve(g_s), s | 4.1 | 0.0 | 2.5 | | | | 0.0 | 2.3 | 51.0 | 0.0 | 8.2 | 0.0 |
| Cycle Q Clear(g_c), s | 4.1 | 0.0 | 2.5 | | | | 0.0 | 2.3 | 51.0 | 0.0 | 8.2 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 425 | 0 | 189 | | | | 0 | 3433 | 1875 | 0 | 3433 | 0 |
| V/C Ratio(X) | 0.49 | 0.00 | 0.30 | | | | 0.00 | 0.16 | 1.04 | 0.00 | 0.43 | 0.00 |
| Avail Cap(c_a), veh/h | 986 | 0 | 439 | | | | 0 | 3433 | 1875 | 0 | 3433 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 27.4 | 0.0 | 26.6 | | | | 0.0 | 2.4 | 8.5 | 0.0 | 3.2 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.3 | | | | 0.0 | 0.1 | 32.1 | 0.0 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.0 | 0.8 | | | | 0.0 | 0.4 | 15.3 | 0.0 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.7 | 0.0 | 27.0 | | | | 0.0 | 2.5 | 40.6 | 0.0 | 3.6 | 0.0 |
| LnGrp LOS | C | A | C | | | | A | A | F | A | A | A |
| Approach Vol, veh/h | | 266 | | | | | | 2500 | | | 1489 | |
| Approach Delay, s/veh | | 27.5 | | | | | | 32.3 | | | 3.6 | |
| Approach LOS | | C | | | | | | C | | | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 55.0 | 13.0 | 55.0 |
| Change Period (Y+Rc), s | 5.7 | 5.1 | 5.7 |
| Max Green Setting (Gmax), s | 49.3 | 19.9 | 49.3 |
| Max Q Clear Time (g_c+I1), s | 53.0 | 6.1 | 10.2 |
| Green Ext Time (p_c), s | 0.0 | 0.1 | 10.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.9 |
| HCM 6th LOS | C |

**Notes**

User approved volume balancing among the lanes for turning movement.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 52 | 50 | 94 | 777 | 41 | 333 | 141 | 974 | 598 | 251 | 1194 | 26 |
| Future Volume (veh/h) | 52 | 50 | 94 | 777 | 41 | 333 | 141 | 974 | 598 | 251 | 1194 | 26 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1870 | 1870 | 1678 | 1678 | 1870 | 1870 | 1870 | 1678 | 1870 | 1678 |
| Adj Flow Rate, veh/h | 52 | 50 | 94 | 777 | 41 | 333 | 141 | 974 | 598 | 251 | 1194 | 26 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 2 | 2 | 15 | 15 | 2 | 2 | 2 | 15 | 2 | 15 |
| Cap, veh/h | 113 | 124 | 163 | 940 | 461 | 390 | 178 | 1390 | 1092 | 310 | 1390 | 556 |
| Arrive On Green | 0.07 | 0.07 | 0.10 | 0.27 | 0.27 | 0.27 | 0.10 | 0.39 | 0.39 | 0.10 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1598 | 1678 | 1585 | 3456 | 1678 | 1419 | 1781 | 3554 | 2790 | 3100 | 3554 | 1422 |
| Grp Volume(v), veh/h | 52 | 50 | 94 | 777 | 41 | 333 | 141 | 974 | 598 | 251 | 1194 | 26 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1585 | 1728 | 1678 | 1419 | 1781 | 1777 | 1395 | 1550 | 1777 | 1422 |
| Q Serve(g_s), s | 3.7 | 3.4 | 6.8 | 25.3 | 2.2 | 26.6 | 9.3 | 27.5 | 19.9 | 9.5 | 36.9 | 1.4 |
| Cycle Q Clear(g_c), s | 3.7 | 3.4 | 6.8 | 25.3 | 2.2 | 26.6 | 9.3 | 27.5 | 19.9 | 9.5 | 36.9 | 1.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 113 | 124 | 163 | 940 | 461 | 390 | 178 | 1390 | 1092 | 310 | 1390 | 556 |
| V/C Ratio(X) | 0.46 | 0.40 | 0.58 | 0.83 | 0.09 | 0.85 | 0.79 | 0.70 | 0.55 | 0.81 | 0.86 | 0.05 |
| Avail Cap(c_a), veh/h | 113 | 245 | 278 | 1183 | 700 | 592 | 178 | 1483 | 1164 | 310 | 1483 | 593 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.4 | 53.0 | 51.2 | 41.0 | 32.3 | 41.2 | 52.7 | 30.6 | 28.3 | 52.8 | 33.4 | 22.6 |
| Incr Delay (d2), s/veh | 2.9 | 2.1 | 3.2 | 4.0 | 0.1 | 7.6 | 20.9 | 1.4 | 0.5 | 14.6 | 5.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 1.5 | 2.8 | 10.9 | 0.9 | 9.8 | 5.2 | 11.9 | 6.4 | 4.3 | 16.6 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.3 | 55.1 | 54.4 | 45.0 | 32.4 | 48.8 | 73.6 | 32.0 | 28.7 | 67.4 | 38.5 | 22.6 |
| LnGrp LOS | E | E | D | D | C | D | E | C | C | E | D | C |
| Approach Vol, veh/h | | 196 | | | 1151 | | | 1713 | | | 1471 | |
| Approach Delay, s/veh | | 55.1 | | | 45.6 | | | 34.3 | | | 43.1 | |
| Approach LOS | | E | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 50.9 | 36.6 | 16.3 | 16.0 | 50.9 | 16.0 | 36.9 |
| Change Period (Y+Rc), s | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Max Green Setting (Gmax), s | 9.0 | 47.0 | 38.0 | 18.0 | 9.0 | 47.0 | 9.0 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 11.5 | 29.5 | 27.3 | 8.8 | 11.3 | 38.9 | 5.7 | 28.6 |
| Green Ext Time (p_c), s | 0.0 | 9.2 | 2.3 | 0.3 | 0.0 | 5.0 | 0.0 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 40.9 |
| HCM 6th LOS | D |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 338 | 559 | 372 | 173 | 230 | 288 | 49 | 366 | 62 | 506 | 728 | 353 |
| Future Volume (veh/h) | 338 | 559 | 372 | 173 | 230 | 288 | 49 | 366 | 62 | 506 | 728 | 353 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 338 | 559 | 372 | 173 | 230 | 288 | 49 | 366 | 62 | 506 | 728 | 353 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 327 | 574 | 457 | 167 | 406 | 314 | 80 | 440 | 74 | 487 | 866 | 419 |
| Arrive On Green | 0.20 | 0.34 | 0.32 | 0.10 | 0.24 | 0.22 | 0.05 | 0.16 | 0.15 | 0.30 | 0.42 | 0.40 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 2731 | 458 | 1598 | 2082 | 1008 |
| Grp Volume(v), veh/h | 338 | 559 | 372 | 173 | 230 | 288 | 49 | 212 | 216 | 506 | 557 | 524 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 1594 | 1595 | 1598 | 1594 | 1496 |
| Q Serve(g_s), s | 24.5 | 39.4 | 28.8 | 12.5 | 14.4 | 23.7 | 3.6 | 15.4 | 15.7 | 36.5 | 37.6 | 37.8 |
| Cycle Q Clear(g_c), s | 24.5 | 39.4 | 28.8 | 12.5 | 14.4 | 23.7 | 3.6 | 15.4 | 15.7 | 36.5 | 37.6 | 37.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | 327 | 574 | 457 | 167 | 406 | 314 | 80 | 257 | 257 | 487 | 663 | 622 |
| V/C Ratio(X) | 1.03 | 0.97 | 0.81 | 1.04 | 0.57 | 0.92 | 0.61 | 0.83 | 0.84 | 1.04 | 0.84 | 0.84 |
| Avail Cap(c_a), veh/h | 327 | 574 | 457 | 167 | 406 | 314 | 87 | 259 | 260 | 487 | 663 | 622 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.7 | 38.9 | 37.4 | 53.7 | 39.9 | 45.6 | 55.8 | 48.6 | 49.0 | 41.7 | 31.4 | 32.0 |
| Incr Delay (d2), s/veh | 59.0 | 31.0 | 11.3 | 80.1 | 2.3 | 30.5 | 10.6 | 19.8 | 21.5 | 51.5 | 9.8 | 10.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.8 | 20.3 | 11.4 | 8.6 | 6.0 | 11.0 | 1.7 | 7.5 | 7.8 | 21.1 | 16.0 | 15.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 106.7 | 69.8 | 48.7 | 133.7 | 42.2 | 76.1 | 66.4 | 68.4 | 70.4 | 93.1 | 41.3 | 42.5 |
| LnGrp LOS | F | E | D | F | D | E | E | E | E | F | D | D |
| Approach Vol, veh/h | | 1269 | | | 691 | | | 477 | | | 1587 | |
| Approach Delay, s/veh | | 73.5 | | | 79.2 | | | 69.1 | | | 58.2 | |
| Approach LOS | | E | | | E | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 44.3 | 39.0 | 22.5 | 26.0 | 32.3 | 8.5 | 53.0 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 10.0 | 38.5 | 35.0 | * 18 | 22.0 | 26.5 | 5.0 | * 48 |
| Max Q Clear Time (g_c+I1), s | 14.5 | 41.4 | 38.5 | 17.7 | 26.5 | 25.7 | 5.6 | 39.8 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.0 | 5.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 67.9 |
| HCM 6th LOS | E |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 1058 | 2 | 9 | 509 | 57 | 24 | 0 | 13 | 67 | 0 | 100 |
| Future Volume (veh/h) | 50 | 1058 | 2 | 9 | 509 | 57 | 24 | 0 | 13 | 67 | 0 | 100 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1752 | 1870 | 1870 | 1752 | 1752 | 1870 | 1870 | 1870 | 1752 | 1870 | 1752 |
| Adj Flow Rate, veh/h | 54 | 1150 | 2 | 10 | 553 | 62 | 26 | 0 | 14 | 73 | 0 | 109 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 10 | 10 | 2 | 2 | 10 | 10 | 2 | 2 | 2 | 10 | 2 | 10 |
| Cap, veh/h | 83 | 1813 | 827 | 111 | 1896 | 846 | 39 | 0 | 191 | 98 | 0 | 235 |
| Arrive On Green | 0.05 | 0.54 | 0.52 | 0.06 | 0.57 | 0.57 | 0.02 | 0.00 | 0.12 | 0.06 | 0.00 | 0.16 |
| Sat Flow, veh/h | 1668 | 3328 | 1585 | 1781 | 3328 | 1485 | 1781 | 0 | 1585 | 1668 | 0 | 1585 |
| Grp Volume(v), veh/h | 54 | 1150 | 2 | 10 | 553 | 62 | 26 | 0 | 14 | 73 | 0 | 109 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1664 | 1585 | 1781 | 1664 | 1485 | 1781 | 0 | 1585 | 1668 | 0 | 1585 |
| Q Serve(g_s), s | 2.5 | 19.2 | 0.0 | 0.4 | 6.9 | 1.5 | 1.2 | 0.0 | 0.6 | 3.4 | 0.0 | 5.0 |
| Cycle Q Clear(g_c), s | 2.5 | 19.2 | 0.0 | 0.4 | 6.9 | 1.5 | 1.2 | 0.0 | 0.6 | 3.4 | 0.0 | 5.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 83 | 1813 | 827 | 111 | 1896 | 846 | 39 | 0 | 191 | 98 | 0 | 235 |
| V/C Ratio(X) | 0.65 | 0.63 | 0.00 | 0.09 | 0.29 | 0.07 | 0.67 | 0.00 | 0.07 | 0.74 | 0.00 | 0.46 |
| Avail Cap(c_a), veh/h | 115 | 1813 | 827 | 111 | 1896 | 846 | 89 | 0 | 476 | 98 | 0 | 477 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.3 | 12.7 | 9.1 | 35.4 | 8.9 | 7.7 | 38.8 | 0.0 | 31.2 | 37.1 | 0.0 | 30.8 |
| Incr Delay (d2), s/veh | 8.2 | 1.7 | 0.0 | 0.3 | 0.4 | 0.2 | 17.7 | 0.0 | 0.2 | 26.2 | 0.0 | 1.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 6.8 | 0.0 | 0.2 | 2.3 | 0.5 | 0.7 | 0.0 | 0.2 | 2.1 | 0.0 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 45.5 | 14.4 | 9.2 | 35.7 | 9.3 | 7.9 | 56.5 | 0.0 | 31.4 | 63.2 | 0.0 | 32.2 |
| LnGrp LOS | D | B | A | D | A | A | E | A | C | E | A | C |
| Approach Vol, veh/h | | 1206 | | | 625 | | | 40 | | | 182 | |
| Approach Delay, s/veh | | 15.8 | | | 9.6 | | | 47.7 | | | 44.7 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.5 | 48.3 | 8.0 | 14.2 | 7.5 | 50.3 | 5.8 | 16.5 |
| Change Period (Y+Rc), s | 4.5 | 6.5 | 4.0 | 4.6 | 4.0 | 6.5 | 4.0 | * 4.6 |
| Max Green Setting (Gmax), s | 5.0 | 27.4 | 4.0 | 24.0 | 5.0 | 27.9 | 4.0 | * 24 |
| Max Q Clear Time (g_c+I1), s | 2.4 | 21.2 | 5.4 | 2.6 | 4.5 | 8.9 | 3.2 | 7.0 |
| Green Ext Time (p_c), s | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 17.1 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 1134 | 4 | 0 | 575 | 0 | 19 |
| Future Vol, veh/h | 1134 | 4 | 0 | 575 | 0 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1233 | 4 | 0 | 625 | 0 | 21 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | - | - | - | 619 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 0 | 432 |
| Stage 1 | - | - | 0 | - | 0 | - |
| Stage 2 | - | - | 0 | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 432 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 13.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|---|---|---|---|---|
| Capacity (veh/h) | 432 | - | - | - |
| HCM Lane V/C Ratio | 0.048 | - | - | - |
| HCM Control Delay (s) | 13.8 | - | - | - |
| HCM Lane LOS | B | - | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1149 | 4 | 0 | 563 | 12 | 0 |
| Future Volume (veh/h) | 1149 | 4 | 0 | 563 | 12 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1249 | 4 | 0 | 612 | 4 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2193 | 978 | 6 | 2193 | 9999 | 9999 |
| Arrive On Green | 0.62 | 0.62 | 0.00 | 0.62 | 0.01 | 0.01 |
| Sat Flow, veh/h | 3647 | 1585 | 1781 | 1896 | 1781 | 1585 |
| Grp Volume(v), veh/h | 1249 | 4 | 0 | 612 | 4 | 1 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1585 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 5.9 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 5.9 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 2193 | 978 | 6 | 2193 | 9999 | 9999 |
| V/C Ratio(X) | 0.57 | 0.00 | 0.00 | 0.28 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 3561 | 1588 | 251 | 3561 | 16227 | 16227 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 3.2 | 2.1 | 0.0 | 2.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 3.4 | 2.1 | 0.0 | 2.6 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A |
| Approach Vol, veh/h | 1253 | | | 612 | 5 | |
| Approach Delay, s/veh | 3.4 | | | 2.6 | 0.0 | |
| Approach LOS | A | | | A | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 24.1 | | 4.4 | | 24.1 |
| Change Period (Y+Rc), s | 4.0 | 6.5 | | 4.0 | | 6.5 |
| Max Green Setting (Gmax), s | 4.0 | 28.5 | | 18.0 | | 36.5 |
| Max Q Clear Time (g_c+I1), s | 0.0 | 7.9 | | 2.0 | | 4.3 |
| Green Ext Time (p_c), s | 0.0 | 9.7 | | 0.0 | | 4.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 3.2 |
| HCM 6th LOS | | A |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 286 | 389 | 344 | 138 | 168 | 107 | 93 | 61 | 86 | 378 | 345 | 413 |
| Future Volume (veh/h) | 286 | 389 | 344 | 138 | 168 | 107 | 93 | 61 | 86 | 378 | 345 | 413 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 286 | 389 | 344 | 138 | 168 | 107 | 93 | 61 | 86 | 378 | 345 | 413 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 318 | 383 | 339 | 154 | 343 | 218 | 113 | 441 | 197 | 398 | 1009 | 450 |
| Arrive On Green | 0.19 | 0.42 | 0.41 | 0.09 | 0.32 | 0.32 | 0.07 | 0.13 | 0.13 | 0.24 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1668 | 915 | 809 | 1668 | 1068 | 680 | 1668 | 3328 | 1485 | 1668 | 3328 | 1485 |
| Grp Volume(v), veh/h | 286 | 0 | 733 | 138 | 0 | 275 | 93 | 61 | 86 | 378 | 345 | 413 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 0 | 1725 | 1668 | 0 | 1748 | 1668 | 1664 | 1485 | 1668 | 1664 | 1485 |
| Q Serve(g_s), s | 22.8 | 0.0 | 57.0 | 11.1 | 0.0 | 17.3 | 7.5 | 2.2 | 7.3 | 30.4 | 11.0 | 36.6 |
| Cycle Q Clear(g_c), s | 22.8 | 0.0 | 57.0 | 11.1 | 0.0 | 17.3 | 7.5 | 2.2 | 7.3 | 30.4 | 11.0 | 36.6 |
| Prop In Lane | 1.00 | | 0.47 | 1.00 | | 0.39 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 318 | 0 | 722 | 154 | 0 | 561 | 113 | 441 | 197 | 398 | 1009 | 450 |
| V/C Ratio(X) | 0.90 | 0.00 | 1.01 | 0.89 | 0.00 | 0.49 | 0.82 | 0.14 | 0.44 | 0.95 | 0.34 | 0.92 |
| Avail Cap(c_a), veh/h | 427 | 0 | 722 | 154 | 0 | 561 | 146 | 523 | 233 | 405 | 1039 | 464 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.8 | 0.0 | 39.7 | 61.1 | 0.0 | 37.3 | 62.6 | 52.2 | 54.4 | 51.0 | 36.9 | 45.8 |
| Incr Delay (d2), s/veh | 17.8 | 0.0 | 37.2 | 42.9 | 0.0 | 0.7 | 24.1 | 0.1 | 1.5 | 31.9 | 0.2 | 22.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 11.1 | 0.0 | 31.2 | 6.6 | 0.0 | 7.6 | 3.9 | 0.9 | 2.8 | 16.2 | 4.5 | 16.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 71.6 | 0.0 | 76.9 | 104.0 | 0.0 | 38.0 | 86.7 | 52.3 | 55.9 | 82.9 | 37.1 | 68.7 |
| LnGrp LOS | E | A | F | F | A | D | F | D | E | F | D | E |
| Approach Vol, veh/h | | 1019 | | | 413 | | | 240 | | | 1136 | |
| Approach Delay, s/veh | | 75.4 | | | 60.0 | | | 66.9 | | | 63.8 | |
| Approach LOS | | E | | | E | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 36.5 | 22.0 | 16.6 | 61.0 | 13.2 | 45.2 | 29.9 | 47.7 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.5 | * 4.7 |
| Max Green Setting (Gmax), s | 32.5 | 19.6 | 12.6 | * 56 | 11.9 | 40.7 | 34.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 32.4 | 9.3 | 13.1 | 59.0 | 9.5 | 38.6 | 24.8 | 19.3 |
| Green Ext Time (p_c), s | 0.1 | 0.4 | 0.0 | 0.0 | 0.0 | 0.9 | 0.6 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 67.7 |
| HCM 6th LOS | E |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 278 | 570 | 307 | 1615 | 1725 | 94 |
| Future Volume (veh/h) | 278 | 570 | 307 | 1615 | 1725 | 94 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 278 | 570 | 307 | 1615 | 1725 | 94 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 627 | 558 | 297 | 2854 | 1776 | 551 |
| Arrive On Green | 0.35 | 0.35 | 0.17 | 0.56 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 5274 | 5274 | 1585 |
| Grp Volume(v), veh/h | 278 | 570 | 307 | 1615 | 1725 | 94 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1702 | 1702 | 1585 |
| Q Serve(g_s), s | 10.8 | 31.7 | 15.0 | 18.4 | 29.9 | 3.7 |
| Cycle Q Clear(g_c), s | 10.8 | 31.7 | 15.0 | 18.4 | 29.9 | 3.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 627 | 558 | 297 | 2854 | 1776 | 551 |
| V/C Ratio(X) | 0.44 | 1.02 | 1.03 | 0.57 | 0.97 | 0.17 |
| Avail Cap(c_a), veh/h | 627 | 558 | 297 | 2854 | 1776 | 551 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.4 | 29.1 | 37.5 | 12.8 | 28.9 | 20.3 |
| Incr Delay (d2), s/veh | 0.5 | 43.5 | 61.3 | 0.3 | 15.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.5 | 29.7 | 11.4 | 6.5 | 14.1 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.9 | 72.6 | 98.8 | 13.1 | 44.0 | 20.5 |
| LnGrp LOS | C | F | F | B | D | C |
| Approach Vol, veh/h | 848 | | | 1922 | 1819 | |
| Approach Delay, s/veh | 56.3 | | | 26.8 | 42.8 | |
| Approach LOS | E | | | C | D | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 54.3 | | 35.7 | 19.0 | 35.3 |
| Change Period (Y+Rc), s | 5.8 | | * 4.7 | 4.0 | 5.8 |
| Max Green Setting (Gmax), s | 48.5 | | * 31 | 15.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 20.4 | | 33.7 | 17.0 | 31.9 |
| Green Ext Time (p_c), s | 14.9 | | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 38.6 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | WBL | WBR | NBT | NBR | SBL | SBT | | |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (veh/h) | 206 | 100 | 1919 | 302 | 300 | 1908 | | |
| Future Volume (veh/h) | 206 | 100 | 1919 | 302 | 300 | 1908 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | No | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 206 | 100 | 1919 | 302 | 300 | 1908 | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 280 | 250 | 2505 | 778 | 344 | 3761 | | |
| Arrive On Green | 0.16 | 0.16 | 0.49 | 0.49 | 0.19 | 0.74 | | |
| Sat Flow, veh/h | 1781 | 1585 | 5274 | 1585 | 1781 | 5274 | | |
| Grp Volume(v), veh/h | 206 | 100 | 1919 | 302 | 300 | 1908 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1702 | 1585 | 1781 | 1702 | | |
| Q Serve(g_s), s | 8.3 | 4.3 | 23.2 | 9.1 | 12.3 | 11.9 | | |
| Cycle Q Clear(g_c), s | 8.3 | 4.3 | 23.2 | 9.1 | 12.3 | 11.9 | | |
| Prop In Lane | 1.00 | 1.00 | | 1.00 | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 280 | 250 | 2505 | 778 | 344 | 3761 | | |
| V/C Ratio(X) | 0.73 | 0.40 | 0.77 | 0.39 | 0.87 | 0.51 | | |
| Avail Cap(c_a), veh/h | 748 | 666 | 2652 | 823 | 404 | 4079 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Uniform Delay (d), s/veh | 30.3 | 28.6 | 15.7 | 12.1 | 29.6 | 4.2 | | |
| Incr Delay (d2), s/veh | 3.7 | 1.0 | 1.3 | 0.3 | 16.6 | 0.1 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 3.7 | 1.6 | 8.3 | 3.0 | 6.7 | 2.7 | | |
| Unsig. Movement Delay, s/veh | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.0 | 29.6 | 17.0 | 12.4 | 46.2 | 4.3 | | |
| LnGrp LOS | C | C | B | B | D | A | | |
| Approach Vol, veh/h | 306 | | 2221 | | | 2208 | | |
| Approach Delay, s/veh | 32.6 | | 16.4 | | | 10.0 | | |
| Approach LOS | C | | B | | | A | | |
| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 | |
| Phs Duration (G+Y+Rc), s | 18.6 | 41.0 | | | | 59.6 | 15.9 | |
| Change Period (Y+Rc), s | 4.0 | 5.8 | | | | 5.8 | 4.7 | |
| Max Green Setting (Gmax), s | 17.1 | 37.4 | | | | 58.5 | 31.0 | |
| Max Q Clear Time (g_c+I1), s | 14.3 | 25.2 | | | | 13.9 | 10.3 | |
| Green Ext Time (p_c), s | 0.3 | 10.1 | | | | 23.7 | 0.9 | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.4 |
| HCM 6th LOS | B |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 244 | 322 | 285 | 172 | 3 | 344 | 177 | 1573 | 179 | 373 | 1887 | 47 |
| Future Volume (veh/h) | 244 | 322 | 285 | 172 | 3 | 344 | 177 | 1573 | 179 | 373 | 1887 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 244 | 322 | 285 | 172 | 3 | 344 | 177 | 1573 | 179 | 373 | 1887 | 47 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 239 | 481 | 408 | 194 | 434 | 368 | 191 | 1657 | 514 | 359 | 2137 | 663 |
| Arrive On Green | 0.13 | 0.26 | 0.26 | 0.11 | 0.23 | 0.23 | 0.11 | 0.32 | 0.32 | 0.20 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 |
| Grp Volume(v), veh/h | 244 | 322 | 285 | 172 | 3 | 344 | 177 | 1573 | 179 | 373 | 1887 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 |
| Q Serve(g_s), s | 20.0 | 23.0 | 24.2 | 14.2 | 0.2 | 31.7 | 14.7 | 44.8 | 12.8 | 30.0 | 50.7 | 2.6 |
| Cycle Q Clear(g_c), s | 20.0 | 23.0 | 24.2 | 14.2 | 0.2 | 31.7 | 14.7 | 44.8 | 12.8 | 30.0 | 50.7 | 2.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 481 | 408 | 194 | 434 | 368 | 191 | 1657 | 514 | 359 | 2137 | 663 |
| V/C Ratio(X) | 1.02 | 0.67 | 0.70 | 0.88 | 0.01 | 0.93 | 0.92 | 0.95 | 0.35 | 1.04 | 0.88 | 0.07 |
| Avail Cap(c_a), veh/h | 239 | 481 | 408 | 215 | 449 | 380 | 191 | 1657 | 514 | 359 | 2137 | 663 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 64.4 | 49.6 | 50.0 | 65.4 | 44.0 | 56.0 | 65.8 | 49.1 | 38.3 | 59.4 | 39.9 | 25.9 |
| Incr Delay (d2), s/veh | 63.3 | 3.5 | 5.2 | 30.5 | 0.0 | 29.6 | 44.1 | 12.2 | 0.4 | 58.0 | 4.8 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 18.3 | 11.3 | 10.3 | 8.1 | 0.1 | 15.7 | 9.0 | 20.9 | 5.1 | 19.3 | 22.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 127.8 | 53.1 | 55.2 | 95.9 | 44.0 | 85.7 | 110.0 | 61.3 | 38.7 | 117.4 | 44.7 | 26.0 |
| LnGrp LOS | F | D | E | F | D | F | F | E | D | F | D | C |
| Approach Vol, veh/h | | 851 | | | 519 | | | 1929 | | | 2307 | |
| Approach Delay, s/veh | | 75.2 | | | 88.8 | | | 63.7 | | | 56.1 | |
| Approach LOS | | E | | | F | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 34.0 | 52.3 | 20.3 | 42.3 | 20.0 | 66.3 | 24.0 | 38.6 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 30.0 | 46.5 | 18.0 | * 37 | 16.0 | 60.5 | 20.0 | * 35 |
| Max Q Clear Time (g_c+I1), s | 32.0 | 46.8 | 16.2 | 26.2 | 16.7 | 52.7 | 22.0 | 33.7 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.1 | 2.3 | 0.0 | 6.5 | 0.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 64.6 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

**H. Cumulative Plus Project (Mitigated) Conditions Synchro Outputs**

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 213 | 252 | 33 | 20 | 450 | 346 | 163 | 176 | 98 | 136 | 68 | 269 |
| Future Volume (veh/h) | 213 | 252 | 33 | 20 | 450 | 346 | 163 | 176 | 98 | 136 | 68 | 269 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 213 | 252 | 33 | 20 | 450 | 346 | 163 | 176 | 98 | 136 | 68 | 269 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 300 | 444 | 198 | 372 | 957 | 427 | 197 | 558 | 296 | 211 | 354 | 316 |
| Arrive On Green | 0.10 | 0.14 | 0.14 | 0.23 | 0.30 | 0.30 | 0.12 | 0.28 | 0.28 | 0.07 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3100 | 3188 | 1422 | 1598 | 3188 | 1422 | 1598 | 2012 | 1068 | 3100 | 1594 | 1422 |
| Grp Volume(v), veh/h | 213 | 252 | 33 | 20 | 450 | 346 | 163 | 138 | 136 | 136 | 68 | 269 |
| Grp Sat Flow(s),veh/h/ln | 1550 | 1594 | 1422 | 1598 | 1594 | 1422 | 1598 | 1594 | 1486 | 1550 | 1594 | 1422 |
| Q Serve(g_s), s | 4.8 | 5.3 | 1.1 | 0.7 | 8.3 | 16.2 | 7.2 | 4.9 | 5.2 | 3.1 | 2.5 | 13.0 |
| Cycle Q Clear(g_c), s | 4.8 | 5.3 | 1.1 | 0.7 | 8.3 | 16.2 | 7.2 | 4.9 | 5.2 | 3.1 | 2.5 | 13.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.72 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 300 | 444 | 198 | 372 | 957 | 427 | 197 | 442 | 412 | 211 | 354 | 316 |
| V/C Ratio(X) | 0.71 | 0.57 | 0.17 | 0.05 | 0.47 | 0.81 | 0.83 | 0.31 | 0.33 | 0.64 | 0.19 | 0.85 |
| Avail Cap(c_a), veh/h | 496 | 1140 | 509 | 372 | 1140 | 509 | 233 | 442 | 412 | 453 | 417 | 372 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.5 | 28.9 | 15.8 | 21.4 | 20.5 | 23.3 | 30.8 | 20.5 | 20.7 | 32.6 | 22.7 | 26.8 |
| Incr Delay (d2), s/veh | 3.1 | 1.6 | 0.6 | 0.1 | 0.5 | 9.1 | 18.6 | 0.6 | 0.7 | 3.3 | 0.4 | 16.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 2.0 | 0.5 | 0.2 | 2.8 | 6.1 | 3.7 | 1.8 | 1.8 | 1.2 | 0.9 | 5.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.5 | 30.5 | 16.4 | 21.5 | 21.0 | 32.4 | 49.4 | 21.1 | 21.3 | 35.9 | 23.1 | 43.0 |
| LnGrp LOS | C | C | B | C | C | C | D | C | C | D | C | D |
| Approach Vol, veh/h | | 498 | | | 816 | | | 437 | | | 473 | |
| Approach Delay, s/veh | | 31.3 | | | 25.8 | | | 31.7 | | | 38.1 | |
| Approach LOS | | C | | | C | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.5 | 15.8 | 8.9 | 24.6 | 11.0 | 27.4 | 12.9 | 20.7 |
| Change Period (Y+Rc), s | 5.8 | * 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 11.5 | * 26 | 10.5 | * 19 | 11.5 | 25.7 | 10.5 | * 19 |
| Max Q Clear Time (g_c+I1), s | 2.7 | 7.3 | 5.1 | 7.2 | 6.8 | 18.2 | 9.2 | 15.0 |
| Green Ext Time (p_c), s | 0.0 | 2.0 | 0.2 | 1.6 | 0.3 | 3.4 | 0.1 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 30.8 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 84 | 159 | 93 | 80 | 994 | 22 | 38 | 32 | 10 | 87 | 1 | 129 |
| Future Volume (veh/h) | 84 | 159 | 93 | 80 | 994 | 22 | 38 | 32 | 10 | 87 | 1 | 129 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 84 | 159 | 93 | 80 | 994 | 22 | 38 | 32 | 10 | 87 | 1 | 129 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 105 | 1084 | 860 | 96 | 1064 | 844 | 55 | 348 | 155 | 109 | 454 | 203 |
| Arrive On Green | 0.06 | 0.58 | 0.58 | 0.06 | 0.57 | 0.57 | 0.03 | 0.10 | 0.10 | 0.07 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1668 | 1870 | 1485 | 1668 | 1870 | 1485 | 1668 | 3328 | 1485 | 1668 | 3328 | 1485 |
| Grp Volume(v), veh/h | 84 | 159 | 93 | 80 | 994 | 22 | 38 | 32 | 10 | 87 | 1 | 129 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1870 | 1485 | 1668 | 1870 | 1485 | 1668 | 1664 | 1485 | 1668 | 1664 | 1485 |
| Q Serve(g_s), s | 4.8 | 3.7 | 2.7 | 4.5 | 46.8 | 0.6 | 2.2 | 0.8 | 0.6 | 4.9 | 0.0 | 7.9 |
| Cycle Q Clear(g_c), s | 4.8 | 3.7 | 2.7 | 4.5 | 46.8 | 0.6 | 2.2 | 0.8 | 0.6 | 4.9 | 0.0 | 7.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 105 | 1084 | 860 | 96 | 1064 | 844 | 55 | 348 | 155 | 109 | 454 | 203 |
| V/C Ratio(X) | 0.80 | 0.15 | 0.11 | 0.83 | 0.93 | 0.03 | 0.69 | 0.09 | 0.06 | 0.80 | 0.00 | 0.64 |
| Avail Cap(c_a), veh/h | 110 | 1184 | 940 | 96 | 1159 | 920 | 98 | 654 | 292 | 115 | 689 | 307 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.2 | 9.2 | 9.0 | 44.6 | 19.0 | 9.0 | 45.8 | 38.7 | 38.6 | 44.1 | 35.7 | 39.1 |
| Incr Delay (d2), s/veh | 31.8 | 0.1 | 0.1 | 44.0 | 13.0 | 0.0 | 13.9 | 0.1 | 0.2 | 30.6 | 0.0 | 3.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 1.5 | 0.8 | 3.0 | 22.0 | 0.2 | 1.1 | 0.3 | 0.2 | 2.9 | 0.0 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 76.0 | 9.3 | 9.1 | 88.6 | 32.0 | 9.0 | 59.7 | 38.9 | 38.8 | 74.7 | 35.7 | 42.4 |
| LnGrp LOS | E | A | A | F | C | A | E | D | D | E | D | D |
| Approach Vol, veh/h | | 336 | | | 1096 | | | 80 | | | 217 | |
| Approach Delay, s/veh | | 25.9 | | | 35.7 | | | 48.7 | | | 55.3 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 15.8 | 9.5 | 60.2 | 7.2 | 18.9 | 10.5 | 59.1 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.5 | * 4.7 |
| Max Green Setting (Gmax), s | 6.6 | 18.8 | 5.5 | * 61 | 5.6 | 19.8 | 6.3 | * 59 |
| Max Q Clear Time (g_c+I1), s | 6.9 | 2.8 | 6.5 | 5.7 | 4.2 | 9.9 | 6.8 | 48.8 |
| Green Ext Time (p_c), s | 0.0 | 0.1 | 0.0 | 1.3 | 0.0 | 0.2 | 0.0 | 5.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.8 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 3 | 17 | 204 | 1 | 433 | 127 | 1713 | 20 | 251 | 1020 | 48 |
| Future Volume (veh/h) | 7 | 3 | 17 | 204 | 1 | 433 | 127 | 1713 | 20 | 251 | 1020 | 48 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 3 | 17 | 204 | 1 | 433 | 127 | 1713 | 20 | 251 | 1020 | 48 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 16 | 22 | 122 | 245 | 406 | 344 | 161 | 2146 | 666 | 334 | 2295 | 712 |
| Arrive On Green | 0.01 | 0.09 | 0.09 | 0.14 | 0.22 | 0.22 | 0.09 | 0.42 | 0.42 | 0.10 | 0.45 | 0.45 |
| Sat Flow, veh/h | 1781 | 243 | 1379 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 7 | 0 | 20 | 204 | 1 | 433 | 127 | 1713 | 20 | 251 | 1020 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1622 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.9 | 8.8 | 0.0 | 12.1 | 5.5 | 23.1 | 0.3 | 5.6 | 10.9 | 1.4 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 0.9 | 8.8 | 0.0 | 12.1 | 5.5 | 23.1 | 0.3 | 5.6 | 10.9 | 1.4 |
| Prop In Lane | 1.00 | | 0.85 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 16 | 0 | 144 | 245 | 406 | 344 | 161 | 2146 | 666 | 334 | 2295 | 712 |
| V/C Ratio(X) | 0.44 | 0.00 | 0.14 | 0.83 | 0.00 | 1.26 | 0.79 | 0.80 | 0.03 | 0.75 | 0.44 | 0.07 |
| Avail Cap(c_a), veh/h | 124 | 0 | 718 | 270 | 982 | 832 | 255 | 2325 | 722 | 371 | 2295 | 712 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.0 | 0.0 | 33.3 | 33.2 | 24.2 | 15.5 | 35.2 | 20.0 | 4.0 | 34.8 | 15.0 | 12.4 |
| Incr Delay (d2), s/veh | 17.5 | 0.0 | 0.4 | 18.0 | 0.0 | 122.0 | 8.3 | 1.9 | 0.0 | 7.5 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.4 | 4.9 | 0.0 | 15.7 | 2.7 | 8.8 | 0.2 | 2.6 | 3.9 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.5 | 0.0 | 33.7 | 51.2 | 24.2 | 137.4 | 43.5 | 21.9 | 4.1 | 42.3 | 15.1 | 12.4 |
| LnGrp LOS | E | A | C | D | C | F | D | C | A | D | B | B |
| Approach Vol, veh/h | | 27 | | | 638 | | | 1860 | | | 1319 | |
| Approach Delay, s/veh | | 39.6 | | | 109.7 | | | 23.2 | | | 20.2 | |
| Approach LOS | | D | | | F | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.4 | 39.0 | 14.9 | 11.7 | 11.1 | 41.3 | 4.7 | 21.9 |
| Change Period (Y+Rc), s | 5.8 | * 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 8.5 | * 36 | 12.0 | * 35 | 11.3 | 33.2 | 5.5 | * 42 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 25.1 | 10.8 | 2.9 | 7.5 | 12.9 | 2.3 | 14.1 |
| Green Ext Time (p_c), s | 0.1 | 8.1 | 0.1 | 0.1 | 0.1 | 7.6 | 0.0 | 1.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.6 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 24 | 12 | 15 | 25 | 10 | 214 | 113 | 452 | 98 | 321 | 1127 | 91 |
| Future Volume (veh/h) | 24 | 12 | 15 | 25 | 10 | 214 | 113 | 452 | 98 | 321 | 1127 | 91 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 24 | 12 | 15 | 25 | 10 | 214 | 113 | 452 | 98 | 321 | 1127 | 91 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 44 | 316 | 268 | 89 | 317 | 269 | 141 | 1054 | 470 | 385 | 1680 | 522 |
| Arrive On Green | 0.03 | 0.19 | 0.19 | 0.03 | 0.19 | 0.19 | 0.09 | 0.33 | 0.33 | 0.12 | 0.37 | 0.37 |
| Sat Flow, veh/h | 1598 | 1678 | 1422 | 3100 | 1678 | 1422 | 1598 | 3188 | 1422 | 3100 | 4580 | 1422 |
| Grp Volume(v), veh/h | 24 | 12 | 15 | 25 | 10 | 214 | 113 | 452 | 98 | 321 | 1127 | 91 |
| Grp Sat Flow(s),veh/h/ln | 1598 | 1678 | 1422 | 1550 | 1678 | 1422 | 1598 | 1594 | 1422 | 1550 | 1527 | 1422 |
| Q Serve(g_s), s | 0.8 | 0.3 | 0.5 | 0.4 | 0.3 | 8.1 | 3.9 | 6.2 | 2.8 | 5.7 | 11.6 | 2.4 |
| Cycle Q Clear(g_c), s | 0.8 | 0.3 | 0.5 | 0.4 | 0.3 | 8.1 | 3.9 | 6.2 | 2.8 | 5.7 | 11.6 | 2.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 44 | 316 | 268 | 89 | 317 | 269 | 141 | 1054 | 470 | 385 | 1680 | 522 |
| V/C Ratio(X) | 0.54 | 0.04 | 0.06 | 0.28 | 0.03 | 0.80 | 0.80 | 0.43 | 0.21 | 0.83 | 0.67 | 0.17 |
| Avail Cap(c_a), veh/h | 170 | 893 | 757 | 275 | 863 | 731 | 255 | 1668 | 744 | 385 | 2234 | 694 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.0 | 18.7 | 18.8 | 26.8 | 18.6 | 21.8 | 25.2 | 14.7 | 13.6 | 24.1 | 15.0 | 12.1 |
| Incr Delay (d2), s/veh | 9.8 | 0.0 | 0.1 | 1.7 | 0.0 | 5.3 | 10.1 | 0.3 | 0.2 | 14.5 | 0.5 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.1 | 0.2 | 0.2 | 0.1 | 2.9 | 1.8 | 2.0 | 0.8 | 2.7 | 3.6 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.9 | 18.8 | 18.9 | 28.5 | 18.7 | 27.1 | 35.4 | 15.0 | 13.8 | 38.7 | 15.5 | 12.2 |
| LnGrp LOS | D | B | B | C | B | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 51 | | | 249 | | | 663 | | | 1539 | |
| Approach Delay, s/veh | | 27.3 | | | 26.9 | | | 18.3 | | | 20.1 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.0 | 26.5 | 5.6 | 15.3 | 11.0 | 24.4 | 5.6 | 15.4 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 5.0 | 27.5 | 5.0 | * 30 | 7.0 | 29.5 | 6.0 | * 29 |
| Max Q Clear Time (g_c+I1), s | 5.9 | 13.6 | 2.4 | 2.5 | 7.7 | 8.2 | 2.8 | 10.1 |
| Green Ext Time (p_c), s | 0.1 | 7.0 | 0.0 | 0.1 | 0.0 | 3.4 | 0.0 | 0.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.5 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 344 | 270 | 180 | 200 | 277 | 320 | 284 | 709 | 210 | 217 | 1139 | 405 |
| Future Volume (veh/h) | 344 | 270 | 180 | 200 | 277 | 320 | 284 | 709 | 210 | 217 | 1139 | 405 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 344 | 270 | 180 | 200 | 277 | 320 | 284 | 709 | 210 | 217 | 1139 | 405 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 350 | 721 | 465 | 258 | 416 | 352 | 286 | 1477 | 364 | 242 | 1317 | 324 |
| Arrive On Green | 0.21 | 0.37 | 0.37 | 0.08 | 0.24 | 0.24 | 0.17 | 0.25 | 0.25 | 0.14 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1668 | 1939 | 1252 | 3237 | 1752 | 1485 | 1668 | 6026 | 1485 | 1668 | 6026 | 1485 |
| Grp Volume(v), veh/h | 344 | 230 | 220 | 200 | 277 | 320 | 284 | 709 | 210 | 217 | 1139 | 405 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1664 | 1527 | 1618 | 1752 | 1485 | 1668 | 1507 | 1485 | 1668 | 1507 | 1485 |
| Q Serve(g_s), s | 23.9 | 11.8 | 12.3 | 7.1 | 16.7 | 24.5 | 19.8 | 11.7 | 14.5 | 14.9 | 21.3 | 25.5 |
| Cycle Q Clear(g_c), s | 23.9 | 11.8 | 12.3 | 7.1 | 16.7 | 24.5 | 19.8 | 11.7 | 14.5 | 14.9 | 21.3 | 25.5 |
| Prop In Lane | 1.00 | | 0.82 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 350 | 619 | 568 | 258 | 416 | 352 | 286 | 1477 | 364 | 242 | 1317 | 324 |
| V/C Ratio(X) | 0.98 | 0.37 | 0.39 | 0.78 | 0.67 | 0.91 | 0.99 | 0.48 | 0.58 | 0.90 | 0.86 | 1.25 |
| Avail Cap(c_a), veh/h | 350 | 619 | 568 | 369 | 465 | 394 | 286 | 1477 | 364 | 242 | 1317 | 324 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.9 | 26.7 | 26.9 | 52.7 | 40.3 | 43.3 | 48.3 | 37.7 | 38.7 | 49.1 | 43.9 | 45.6 |
| Incr Delay (d2), s/veh | 43.1 | 0.4 | 0.4 | 6.4 | 3.1 | 22.9 | 51.3 | 0.2 | 2.2 | 32.4 | 6.3 | 134.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.0 | 4.7 | 4.6 | 3.1 | 7.5 | 11.1 | 12.3 | 4.4 | 5.5 | 8.4 | 8.5 | 21.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 89.0 | 27.1 | 27.3 | 59.1 | 43.4 | 66.2 | 99.5 | 37.9 | 41.0 | 81.4 | 50.2 | 180.5 |
| LnGrp LOS | F | C | C | E | D | E | F | D | D | F | D | F |
| Approach Vol, veh/h | | 794 | | | 797 | | | 1203 | | | 1761 | |
| Approach Delay, s/veh | | 54.0 | | | 56.5 | | | 53.0 | | | 84.0 | |
| Approach LOS | | D | | | E | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.9 | 34.4 | 13.3 | 48.1 | 24.0 | 31.3 | 29.0 | 32.4 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.5 | * 4.7 |
| Max Green Setting (Gmax), s | 16.9 | 28.6 | 13.3 | * 43 | 20.0 | 25.5 | 24.5 | * 31 |
| Max Q Clear Time (g_c+I1), s | 18.9 | 16.5 | 9.1 | 14.3 | 21.8 | 27.5 | 25.9 | 26.5 |
| Green Ext Time (p_c), s | 0.0 | 4.5 | 0.2 | 3.0 | 0.0 | 0.0 | 0.0 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 65.8 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 600 | 70 | 180 | 1350 | 10 | 70 | 60 | 130 | 10 | 130 | 10 |
| Future Volume (veh/h) | 10 | 600 | 70 | 180 | 1350 | 10 | 70 | 60 | 130 | 10 | 130 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1870 | 1870 | 1870 | 1752 | 1752 | 1870 | 1870 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 10 | 600 | 70 | 180 | 1350 | 10 | 70 | 60 | 130 | 10 | 130 | 10 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 2 | 2 | 2 | 10 | 10 | 2 | 2 | 10 | 10 |
| Cap, veh/h | 21 | 1460 | 425 | 229 | 2005 | 622 | 210 | 797 | 379 | 23 | 420 | 187 |
| Arrive On Green | 0.01 | 0.29 | 0.29 | 0.13 | 0.39 | 0.39 | 0.13 | 0.24 | 0.24 | 0.01 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1668 | 5106 | 1485 | 1781 | 5106 | 1585 | 1668 | 3328 | 1585 | 1781 | 3328 | 1485 |
| Grp Volume(v), veh/h | 10 | 600 | 70 | 180 | 1350 | 10 | 70 | 60 | 130 | 10 | 130 | 10 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1702 | 1485 | 1781 | 1702 | 1585 | 1668 | 1664 | 1585 | 1781 | 1664 | 1485 |
| Q Serve(g_s), s | 0.3 | 5.3 | 2.0 | 5.4 | 12.1 | 0.2 | 2.1 | 0.8 | 3.8 | 0.3 | 2.0 | 0.3 |
| Cycle Q Clear(g_c), s | 0.3 | 5.3 | 2.0 | 5.4 | 12.1 | 0.2 | 2.1 | 0.8 | 3.8 | 0.3 | 2.0 | 0.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 21 | 1460 | 425 | 229 | 2005 | 622 | 210 | 797 | 379 | 23 | 420 | 187 |
| V/C Ratio(X) | 0.47 | 0.41 | 0.16 | 0.79 | 0.67 | 0.02 | 0.33 | 0.08 | 0.34 | 0.44 | 0.31 | 0.05 |
| Avail Cap(c_a), veh/h | 150 | 1950 | 567 | 369 | 2502 | 777 | 863 | 3496 | 1665 | 176 | 2105 | 939 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.2 | 16.0 | 14.9 | 23.4 | 13.9 | 10.3 | 22.1 | 16.4 | 17.5 | 27.2 | 22.1 | 21.3 |
| Incr Delay (d2), s/veh | 14.9 | 0.2 | 0.2 | 5.9 | 0.5 | 0.0 | 0.9 | 0.0 | 0.5 | 12.5 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.9 | 0.6 | 2.5 | 4.1 | 0.1 | 0.8 | 0.3 | 1.3 | 0.2 | 0.7 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.1 | 16.2 | 15.0 | 29.3 | 14.4 | 10.3 | 23.0 | 16.4 | 18.0 | 39.7 | 22.5 | 21.5 |
| LnGrp LOS | D | B | B | C | B | B | C | B | B | D | C | C |
| Approach Vol, veh/h | | 680 | | | 1540 | | | 260 | | | 150 | |
| Approach Delay, s/veh | | 16.5 | | | 16.1 | | | 19.0 | | | 23.6 | |
| Approach LOS | | B | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 18.0 | 11.1 | 21.7 | 11.0 | 11.7 | 5.2 | 27.6 |
| Change Period (Y+Rc), s | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 | 4.5 | 5.8 |
| Max Green Setting (Gmax), s | 5.5 | * 58 | 11.5 | 21.2 | 28.7 | * 35 | 5.0 | 27.2 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 5.8 | 7.4 | 7.3 | 4.1 | 4.0 | 2.3 | 14.1 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | 0.2 | 3.7 | 0.2 | 0.8 | 0.0 | 7.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.9 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 37 | 200 | 183 | 528 | 753 | 106 | 307 | 157 | 418 | 20 | 250 | 13 |
| Future Volume (veh/h) | 37 | 200 | 183 | 528 | 753 | 106 | 307 | 157 | 418 | 20 | 250 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 37 | 200 | 183 | 528 | 753 | 106 | 307 | 157 | 418 | 20 | 250 | 13 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 62 | 606 | 270 | 631 | 996 | 140 | 397 | 570 | 483 | 39 | 395 | 335 |
| Arrive On Green | 0.04 | 0.18 | 0.18 | 0.19 | 0.34 | 0.34 | 0.12 | 0.33 | 0.33 | 0.02 | 0.23 | 0.23 |
| Sat Flow, veh/h | 1668 | 3328 | 1485 | 3237 | 2930 | 412 | 3237 | 1752 | 1485 | 1668 | 1752 | 1485 |
| Grp Volume(v), veh/h | 37 | 200 | 183 | 528 | 428 | 431 | 307 | 157 | 418 | 20 | 250 | 13 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1664 | 1485 | 1618 | 1664 | 1678 | 1618 | 1752 | 1485 | 1668 | 1752 | 1485 |
| Q Serve(g_s), s | 1.5 | 3.5 | 7.7 | 10.6 | 15.4 | 15.4 | 6.2 | 4.5 | 17.8 | 0.8 | 8.7 | 0.5 |
| Cycle Q Clear(g_c), s | 1.5 | 3.5 | 7.7 | 10.6 | 15.4 | 15.4 | 6.2 | 4.5 | 17.8 | 0.8 | 8.7 | 0.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 62 | 606 | 270 | 631 | 566 | 570 | 397 | 570 | 483 | 39 | 395 | 335 |
| V/C Ratio(X) | 0.60 | 0.33 | 0.68 | 0.84 | 0.76 | 0.76 | 0.77 | 0.28 | 0.87 | 0.52 | 0.63 | 0.04 |
| Avail Cap(c_a), veh/h | 168 | 1384 | 617 | 721 | 894 | 902 | 432 | 850 | 721 | 144 | 767 | 650 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.9 | 24.0 | 25.7 | 26.1 | 19.7 | 19.8 | 28.6 | 16.8 | 21.3 | 32.5 | 23.6 | 20.4 |
| Incr Delay (d2), s/veh | 8.9 | 0.3 | 2.9 | 7.7 | 2.1 | 2.1 | 7.8 | 0.3 | 7.3 | 10.3 | 1.7 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 1.3 | 2.8 | 4.5 | 5.8 | 5.8 | 2.7 | 1.7 | 6.6 | 0.4 | 3.6 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.9 | 24.3 | 28.6 | 33.8 | 21.8 | 21.8 | 36.5 | 17.1 | 28.7 | 42.8 | 25.2 | 20.4 |
| LnGrp LOS | D | C | C | C | C | C | D | B | C | D | C | C |
| Approach Vol, veh/h | | 420 | | | 1387 | | | 882 | | | 283 | |
| Approach Delay, s/veh | | 27.6 | | | 26.4 | | | 29.3 | | | 26.3 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 27.7 | 17.1 | 17.0 | 12.3 | 21.0 | 6.5 | 27.6 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 5.8 | 32.7 | 15.0 | * 28 | 9.0 | 29.5 | 6.8 | * 36 |
| Max Q Clear Time (g_c+I2), s | 2.8 | 19.8 | 12.6 | 9.7 | 8.2 | 10.7 | 3.5 | 17.4 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.6 | 1.8 | 0.1 | 1.4 | 0.0 | 5.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 27.4 |
| HCM 6th LOS | C |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 120 | 13 | 147 | 437 | 142 | 357 | 471 | 1184 | 130 | 78 | 875 | 284 |
| Future Volume (veh/h) | 120 | 13 | 147 | 437 | 142 | 357 | 471 | 1184 | 130 | 78 | 875 | 284 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1870 | 1870 | 1870 | 1752 | 1752 | 1870 | 1870 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 120 | 13 | 147 | 437 | 142 | 357 | 471 | 1184 | 130 | 78 | 875 | 284 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 2 | 2 | 2 | 10 | 10 | 2 | 2 | 10 | 10 |
| Cap, veh/h | 156 | 439 | 183 | 476 | 1029 | 459 | 542 | 1735 | 575 | 161 | 1157 | 359 |
| Arrive On Green | 0.09 | 0.12 | 0.12 | 0.27 | 0.29 | 0.29 | 0.17 | 0.36 | 0.36 | 0.05 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1668 | 3554 | 1485 | 1781 | 3554 | 1585 | 3237 | 4782 | 1585 | 3456 | 4782 | 1485 |
| Grp Volume(v), veh/h | 120 | 13 | 147 | 437 | 142 | 357 | 471 | 1184 | 130 | 78 | 875 | 284 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1777 | 1485 | 1781 | 1777 | 1585 | 1618 | 1594 | 1585 | 1728 | 1594 | 1485 |
| Q Serve(g_s), s | 6.5 | 0.3 | 8.9 | 22.1 | 2.7 | 19.1 | 13.1 | 19.4 | 5.3 | 2.0 | 15.7 | 16.6 |
| Cycle Q Clear(g_c), s | 6.5 | 0.3 | 8.9 | 22.1 | 2.7 | 19.1 | 13.1 | 19.4 | 5.3 | 2.0 | 15.7 | 16.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 156 | 439 | 183 | 476 | 1029 | 459 | 542 | 1735 | 575 | 161 | 1157 | 359 |
| V/C Ratio(X) | 0.77 | 0.03 | 0.80 | 0.92 | 0.14 | 0.78 | 0.87 | 0.68 | 0.23 | 0.48 | 0.76 | 0.79 |
| Avail Cap(c_a), veh/h | 308 | 1343 | 561 | 558 | 1772 | 791 | 594 | 1936 | 642 | 187 | 1316 | 409 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.0 | 35.7 | 39.5 | 33.0 | 24.4 | 30.2 | 37.6 | 25.0 | 20.5 | 43.1 | 32.6 | 32.9 |
| Incr Delay (d2), s/veh | 7.7 | 0.0 | 7.9 | 18.6 | 0.1 | 2.9 | 12.3 | 0.9 | 0.2 | 2.2 | 2.2 | 9.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.0 | 0.1 | 3.6 | 11.7 | 1.1 | 7.5 | 6.0 | 7.2 | 1.9 | 0.9 | 6.2 | 6.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.7 | 35.7 | 47.4 | 51.6 | 24.4 | 33.1 | 49.9 | 25.9 | 20.7 | 45.3 | 34.8 | 41.9 |
| LnGrp LOS | D | D | D | D | C | C | D | C | C | D | C | D |
| Approach Vol, veh/h | | 280 | | | 936 | | | 1785 | | | 1237 | |
| Approach Delay, s/veh | | 47.4 | | | 40.4 | | | 31.8 | | | 37.1 | |
| Approach LOS | | D | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.3 | 39.4 | 28.8 | 16.1 | 19.5 | 28.2 | 13.4 | 31.5 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | * 4.7 | * 4.7 |
| Max Green Setting (Gmax), s | 5.0 | 37.5 | 29.0 | * 35 | 17.0 | 25.5 | * 17 | * 46 |
| Max Q Clear Time (g_c+I1), s | 4.0 | 21.4 | 24.1 | 10.9 | 15.1 | 18.6 | 8.5 | 21.1 |
| Green Ext Time (p_c), s | 0.0 | 8.2 | 0.7 | 0.5 | 0.4 | 3.8 | 0.2 | 2.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.3 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 338 | 559 | 372 | 173 | 230 | 288 | 49 | 366 | 62 | 506 | 728 | 353 |
| Future Volume (veh/h) | 338 | 559 | 372 | 173 | 230 | 288 | 49 | 366 | 62 | 506 | 728 | 353 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 | 1678 |
| Adj Flow Rate, veh/h | 338 | 559 | 372 | 173 | 230 | 288 | 49 | 366 | 62 | 506 | 728 | 353 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Cap, veh/h | 403 | 619 | 484 | 172 | 581 | 452 | 90 | 569 | 95 | 610 | 725 | 351 |
| Arrive On Green | 0.13 | 0.37 | 0.34 | 0.11 | 0.35 | 0.32 | 0.06 | 0.21 | 0.19 | 0.20 | 0.35 | 0.33 |
| Sat Flow, veh/h | 3100 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 2731 | 458 | 3100 | 2082 | 1008 |
| Grp Volume(v), veh/h | 338 | 559 | 372 | 173 | 230 | 288 | 49 | 212 | 216 | 506 | 557 | 524 |
| Grp Sat Flow(s),veh/h/ln | 1550 | 1678 | 1422 | 1598 | 1678 | 1422 | 1598 | 1594 | 1595 | 1550 | 1594 | 1496 |
| Q Serve(g_s), s | 9.4 | 27.9 | 20.7 | 9.5 | 9.2 | 15.3 | 2.6 | 10.8 | 11.0 | 13.9 | 30.8 | 30.8 |
| Cycle Q Clear(g_c), s | 9.4 | 27.9 | 20.7 | 9.5 | 9.2 | 15.3 | 2.6 | 10.8 | 11.0 | 13.9 | 30.8 | 30.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | 403 | 619 | 484 | 172 | 581 | 452 | 90 | 332 | 332 | 610 | 555 | 521 |
| V/C Ratio(X) | 0.84 | 0.90 | 0.77 | 1.01 | 0.40 | 0.64 | 0.54 | 0.64 | 0.65 | 0.83 | 1.00 | 1.00 |
| Avail Cap(c_a), veh/h | 403 | 621 | 486 | 172 | 583 | 454 | 117 | 357 | 357 | 614 | 555 | 521 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.5 | 26.4 | 26.0 | 39.4 | 21.9 | 25.8 | 40.6 | 32.0 | 32.2 | 34.1 | 28.8 | 29.3 |
| Incr Delay (d2), s/veh | 14.4 | 16.9 | 7.8 | 70.6 | 0.6 | 3.4 | 5.0 | 4.1 | 4.4 | 9.3 | 39.0 | 40.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.2 | 12.9 | 7.7 | 6.9 | 3.4 | 5.4 | 1.1 | 4.4 | 4.6 | 5.9 | 17.2 | 16.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.9 | 43.3 | 33.8 | 110.1 | 22.5 | 29.2 | 45.6 | 36.1 | 36.7 | 43.4 | 67.8 | 69.9 |
| LnGrp LOS | D | D | C | F | C | C | D | D | D | D | F | F |
| Approach Vol, veh/h | | 1269 | | | 691 | | | 477 | | | 1587 | |
| Approach Delay, s/veh | | 42.8 | | | 47.2 | | | 37.3 | | | 60.7 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 35.9 | 19.9 | 21.6 | 13.0 | 33.9 | 7.5 | 34.0 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 7.0 | 30.2 | 16.0 | * 18 | 9.0 | 28.2 | 5.0 | * 29 |
| Max Q Clear Time (g_c+I1), s | 11.5 | 29.9 | 15.9 | 13.0 | 11.4 | 17.3 | 4.6 | 32.8 |
| Green Ext Time (p_c), s | 0.0 | 0.2 | 0.0 | 1.5 | 0.0 | 2.7 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 50.0 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 286 | 389 | 344 | 138 | 168 | 107 | 93 | 61 | 86 | 378 | 345 | 413 |
| Future Volume (veh/h) | 286 | 389 | 344 | 138 | 168 | 107 | 93 | 61 | 86 | 378 | 345 | 413 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1752 | 1870 | 1752 | 1752 | 1870 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 | 1752 |
| Adj Flow Rate, veh/h | 286 | 389 | 344 | 138 | 168 | 107 | 93 | 61 | 86 | 378 | 345 | 413 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 10 | 2 | 10 | 10 | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cap, veh/h | 297 | 538 | 414 | 171 | 397 | 302 | 117 | 530 | 236 | 412 | 1119 | 499 |
| Arrive On Green | 0.18 | 0.29 | 0.28 | 0.10 | 0.21 | 0.20 | 0.07 | 0.16 | 0.16 | 0.25 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1668 | 1870 | 1485 | 1668 | 1870 | 1485 | 1668 | 3328 | 1485 | 1668 | 3328 | 1485 |
| Grp Volume(v), veh/h | 286 | 389 | 344 | 138 | 168 | 107 | 93 | 61 | 86 | 378 | 345 | 413 |
| Grp Sat Flow(s),veh/h/ln | 1668 | 1870 | 1485 | 1668 | 1870 | 1485 | 1668 | 1664 | 1485 | 1668 | 1664 | 1485 |
| Q Serve(g_s), s | 13.4 | 14.7 | 17.1 | 6.4 | 6.1 | 4.9 | 4.3 | 1.2 | 4.1 | 17.4 | 6.0 | 20.1 |
| Cycle Q Clear(g_c), s | 13.4 | 14.7 | 17.1 | 6.4 | 6.1 | 4.9 | 4.3 | 1.2 | 4.1 | 17.4 | 6.0 | 20.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 297 | 538 | 414 | 171 | 397 | 302 | 117 | 530 | 236 | 412 | 1119 | 499 |
| V/C Ratio(X) | 0.96 | 0.72 | 0.83 | 0.81 | 0.42 | 0.35 | 0.79 | 0.12 | 0.36 | 0.92 | 0.31 | 0.83 |
| Avail Cap(c_a), veh/h | 297 | 730 | 566 | 254 | 682 | 528 | 195 | 901 | 402 | 424 | 1358 | 605 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.1 | 25.2 | 26.6 | 34.6 | 26.8 | 26.9 | 36.0 | 28.3 | 29.5 | 28.8 | 19.4 | 24.0 |
| Incr Delay (d2), s/veh | 42.3 | 2.3 | 7.5 | 11.1 | 0.7 | 0.7 | 11.3 | 0.1 | 0.9 | 24.2 | 0.2 | 7.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.7 | 6.6 | 6.6 | 3.0 | 2.7 | 1.7 | 2.1 | 0.5 | 1.5 | 9.4 | 2.3 | 7.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.4 | 27.5 | 34.1 | 45.6 | 27.5 | 27.6 | 47.3 | 28.4 | 30.5 | 53.1 | 19.5 | 31.9 |
| LnGrp LOS | E | C | C | D | C | C | D | C | C | D | B | C |
| Approach Vol, veh/h | | 1019 | | | 413 | | | 240 | | | 1136 | |
| Approach Delay, s/veh | | 42.9 | | | 33.6 | | | 36.5 | | | 35.2 | |
| Approach LOS | | D | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.4 | 16.5 | 12.1 | 26.7 | 9.5 | 30.4 | 18.0 | 20.7 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.5 | * 4.7 |
| Max Green Setting (Gmax), s | 20.0 | 19.5 | 12.0 | * 30 | 9.2 | 30.3 | 13.5 | * 28 |
| Max Q Clear Time (g_c+I1), s | 19.4 | 6.1 | 8.4 | 19.1 | 6.3 | 22.1 | 15.4 | 8.1 |
| Green Ext Time (p_c), s | 0.1 | 0.5 | 0.1 | 2.8 | 0.0 | 2.5 | 0.0 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.9 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 244 | 322 | 285 | 172 | 3 | 344 | 177 | 1573 | 179 | 373 | 1887 | 47 |
| Future Volume (veh/h) | 244 | 322 | 285 | 172 | 3 | 344 | 177 | 1573 | 179 | 373 | 1887 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 244 | 322 | 285 | 172 | 3 | 344 | 177 | 1573 | 179 | 373 | 1887 | 47 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 259 | 509 | 431 | 199 | 446 | 378 | 187 | 1909 | 593 | 391 | 1950 | 605 |
| Arrive On Green | 0.15 | 0.27 | 0.27 | 0.11 | 0.24 | 0.24 | 0.10 | 0.37 | 0.37 | 0.11 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 244 | 322 | 285 | 172 | 3 | 344 | 177 | 1573 | 179 | 373 | 1887 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 16.8 | 18.7 | 19.8 | 11.8 | 0.2 | 26.1 | 12.2 | 34.5 | 9.9 | 13.3 | 44.9 | 2.3 |
| Cycle Q Clear(g_c), s | 16.8 | 18.7 | 19.8 | 11.8 | 0.2 | 26.1 | 12.2 | 34.5 | 9.9 | 13.3 | 44.9 | 2.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 259 | 509 | 431 | 199 | 446 | 378 | 187 | 1909 | 593 | 391 | 1950 | 605 |
| V/C Ratio(X) | 0.94 | 0.63 | 0.66 | 0.86 | 0.01 | 0.91 | 0.95 | 0.82 | 0.30 | 0.95 | 0.97 | 0.08 |
| Avail Cap(c_a), veh/h | 259 | 569 | 482 | 230 | 539 | 457 | 187 | 1909 | 593 | 391 | 1950 | 605 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 52.4 | 39.6 | 40.0 | 54.1 | 36.0 | 45.8 | 55.1 | 35.1 | 27.4 | 54.6 | 37.5 | 24.4 |
| Incr Delay (d2), s/veh | 40.5 | 1.9 | 2.9 | 24.6 | 0.0 | 19.7 | 50.5 | 3.1 | 0.3 | 33.9 | 13.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.4 | 8.9 | 8.0 | 6.6 | 0.1 | 12.3 | 8.1 | 14.7 | 3.8 | 7.6 | 20.8 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 92.9 | 41.6 | 42.9 | 78.7 | 36.0 | 65.6 | 105.6 | 38.2 | 27.7 | 88.5 | 51.1 | 24.4 |
| LnGrp LOS | F | D | D | E | D | E | F | D | C | F | D | C |
| Approach Vol, veh/h | | 851 | | | 519 | | | 1929 | | | 2307 | |
| Approach Delay, s/veh | | 56.7 | | | 69.8 | | | 43.4 | | | 56.6 | |
| Approach LOS | | E | | | E | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | 50.3 | 17.9 | 37.7 | 17.0 | 51.3 | 22.0 | 33.6 |
| Change Period (Y+Rc), s | 4.0 | 5.8 | 4.0 | * 4.7 | 4.0 | 5.8 | 4.0 | * 4.7 |
| Max Green Setting (Gmax), s | 14.0 | 44.5 | 16.0 | * 37 | 13.0 | 45.5 | 18.0 | * 35 |
| Max Q Clear Time (g_c+I1), s | 15.3 | 36.5 | 13.8 | 21.8 | 14.2 | 46.9 | 18.8 | 28.1 |
| Green Ext Time (p_c), s | 0.0 | 6.1 | 0.1 | 2.6 | 0.0 | 0.0 | 0.0 | 0.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 53.3 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# I. Truck Queuing Analysis

Truck Entry Queuing with 3 lanes (no bypass lane)

| Hour | Arrivals | Cumulative Arrivals | Departures | Cumulative Departures | Queue | Length |
|---|---|---|---|---|---|---|
| -60 | 0 | 0 | 0 | 0 | 0 | 0 |
| -30 | 6 | 6 | 10 | 6 | 0 | 0 |
| 0 | 6 | 12 | 10 | 12 | 0 | 0 |
| 30 | 20 | 32 | 10 | 22 | 10 | 750 |
| 60 | 20 | 52 | 10 | 32 | 20 | 1500 |
| 90 | 14 | 66 | 10 | 42 | 24 | 1800 |
| 120 | 14 | 80 | 10 | 52 | 28 | 2100 |
| 150 | 10 | 90 | 10 | 62 | 28 | 2100 |
| 180 | 10 | 100 | 10 | 72 | 28 | 2100 |

Truck Entry Queuing with 2 lanes plus bypass lane

| Hour | Arrivals | Cumulative Arrivals | Departures | Cumulative Departures | Queue | Length |
|---|---|---|---|---|---|---|
| -60 | 0 | 0 | 0 | 0 | 0 | 0 |
| -30 | 5 | 5 | 10 | 5 | 0 | 0 |
| 0 | 5 | 10 | 10 | 10 | 0 | 0 |
| 30 | 15 | 25 | 10 | 20 | 5 | 375 |
| 60 | 15 | 40 | 10 | 30 | 10 | 750 |
| 90 | 10 | 50 | 10 | 40 | 10 | 750 |
| 120 | 10 | 60 | 10 | 50 | 10 | 750 |
| 150 | 8 | 68 | 10 | 60 | 8 | 600 |
| 180 | 8 | 76 | 10 | 70 | 6 | 450 |

**J. Old Schulte Road Merge Simtraffic Analysis**

## Intersection: 6: Old Schulte Road & Iron Horse Parkway

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | SB | SB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | T | T | R | L | T | T | R | L | TR | L | T |
| Maximum Queue (ft) | 154 | 70 | 61 | 35 | 28 | 250 | 226 | 86 | 66 | 62 | 150 | 46 |
| Average Queue (ft) | 73 | 17 | 11 | 4 | 6 | 131 | 97 | 35 | 11 | 11 | 64 | 7 |
| 95th Queue (ft) | 134 | 51 | 37 | 19 | 22 | 216 | 196 | 68 | 39 | 36 | 127 | 29 |
| Link Distance (ft) | | 364 | 364 | | | 1325 | 1325 | | | 655 | | 1033 |
| Upstream Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |
| Storage Bay Dist (ft) | 300 | | | 300 | 380 | | | 380 | 435 | | 280 | |
| Storage Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |

## Intersection: 6: Old Schulte Road & Iron Horse Parkway

| Movement | SB |
|---|---|
| Directions Served | R |
| Maximum Queue (ft) | 131 |
| Average Queue (ft) | 55 |
| 95th Queue (ft) | 107 |
| Link Distance (ft) | 1033 |
| Upstream Blk Time (%) | |
| Queuing Penalty (veh) | |
| Storage Bay Dist (ft) | |
| Storage Blk Time (%) | |
| Queuing Penalty (veh) | |

## Intersection: 15: Bend

| Movement | WB | WB |
|---|---|---|
| Directions Served | T | |
| Maximum Queue (ft) | 232 | 122 |
| Average Queue (ft) | 30 | 11 |
| 95th Queue (ft) | 148 | 69 |
| Link Distance (ft) | 364 | 364 |
| Upstream Blk Time (%) | 0 | |
| Queuing Penalty (veh) | 0 | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

## Zone Summary

Zone wide Queuing Penalty: 0

## Intersection: 6: Old Schulte Road & Iron Horse Parkway

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | SB | SB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | T | T | R | L | T | T | R | L | TR | L | T |
| Maximum Queue (ft) | 159 | 101 | 97 | 35 | 49 | 264 | 231 | 73 | 53 | 59 | 154 | 53 |
| Average Queue (ft) | 72 | 39 | 32 | 4 | 6 | 133 | 91 | 36 | 13 | 11 | 64 | 6 |
| 95th Queue (ft) | 140 | 82 | 76 | 19 | 29 | 217 | 181 | 64 | 42 | 37 | 129 | 28 |
| Link Distance (ft) | | 364 | 364 | | | 1325 | 1325 | | | 655 | | 1033 |
| Upstream Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |
| Storage Bay Dist (ft) | 300 | | | 300 | 380 | | | 380 | 435 | | 280 | |
| Storage Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |

## Intersection: 6: Old Schulte Road & Iron Horse Parkway

| Movement | SB |
|---|---|
| Directions Served | R |
| Maximum Queue (ft) | 132 |
| Average Queue (ft) | 51 |
| 95th Queue (ft) | 101 |
| Link Distance (ft) | 1033 |
| Upstream Blk Time (%) | |
| Queuing Penalty (veh) | |
| Storage Bay Dist (ft) | |
| Storage Blk Time (%) | |
| Queuing Penalty (veh) | |

## Intersection: 15: Bend

| Movement | WB | WB |
|---|---|---|
| Directions Served | T | |
| Maximum Queue (ft) | 304 | 143 |
| Average Queue (ft) | 42 | 13 |
| 95th Queue (ft) | 174 | 71 |
| Link Distance (ft) | 364 | 364 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

## Zone Summary

Zone wide Queuing Penalty: 0

## Intersection: 6: Old Schulte Road & Iron Horse Parkway

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | SB | SB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | T | T | R | L | T | T | R | L | TR | L | T |
| Maximum Queue (ft) | 189 | 132 | 128 | 29 | 41 | 269 | 216 | 88 | 61 | 43 | 147 | 42 |
| Average Queue (ft) | 80 | 45 | 43 | 3 | 6 | 136 | 96 | 38 | 14 | 11 | 65 | 5 |
| 95th Queue (ft) | 148 | 99 | 94 | 17 | 26 | 218 | 189 | 69 | 44 | 35 | 121 | 23 |
| Link Distance (ft) | | 364 | 364 | | | 1325 | 1325 | | | 655 | | 1033 |
| Upstream Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |
| Storage Bay Dist (ft) | 300 | | | 300 | 380 | | | 380 | 435 | | 280 | |
| Storage Blk Time (%) | | | | | | 0 | | | | | | |
| Queuing Penalty (veh) | | | | | | 0 | | | | | | |

## Intersection: 6: Old Schulte Road & Iron Horse Parkway

| Movement | SB |
|---|---|
| Directions Served | R |
| Maximum Queue (ft) | 133 |
| Average Queue (ft) | 55 |
| 95th Queue (ft) | 107 |
| Link Distance (ft) | 1033 |
| Upstream Blk Time (%) | |
| Queuing Penalty (veh) | |
| Storage Bay Dist (ft) | |
| Storage Blk Time (%) | |
| Queuing Penalty (veh) | |

## Intersection: 15: Bend

| Movement | WB | WB |
|---|---|---|
| Directions Served | T | |
| Maximum Queue (ft) | 309 | 270 |
| Average Queue (ft) | 39 | 18 |
| 95th Queue (ft) | 165 | 100 |
| Link Distance (ft) | 364 | 364 |
| Upstream Blk Time (%) | 0 | |
| Queuing Penalty (veh) | 0 | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

## Zone Summary

Zone wide Queuing Penalty: 0

# APPENDIX G

**Water Supply Assessment**

FINAL REPORT | DECEMBER 2021

# Tracy Costco Depot Project
# Water Supply Assessment

**PREPARED FOR**

City of Tracy

**PREPARED BY**

WEST YOST
Water. Engineered.

# Tracy Costco Depot Project
# Water Supply Assessment

**Prepared for**

## City of Tracy

**Project No. 487-60-19-17**




| | |
|---|---|
| Project Manager: Elizabeth T. Drayer, PE | 12-20-21<br>Date |
| QA/QC Review: Amy W. Kwong, PE | 12-20-21<br>Date |

WEST YOST
Water. Engineered.

FINAL REPORT | DECEMBER 2021

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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AB | Assembly Bill |
| af | Acre-feet |
| af/yr | Acre-Feet Per Year |
| ASR | Aquifer Storage and Recovery |
| BBID | Byron Bethany Irrigation District |
| BCID | Banta Carbona Irrigation District |
| bgs | Below Ground Surface |
| Water Code | California Water Code |
| CASGEM | California Statewide Groundwater Elevation Monitoring |
| CEQA | California Environmental Quality Act |
| City | City of Tracy |
| CSD | County Services District |
| CVP | Central Valley Project |
| DDW | SWRCB Division of Drinking Water |
| DMC | Delta-Mendota Canal |
| DOF | California Department of Finance |
| DWR | California Department of Water Resources |
| EIR | Environmental Impact Report |
| ETo | Evapotranspiration |
| GMO | City of Tracy Growth Management Ordinance |
| gpm | Gallons Per Minute |
| GSA | Groundwater Sustainability Agency |
| GSP | Groundwater Sustainability Plan |
| GWMP | Groundwater Management Plan |
| JJWTP | John Jones Water Treatment Plant |
| K/J/C | Kennedy/Jenks/Chilton |
| LAFCo | Local Agency Formation Commission |
| M&I | Municipal and Industrial |
| mgd | Million gallons per day |
| mg/L | Milligrams Per Liter |
| MOA | Memorandum of Agreement |
| msl | Mean Sea Level |
| NEI | Northeast Industrial |
| NEPA | National Environmental Policy Act |
| PPBP | Patterson Pass Business Park |
| Proposed Project | Proposed Tracy Costco Depot Project |
| RGA | Residential Growth Allotment |
| RWQCB | Regional Water Quality Control Board |
| SB | Senate Bill |
| SCADA | Supervisory Control and Data Acquisition |
| SCWSP | South County Water Supply Project |

| | |
|---|---|
| Semitropic WSD | Semitropic Water Storage District |
| SGMA | Sustainable Groundwater Management Act |
| SOI | Sphere of Influence |
| SSJID | South San Joaquin Irrigation District |
| SWP | State Water Project |
| SWRCB | State Water Resources Control Board |
| SWRU | Stored Water Recovery Unit |
| TDS | Total Dissolved Solids |
| TM | Technical Memorandum |
| UAFW | Unaccounted for Water |
| USBR | United States Bureau of Reclamation |
| UWMP | Urban Water Management Plan |
| WSA | Water Supply Assessment |
| WSID | West Side Irrigation District |
| WSMP Update | Water System Master Plan Update (October 2021 Draft Report) |
| WWTP | Wastewater Treatment Plant |

# EXECUTIVE SUMMARY

## Purpose of Water Supply Assessment

The purpose of this Water Supply Assessment (WSA) is to perform the evaluation required by California Water Code sections 10910 through 10915, as established by Senate Bill 610 (SB 610), in connection with the City of Tracy's (City) proposed Tracy Costco Depot Project (Proposed Project). This WSA evaluates the adequacy of the City's total projected water supplies, including existing water supplies and future planned water supplies, to meet the City's existing and projected future water demands, including those future water demands associated with the Proposed Project, under all hydrologic conditions (Normal Years, Single Dry Years, and Multiple Dry Years).

Since the Proposed Project does not meet the definition of a residential subdivision, this WSA does not include the requirements of California Government Code section 66473.7(a)(1), as established by SB 221 in 2001.

## Proposed Project Overview

The Proposed Project is located at 16000 West Schulte Road in unincorporated San Joaquin County, California. The project site is within the Tracy Sphere of Influence (SOI) and is immediately adjacent to the Tracy city limits to the north of the site. The Assessor's Parcel Number (APNs) for the project site is 2019-230-020. The project site totals approximately 103 acres of undeveloped land previously used for agricultural purposes. The elevation of the site ranges from approximately 148 feet to 187 feet above mean sea level (msl). The Proposed Project would include the construction and subsequent operation of two Costco warehouse buildings (543,326 square feet and 1,201,726 square feet, respectively) totaling approximately 1,745,052 square feet. The Proposed Project would also include circulation, parking, and utility improvements.

The Proposed Project meets the definition of a "Project" per California Water Code sections 10910 through 10915, as established by SB 610 in 2001, thus requiring the preparation of this WSA.

## Potable and Recycled Water Demands and Supply Availability

Projected water demands for buildout of the Proposed Project total approximately 158 acre-feet per year (af/yr) of which about approximately 114 af/yr is industrial demand, approximately 29 af/yr is irrigation demand, and approximately 15 af/yr is unaccounted-for water.

It is anticipated that the Proposed Project, if approved by the City, would be served from the City's existing and future portfolio of water supplies. The inclusion of existing and planned future water supplies is specifically allowed by the Water Code:

*Water Code section 10631(b): Identify and quantify, to the extent practicable, the existing and planned*

Since recycled water infrastructure may not be initially available to deliver recycled water to the Proposed Project, potable water supplies may be used in the interim period before recycled water becomes available to meet the non-potable water demands associated with the initial phases of the Proposed Project.

Proponents of the Proposed Project are expected to provide their proportionate share of required funding to the City for the acquisition, treatment and delivery of treated potable and recycled water supplies to the Proposed Project area.

Pursuant to California Water Code Section 10910(c)(4), and based on the technical analyses described in this WSA, this WSA demonstrates that the City's existing and additional planned future water supplies are sufficient during normal years. However, during a single dry year or a multiple dry year period, the City may experience a water supply shortfall. To close the gap between supply and demand, the City will need to implement its Water Shortage Contingency Plan to reduce water demands and rely more heavily on groundwater and proposed future supply projects.

As described in this WSA and the City's 2020 Urban Water Management Plan (UWMP), these findings are primarily due to projected reduced reliability of the City's Central Valley Project (CVP) supplies and South San Joaquin Irrigation District (SSJID) supplies in dry years. As noted in Section 6.5 of this WSA, the reliability of the City's surface water supply from SSJID has been significantly impacted by the 2018 Bay-Delta Water Quality Control Plan. Normal year allocations of the City's water supply from SSJID are assumed to be 100 percent of the City's contractual entitlement; however, water supply may be 56 to 76 percent of contractual entitlement during any single dry year, and 56 to 100 percent of contractual entitlement during multiple dry years. The water supply projections in single dry and multiple dry years include uncertainties that are summarized in Section 7.2.

## Determination of Water Supply Sufficiency

As described in Section 7, water demand within the City's water service area is not expected to exceed the City's supplies at Buildout under normal hydrologic conditions if the City is able to fully implement its future planned projects, which include Aquifer Storage and Recovery Program Expansion, Recycled Water Distribution Network and Exchange Program for additional Central Valley Project water supplies, and recycled water distribution for non-potable use. During a single dry year or a multiple dry year period, the City must depend more heavily on water conservation efforts, groundwater, and the proposed future supply projects to overcome the gap between supply and demand. Investments in wet year water supplies will also be needed to refill storage in Semitropic and expand the City's ASR program. Delays in implementing the proposed future water supply projects could result in greater water supply shortages and the need for additional water conservation to meet demands.

The dry year shortfalls are based on water supply and demand projections with numerous uncertainties and the situation is dynamic as discussed in Section 7 of the 2020 UWMP and Section 7 of this WSA. The City continues to work on strategies and actions to address the projected water supply shortfall. The City's strategies and actions include the implementation of demand management measures as part of its water conservation program, consideration of net neutral policies to improve water use efficiency community-wide, and implementation of the future water supply projects described above and in this WSA.

# 1.0 INTRODUCTION

## 1.1 Legal Requirement for Water Supply Assessment

California Senate Bill 610 (SB 610) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 sought to promote more collaborative planning between local water suppliers and cities and counties. It requires detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. The purpose of this coordination is to ensure that prudent water supply planning has been conducted, and that planned water supplies are adequate to meet existing demands, anticipated demands from approved projects and tentative maps, and the demands of proposed projects.

SB 610 amended California Water Code sections 10910 through 10915 (inclusive) to require land use lead agencies to:

- Identify any public water purveyor that may supply water for a proposed development project; and
- Request a Water Supply Assessment (WSA) from the identified water purveyor.

The purpose of the WSA is to demonstrate the sufficiency of the purveyor's water supplies to satisfy the water demands of the proposed project, while still meeting the water purveyor's existing and planned future uses. Water Code sections 10910 through 10915 delineate the specific information that must be included in the WSA.

## 1.2 Need for and Purpose of Water Supply Assessment

The purpose of this WSA is to perform the evaluation required by Water Code sections 10910 through 10915 in connection with the City of Tracy's (City) proposed Tracy Costco Depot Project (Proposed Project). It is not to reserve water, or to function as a "will serve" letter or any other form of commitment to supply water (see Water Code section 10914). The provision of water service will continue to be undertaken in a manner consistent with applicable City policies and procedures, consistent with existing law.

## 1.3 Water Supply Assessment Preparation, Format and Organization

The format of this WSA is intended to follow Water Code sections 10910 through 10915 to clearly delineate compliance with the specific requirements for a WSA. The WSA includes the following sections:

- Section 1: Introduction
- Section 2: Description of Proposed Project
- Section 3: Required Determinations
- Section 4: City of Tracy Water Service Area
- Section 5: City of Tracy Water Demands
- Section 6: City of Tracy Water Supplies
- Section 7: Determination of Water Supply Sufficiency Based on the Requirements of SB 610
- Section 8: Water Supply Assessment Approval Process
- Section 9: References

Relevant citations of Water Code sections 10910 through 10915 are included throughout this WSA in *italics* to demonstrate compliance with the specific requirements of SB 610.

# 2.0 DESCRIPTION OF PROPOSED PROJECT

## 2.1 Proposed Project Location

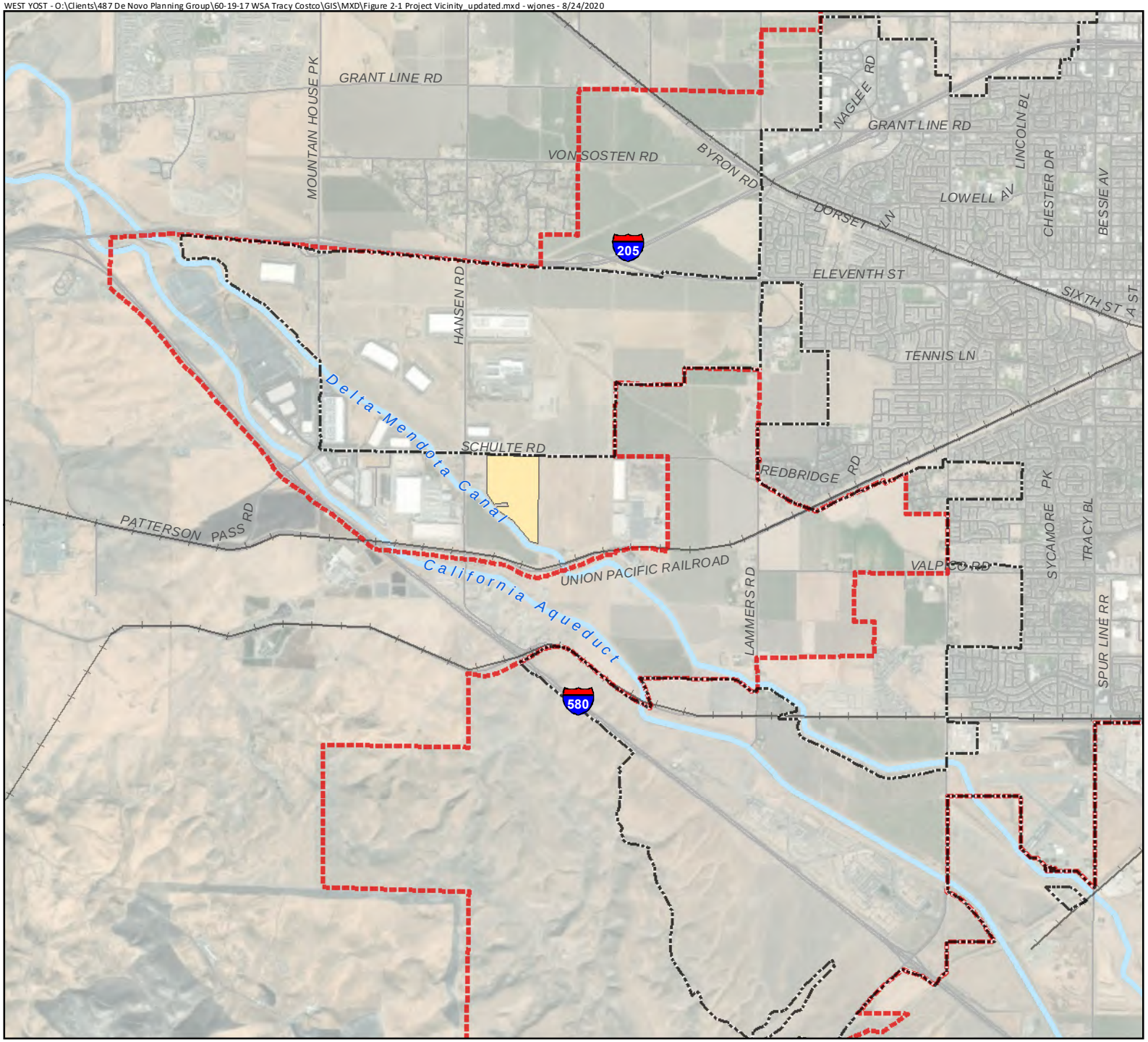
The Proposed Project is located in the City of Tracy's (City) Sphere of Influence (SOI) and includes approximately 103 acres of land located at 16000 West Schulte Road in unincorporated San Joaquin County, California (see Figure 2-1). A proposed site plan for the Proposed Project is shown on Figure 2-2. If approved, the Proposed Project area would be annexed into the City.

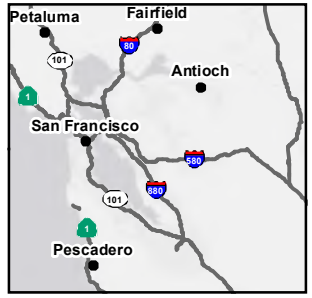
The Proposed Project area has a City land use designation of "Industrial" and is surrounded by existing and future warehouse distribution and other industrial uses to the north (within the Cordes Ranch Specific Plan Area, located in the City of Tracy), vacant agricultural land within unincorporated San Joaquin County to the east, the Delta Mendota Canal and agricultural land within unincorporated San Joaquin County to the south, and a rural residence, CalFire station, and Delta Mendota Canal to the west (within unincorporated San Joaquin County).

## 2.2 Proposed Land Uses and Acreages

The Proposed Project would include the construction and subsequent operation of two Costco warehouse buildings (543,326 square feet [sf] and 1,201,726 sf, respectively) totaling approximately 1,745,052 sf on the 103-acre project site. The Proposed Project would also include the required circulation, parking, and utility improvements. Proposed land uses for the Proposed Project include 87.6 acres for industrial use and 15.4 acres for irrigation use.

WEST YOST - O:\Clients\487 De Novo Planning Group\60-19-17 WSA Tracy Costco\GIS\MXD\Figure 2-1 Project Vicinity_updated.mxd - wjones - 8/24/2020




N

0 2,500 5,000

Scale in Feet

Costco Depot Approximate Property Area

City Limit

Sphere of Influence

TRACY

WEST YOST

**Figure 2-1**

**Project Vicinity**

**City of Tracy**
Water Supply Assessment
Costco Depot

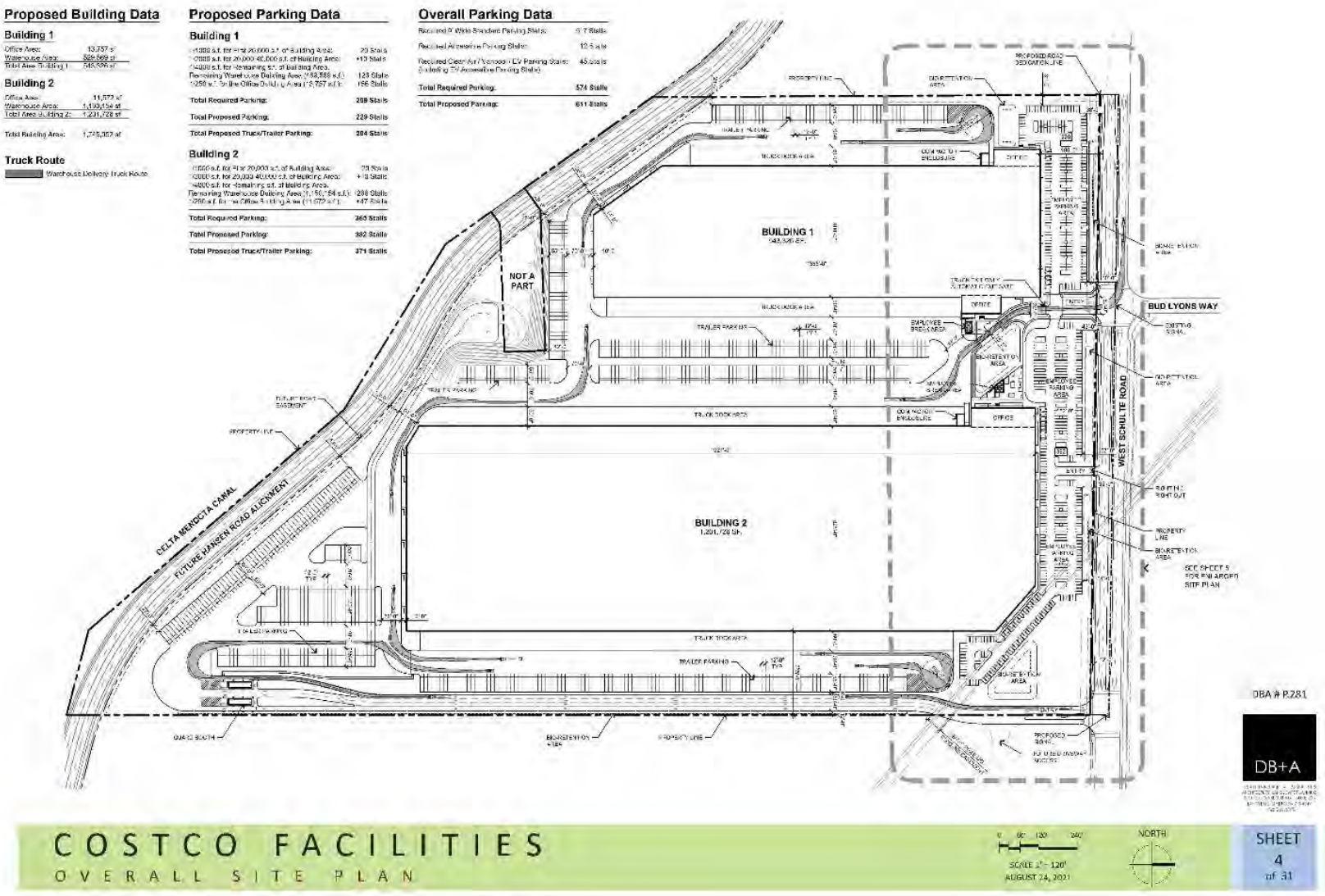



**Figure 2-2. Site Plan**

## 2.3 Projected Water Demand

Water demand for the Proposed Project has been estimated based on water use assumptions from the City's WSMP Update. Table 2-1 below contains a summary of the Proposed Project's water use factors and projected potable water use. Potable water was assumed to be used to meet all the Proposed Project's water demands. This is because until recycled water infrastructure is constructed, potable water supplies may be used to meet non-potable water demands within the Proposed Project area.

**Table 2-1. Estimated Annual Water Demand for the Proposed Project**

| Land Use Designation | Total Area, gross acres[(a)] | Potable Water Use Area, acres[(b)] | Landscaped Area, acres[(c)] | Unit Potable Water Use Factors[(d)], af/ac/yr | Annual Potable Water Use, af/yr |
|---|---|---|---|---|---|
| Industrial | 103.0 | 87.6 | - | 1.3 | 114 |
| Irrigation Demand | — | — | 15.4 | 1.9 | 29 |
| UAFW[(e)] | — | — | — | — | 15 |
| **Total** | **103.0** | **87.6** | **15.4** | — | **158** |

(a) Data provided by City staff.
(b) Consistent with assumptions in the WSMP Update (October 2021 Draft Report); 85 percent of gross acres are assumed to use potable water.
(c) Consistent with assumptions in the WSMP Update; 15 percent of gross acres are assumed to be landscaped.
(d) Based on the WSMP Update.
(e) Unaccounted-for water (UAFW) is equal to 9.6 percent.

As shown above, projected water demands for buildout of the Proposed Project total approximately 158 af/yr of which about approximately 114 af/yr is industrial demand, approximately 29 af/yr is irrigation demand, and approximately 15 af/yr is unaccounted-for water.

As described further in Section 3.4, the proposed project's water demand was included in the City's 2020 UWMP as a future projected water demand.

## 2.4 Projected Water Supply

Water demands for the Proposed Project will be served using the City's existing and future portfolio of water supplies. The inclusion of existing and planned future water supplies is specifically allowed by the Water Code:

> *Water Code section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

Proponents of the Proposed Project will provide their proportionate share of required funding to the City for the acquisition and delivery of treated potable and recycled water supplies to the Proposed Project area.

Recycled water infrastructure will need to be constructed to deliver recycled water supplies to the Proposed Project. The City's Water System Master Plan, currently being updated, herein referred to as the WSMP Update, included recommended capital improvement projects for the development of the

City's recycled water system. In 2015, the City was awarded a Proposition 84 grant from the California Department of Water Resources (DWR) to fund construction of recycled water distribution facilities. Construction of these facilities is nearly complete. In March 2019, the City received an amended order from the State Water Resources Control Board (SWRCB) approving the change in place of use of its treated wastewater. The order allows for the City to change the point of discharge and place of use of treated wastewater by a reduction in discharge to Old River and use the treated wastewater for industrial and irrigation purposes within the service areas of the City's SOI, Byron Bethany Irrigation District (BBID) within the City's SOI, and West Side Irrigation District (WSID).

# 3.0 REQUIRED DETERMINATIONS

## 3.1 Does SB 610 apply to the Proposed Project?

*10910 (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.*

*10912 (a) "Project" means any of the following:*

*(1) A proposed residential development of more than 500 dwelling units.*

*(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.*

*(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.*

*(4) A proposed hotel or motel, or both, having more than 500 rooms.*

*(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.*

*(6) A mixed-use project that includes one or more of the projects specified in this subdivision.*

*(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.*

Based on the following facts, SB 610 does apply to the Proposed Project.

- The City of Tracy has determined that the Proposed Project is subject to the California Environmental Quality Act (CEQA) and that an Environmental Impact Report (EIR) is required.
- The Proposed Project, with more than 40 acres of industrial land use, meets the definition of a "Project" as specified in Water Code section 10912(a) paragraph (5) as defined for an industrial development.

The Proposed Project has not been the subject of a previously adopted WSA and has not been included in an adopted WSA for a larger project. Therefore, according to Water Code section 10910(a), a WSA is required for the Proposed Project.

## 3.2 Does SB 221 apply to the Proposed Project?

In 2001, SB 221 amended State law to require that approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. Per California Government Code section 66473.7(a)(1), a subdivision means a proposed residential development of more than 500 dwelling units. As the Proposed Project does not include residential development, it is not subject to the requirements of SB 221.

## 3.3 Who is the Identified Public Water System?

> *10910(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined by Section 10912, that may supply water for the project*
>
> *10912 (c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections…*

As shown on Figure 2-1, the Proposed Project is located within the City's General Plan Sphere of Influence (SOI), just outside of the Tracy City Limits. The City's water system service area includes all areas within the City Limits and the General Plan SOI as they are annexed into the City. Therefore, the City is the identified public water system for the Proposed Project.

## 3.4 Does the City have an adopted Urban Water Management Plan (UWMP) and does the UWMP include the projected water demand for the Proposed Project?

> *10910(c)(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).*

The City's most recently adopted UWMP (2020 UWMP) was adopted by the Tracy City Council in June 2021 and is incorporated by reference into this WSA[1]. The 2020 UWMP included water demand projections for current water demands within the City (baseline demand) and anticipated water demands associated with future development projects and planning areas within the City's SOI through 2045. The Proposed Project was included in the demand projections as a future service area in the 2020 UWMP.

The City's ability to meet the projected water demands for the Proposed Project, as defined in the 2020 UWMP, is described in Section 7 of this WSA.

[1] City of Tracy 2020 Urban Water Management Plan, prepared by Erler & Kalinowski, Inc., June 2021.

# 4.0 CITY OF TRACY WATER SERVICE AREA

## 4.1 Water Service Area

The City of Tracy is located in San Joaquin County, California, about 68 miles south of Sacramento and 60 miles east of San Francisco. The existing incorporated area of the City encompasses approximately 22 square miles. The City's General Plan includes the area outside of the City limits that the City expects to annex and urbanize in the future. It is the expected physical limit of the City based on the most current information. During the City's recent General Plan update process and in response to Local Agency Formation Commission (LAFCo) policies established in 2007, revisions to the City's SOI were made to more accurately reflect locations where the City may grow in the future and locations where no urban growth is expected. The recently adopted revised SOI encompasses an area of approximately 42 square miles and is 20 square miles larger than the current City limits.

The City's water service area is coterminous with the City limits. As future developments within the SOI, but outside the City Limits, are approved, they will be annexed into the City and served by the City water system. Figure 2-1 illustrates the current City Limits and the SOI. The Proposed Project is located outside the City's existing City Limits, but within the SOI.

## 4.2 Population

The State of California Department of Finance (DOF) population estimate for the City as of January 1, 2020 was 95,931 people[2]. In 2020, the City also served 118 residences in the Larch Clover County Services District (CSD), and the average persons per household factor was 3.51 (per DOF). Therefore, the City's total population served in 2020 was estimated to be 96,345.

Future population projections for the City are described in the 2020 UWMP and are summarized as follows. Population growth was rapid in the City over the 15-year period of 1990 through 2005, with the City growing by 139 percent. Between 2005 and 2020, however, growth has slowed relative to historical rates; population increased approximately 68 percent during this 15-year period. The reduction in growth rate has likely been caused by a combination of economic forces, such as the economic downturn of 2008 through 2011, and measures taken by the City to limit growth. In 1987, the City adopted a residential Growth Management Ordinance (GMO), which was amended in 2000 by the voter-initiative Measure A. The objective of the GMO and Measure A is to achieve a steady and orderly growth rate that allows for the adequate provision of services and community facilities and includes a balance of housing opportunities. Under the GMO, builders must obtain a Residential Growth Allotment (RGA) to secure a residential building permit. The GMO limits the number of RGAs and building permits to an average of 600 housing units per year for market-rate housing, with a maximum of 750 units in any single year, although there are exceptions for affordable housing and certain active adult residential uses (General Plan, 2011).

The population estimates for 2020 through 2045 presented in the 2020 UWMP are projected using the methodology used in the City's WSMP Update, which is currently in draft form. It incorporates assumptions about the number of dwelling units for each proposed development and planning area at

[2] State of California, Department of Finance, Report E-5 Population Estimates for Cities, Counties, and the State, 2011-2020, with 2010 Benchmark, released May 1, 2020.

buildout, an assumed number of people per dwelling unit (people/du), and the timing of planned development over this time frame.

Table 4-1 shows the City's projected population in five-year increments to the year 2045.

**Table 4-1. City of Tracy Historical and Projected Population**

| Population | Year | Population |
|---|---|---|
| Historical | 1990 | 32,827 |
| | 1995 | 44,906 |
| | 2000 | 57,298 |
| | 2005 | 78,613 |
| | 2010 | 83,312 |
| | 2015 | 85,707 |
| | 2020 | 96,345 |
| Projected | 2025 | 109,900 |
| | 2030 | 120,367 |
| | 2035 | 130,833 |
| | 2040 | 141,300 |
| | 2045 | 166,700 |

*Source: City of Tracy 2020 UWMP, Table 3-1 Current and Projected Service Area Population, June 2021; includes residents served by the City in the Larch Clover CSD.*

## 4.3 Climate

Spring, summer, and fall are generally hot in the City, with temperatures often reaching over 100 degrees Fahrenheit on summer days. The City's winters are usually mild, although the dense "Tule fog" can last for weeks. Annual rainfall averages 9.9 inches and is generally confined to the wet season from late October to early May. The average reference evapotranspiration (ETo) for the region is 48.4 inches.

Table 4-2 summarizes the City's average ETo, temperature, and rainfall data.

**Table 4-2. City of Tracy Climate Data**

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual Total or Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average $ET_o$, inches | 1.0 | 1.5 | 2.9 | 4.5 | 6.1 | 7.3 | 7.9 | 6.7 | 5.3 | 3.2 | 1.3 | 0.7 | 48.4 |
| Average Maximum Temperature, °F | 54.1 | 61.0 | 66.7 | 73.1 | 80.7 | 88.0 | 93.6 | 92.1 | 87.9 | 78.5 | 64.9 | 54.7 | 74.6 |
| Average Minimum Temperature, °F | 36.7 | 40.0 | 42.6 | 45.5 | 50.4 | 55.2 | 57.1 | 55.7 | 53.9 | 48.7 | 42.1 | 36.6 | 47.0 |
| Average Rainfall, inches | 1.9 | 1.7 | 1.4 | 0.8 | 0.5 | 0.1 | 0.0 | 0.1 | 0.2 | 0.5 | 1.1 | 1.6 | 9.9 |

*Source: City of Tracy 2020 UWMP, Table 3-3 Climate Characteristics, June 2021.*

# 5.0 CITY OF TRACY WATER DEMANDS

> *10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).*

The descriptions provided below for the City's water demands have been taken, for the most part, from the 2020 UWMP, which was adopted in June 2021. Supplemental information from other available reports has been included to provide the most recent data available and to meet the specific requirements of SB 610.

## 5.1 Historical and Existing Water Demand

The City's water demand has increased significantly in the last 30 years. In 1986, the City's water demand was 8,104 af/yr and by 2007 the City's water demand had increased to 19,176 af/yr. In recent years, the City's water demand has decreased as a result of the economic downturn of 2008 through 2011 and water use reductions in response to recent drought conditions. Water demands have rebounded (increased) somewhat in recent years with the end of drought conditions and increased development activity. Table 5-1 shows the City's water demand (based on water production) from 2012 to 2020.

**Table 5-1. Historical Potable Water Demand**

| Condition | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| Total Water Demand, af/yr | 18,052 | 18,587 | 16,213 | 14,041 | 15,360 | 18,160 | 17,420 | 17,672 | 19,527 |

*Source: City of Tracy 2020 UWMP, Table 4-2 Current and Historical Potable Water Demand and Population, June 2021.*

## 5.2 Future Water Demand

The City's water demand is anticipated to continue to increase as approved projects build out and new developments are approved and constructed in accordance with the City's General Plan within the City's water service area. However, as discussed above, the rate of growth within the City's water service area has slowed as a result of the GMO and the slow economic recovery from the economic downturn between 2008 and 2011. Hence, water demands are not anticipated to increase as rapidly as they have in past years. Buildout for the City is not anticipated within the planning horizon of this WSA. However, in the 2020 UWMP and for the purposes of this WSA, buildout is assumed to occur in 2045 to be conservative in the water reliability analysis.

The 2020 UWMP projected water demands are shown in Table 5-2. The City's projected future water demand was determined based on adopted potable water use factors for various land uses, which were developed based on historical metered water use data, and anticipated timing of future development projects. Buildout of the Proposed Project is included in the 2025 (near-term) water demand projection. A detailed explanation of the adopted demand projection methodology is provided in the City's WSMP Update.

The water demand projections include consideration for reduced future water use as a result of new building codes, improved water use efficiency, and implementation of water conservation measures. The projections also include savings from passive conservation which refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs from the City. These savings result primarily from: (1) the natural replacement of existing plumbing fixtures with water-efficient models required under current plumbing code standards, and (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under CALGreen Building Code Standards.

**Table 5-2. Projected Water Demand**

| Condition | 2025 | 2030 | 2035 | 2040 | 2045 |
|---|---|---|---|---|---|
| Potable Water Demand, af/yr | 20,509 | 23,100 | 25,738 | 28,403 | 33,079 |
| Recycled Water Demand, af/yr | 1,000 | 2,067 | 3,133 | 4,200 | 6,300 |
| **Total Water Demand, af/yr** | **21,509** | **25,167** | **28,871** | **32,603** | **39,379** |

*Source: City of Tracy 2020 UWMP, Table 4-8 Gross Water Use, June 2021.*

## 5.3 Dry Year Water Demand

The City currently has a water conservation program in place, as described in Chapter 9 of the 2020 UWMP. The projected future water demand presented in Table 5-2 includes continued implementation of the City's existing water conservation program demand management measures and is based on future normal hydrologic years. In the 2020 UWMP, the additional water conservation which may occur in single dry or multiple dry years was not assumed to happen. This was a conservative assumption as additional water conservation would likely occur as a result of the City's implementation of additional water conservation measures as outlined in the City's Water Shortage Contingency Plan[3] in response to multiple dry years or other water supply shortages. The City's Water Shortage Contingency Plan includes shortage response actions to reduce water demand and manage supply for water shortage conditions of up to and greater than 50 percent.

As shown in Table 5-1, the City's 2015 demand was significantly lower than 2014 demand in response to the Governor's April 2015 Executive Order B-29-15 mandating 25 percent water conservation statewide. To reduce water use by 25 percent statewide, the SWRCB adopted a regulation which placed each urban water supplier into one of eight tiers which were assigned a conservation standard, ranging between 4 percent and 36 percent. Each month, the SWRCB compared every urban water suppliers' water use with their use for the same month in 2013 to determine if they were on track for meeting their conservation standard. The City was initially placed into Tier 7 with a water conservation standard of 28 percent as compared to 2013 use (the City's conservation standard was reduced to 25 percent in early 2016).

In response, City Council authorized the implementation and amendment of the City's Phase III and IV water restrictions in June 2015 (as defined in Chapter 11.28 of the Tracy Municipal Code) to meet SWRCB emergency drought regulations described above. The City's water conservation efforts and results are an example of the City's ability to implement its Water Shortage Contingency Plan and reduce water

[3] The City's Water Shortage Contingency Plan is incorporated into the Water Management Chapter of the Tracy Municipal Code Chapter 11.28 and Appendix H of the City's 2020 UWMP.

demands in the event of an emergency water supply shortage. In May 2016, the City's water demand was 32.6 percent less than in May 2013, and the City's cumulative savings from June 2015 to May 2016 was 27.2 percent as compared to 2013, indicating the responsiveness of the City's residents to the call for water conservation[4].

As described above, in the 2012-2016 statewide drought, the City met (exceeded) its water conservation goals of 25 percent. For purposes of this WSA and to be conservative, the City assumes that dry year potable water demand is the same as normal year demand.

[4] SWRCB May 2016 Supplier Conservation Compliance (data from June 21, 2016), SWRCB Water Conservation Portal – Conservation Reporting.

# 6.0 CITY OF TRACY WATER SUPPLIES

*10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f) and (g).*

*10910(d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts*

*10910(d)(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:*

*(A) Written contracts or other proof of entitlement to an identified water supply.*

*(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.*

*(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.*

*(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.*

*10910(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water systems or water service contract-holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.*

The Proposed Project, if approved by the City, is anticipated to be served from City's existing and future portfolio of water supplies. The inclusion of existing and planned future water supplies is specifically allowed by the Water Code:

*Water Code section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

The water supply for the Proposed Project will have the same water supply reliability and water quality as the water supply available to the City's other existing and future water customers. Proponents of the Proposed Project will provide their proportionate share of required funding to the City for the acquisition and delivery of treated potable and recycled water supplies to the Proposed Project area.

The water supplies needed to serve the Proposed Project (together with existing water demands and planned future uses) are predominantly described in the 2020 UWMP. Therefore, the descriptions provided below for the City's water supplies have been taken, for the most part, from the 2020 UWMP, which was adopted in June 2021. Supplemental information from other available reports, including the City's WSMP Update, has also been included to provide the most recent data available and to meet the specific requirements of SB 610.

## 6.1 Existing Potable Water Supplies

The City currently receives water from the following sources:

- Untreated surface water from the Central Valley Project (CVP) via the Delta-Mendota Canal (DMC) (treated at the City's John Jones Water Treatment Plant);
- Surface water from the Stanislaus River via the South County Water Supply Project (SCWSP) (delivered by the South San Joaquin Irrigation District [SSJID]);
- Groundwater pumped from nine groundwater wells located within the City; and,
- Untreated surface water from the BBID pre-1914 rights (treated at the City's John Jones Water Treatment Plant).

Also, the City has entered into an agreement with the Semitropic Water Storage District for storage of water supplies for use in dry years and has implemented an Aquifer Storage and Recovery (ASR) Program to allow for injection of surface water supplies into the underlying groundwater basin for storage and later extraction.

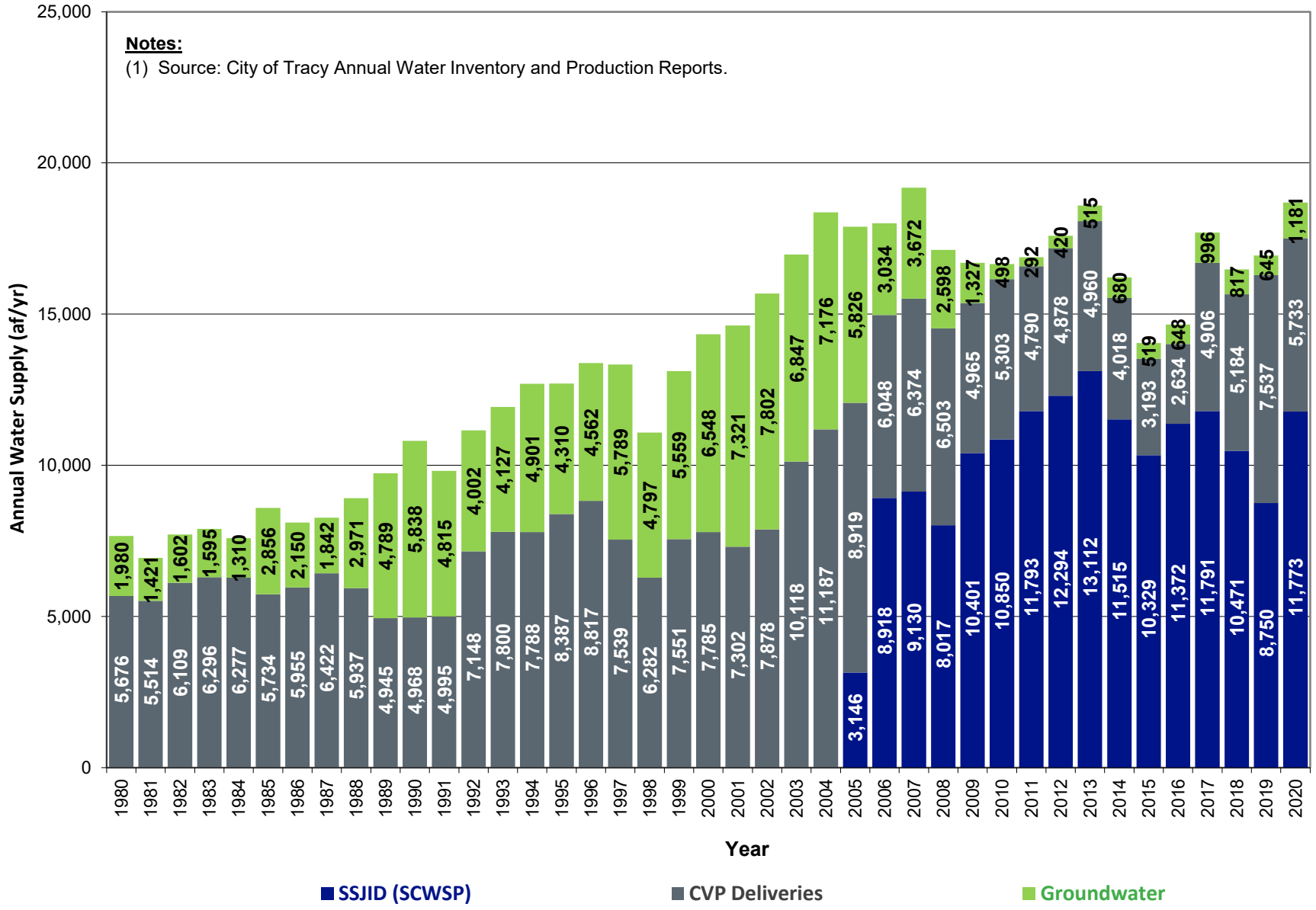
Each of these existing supplies is described below. Summary tables listing the City's existing and additional planned future water supplies, and historical and anticipated future quantities, are provided in Section 6.5, following the discussion of the City's additional planned future water supplies. Figure 6-1 shows the City's historical use of these existing water supplies.

### *6.1.1 Central Valley Project Water via the Delta-Mendota Canal*

The City has contractual entitlements for Central Valley Project (CVP) water as detailed below. In the aggregate, the City's contractual entitlement to the municipal and industrial (M&I) reliability CVP water and assignments of agricultural (Ag) reliability water CVP water from BCID and WSID are referred to as the City's "Existing Contract" with the United States Bureau of Reclamation (USBR). The total quantity of CVP water available to the City under its Existing Contract is 20,000 af/yr (10,000 af/yr of M&I-reliability water and 10,000 af/yr of Ag-reliability water).

The City's CVP water supplies are treated at the City's John Jones Water Treatment Plant (JJWTP), which was originally constructed in 1979, expanded in 1988, and then expanded again in 2008. The JJWTP is located just north of the DMC in the southern portion of the City. With the latest plant expansion, the current treatment capacity of the JJWTP is 30 million gallons per day (mgd) which is sufficient to treat all of the City's CVP water supplies.

## Figure 6-1. City of Tracy Historical Potable Water Supplies



The City also treats and serves CVP water purchased by others. Over the period 2010 through 2018, an average of approximately 630 af/yr of water from the Plain View Water District's (now BBID's) USBR allocation was treated at the JJWTP and delivered to the Patterson Pass Business Park through the City's water distribution system. A comparable quantity of BBID water is anticipated to be treated and delivered annually to the Patterson Pass Business Park in the future. Neither the water supply nor the demand for Patterson Pass Business Park are included in the City supply and demand estimates because the water supply is BBID's, not the City's, and the City only provides water treatment, delivery and billing services on a contractual basis for the Patterson Pass Business Park; the City does not manage either the supply or the demand.

#### 6.1.1.1 Municipal and Industrial Reliability Contract

In July 1974, the City entered into a 40-year contract with the United States Bureau of Reclamation (USBR) for an annual entitlement of 10,000 af/yr of surface water from the CVP via the DMC. The original USBR contract expired in 2014; however, since December 2013, the City and USBR have entered into a series of two-year interim renewal contracts to provide water service to the City while the terms of the long-term contract renewal were negotiated. In November 2021, the Tracy City Council approved a new long-term contract with USBR which became effective on December 1, 2021. The new contract is for 20,000 af/yr, which aggregates the City's M&I-reliability supplies and Ag-reliability supplies (discussed below) from the CVP. The new contract does not have a termination date and would continue as long as water is available and delivered.

#### 6.1.1.2 Agricultural Reliability Contract

In 2004, the USBR approved the assignment of 5,000 af/yr of Ag-reliability CVP contract entitlement to the City from the Banta Carbona Irrigation District (BCID). Concurrently, the USBR approved the assignment of 2,500 af/yr of Ag-reliability CVP contract entitlement water to the City from WSID, with the option to purchase an additional 2,500 af/yr of CVP contract entitlement from the WSID. In December 2013, the City and WSID approved the additional assignment in which the City's current assignment of WSID CVP water is 5,000 af/yr.

#### 6.1.1.3 South-of-Delta Allocations

The City's CVP water supplies are subject to allocations determined by the USBR for 'South-of-Delta' contractors. Historical M&I and Ag allocations for the CVP water supplies are summarized in Table 6-1. Based on the historical record, the City's long-term average allocation of CVP water pursuant to the contract is anticipated to be at least 85 percent of the total entitlement. However, due to recent environmental concerns in the Delta and potential future impacts due to climate change, the normal year reliability of CVP water was assumed to be 75 percent in the 2020 UWMP. In addition, the City conservatively estimated that it will receive 50 percent of its Ag-reliability contractual entitlement in normal water years.[5]

During dry years, a CVP M&I contractor is typically eligible for a minimum shortage allocation equal to 75 percent of adjusted historical use. Per the CVP M&I Water Shortage Allocation Plan, the minimum shortage allocation may be reduced further when the allocation of Ag-reliability water in that year is reduced below 25 percent of contract entitlement. The component of the City's CVP supply that carries

[5] City of Tracy 2020 UWMP, June 2021, Section 7.1.2.1.

Ag-reliability is subject to more significant reductions and is much more dependent on yearly hydrologic conditions than the City's M&I-reliability allocation.

**Table 6-1. Historical Allocations for USBR Central Valley Project Water Supplies**

| Year | M&I Allocation for South of Delta Contractors (% of contract supply unless otherwise noted) | Ag Allocation for South of Delta Contractors (% of contract supply unless otherwise noted) |
|---|---|---|
| 2005 | 100 | 85 |
| 2006 | 100 | 100 |
| 2007 | 75 | 50 |
| 2008 | 75 | 40 |
| 2009 | 60 | 10 |
| 2010 | 75 | 45 |
| 2011 | 100 | 80 |
| 2012 | 75 | 40 |
| 2013 | 70 | 20 |
| 2014 | 50 | 0 |
| 2015 | Public health and safety needs or 25 percent of historical use, whichever is greater | 0 |
| 2016 | 55 percent of historical use | 5 |
| 2017 | 100 percent of contract amount | 100 |
| 2018 | Public health and safety needs or 75 percent of historical use, whichever is greater | 50 |
| 2019 | 100 percent of historical use | 75 |
| 2020 | Public health and safety needs or 70 percent of historical use, whichever is greater | 20 |

#### 6.1.1.4 CVP Water Supply Reliability

In February 2017, new guidelines and procedures went into effect associated with the updated CVP Municipal and Industrial Water Shortage Policy. In general, the policy provides for the following:

- When M&I contractor allocations are at 100 percent, the allocation of M&I water will be based on Contract Total.
- When M&I contractor allocations are below 100 percent, the allocation of M&I water will be based on a contractor's historical use of CVP M&I water.
- An M&I contractor's historical use will be determined by calculating the average quantity of CVP water put to beneficial use within the service area during the last three years of water deliveries that were unconstrained by the availability of CVP water.

The City's reliability assumptions in the 2020 UWMP are sufficiently conservative to adhere to the 2017 guidelines. The City's CVP water single dry year reliability is based on adjusted historical use and provided in its 2020 UWMP, and are assumed as 25 percent for M&I CVP water, and 0 percent for Ag CVP water.

Similarly, the City's CVP water multiple dry year reliability is based on adjusted historical use and provided in its 2020 UWMP and are assumed as 40 percent for M&I CVP water, and 0 percent for Ag CVP water.

### *6.1.2 Surface Water from BBID Pre-1914 Water Rights*

Part of the proposed Tracy Hills Specific Plan area was annexed into the BBID and is entitled to water service from BBID, using BBID's pre-1914 appropriative water rights. This water is delivered to the City via the DMC and is treated at the City's JJWTP before delivery to the Tracy Hills Specific Plan area. The City anticipates that up to 4,500 af/yr of pre-1914 water rights water could be provided by BBID on a year-round basis to serve the Tracy Hills Specific Plan in the BBID service area. However, the volume of water available to the City through this agreement is limited to the demand in the BBID service area portion of the Tracy Hills Specific Plan. The projected potable water demand in this area is estimated to be 3,330 af/yr at Buildout. Because the water supply is based on pre-1914 appropriative rights, the supply is considered to be firm and well-established.

### *6.1.3 Stanislaus River Water*

The City receives Stanislaus River water, in partnership with the cities of Manteca, Lathrop and Escalon, and the SSJID. This partnership constructed the South County Water Supply Project (SCWSP), which consists of the 36 mgd Nick C. DeGroot Water Treatment Plant (DGWTP) near Woodward Reservoir in Stanislaus County and a transmission pipeline to deliver treated surface water to each city. The water supply source for the SCWSP is based on SSJID's senior pre-1914 appropriative water rights to the Stanislaus River, coupled with an agreement with the USBR to store water in New Melones Reservoir.

As part of the SCWSP, the City was initially allocated up to 10,000 af/yr of water based upon SSJID's senior water rights. In 2006, the City entered into a temporary contract with Escalon to purchase Escalon's allocation of 2,015 af/yr of SCWSP supply until Escalon constructs the necessary infrastructure to convey the SCWSP water.[6] In August 2013, SSJID and the Cities of Tracy and Lathrop approved a Lathrop-Tracy Purchase, Sale and Amendment Agreement for the sale of a portion of the City of Lathrop's SCWSP supply and capacity to the City of Tracy. The agreement provides the City with an additional 1,120 af/yr of SCWSP supply and 2 mgd of SCWSP capacity. Thus, the City's current contractual amount of SCWSP water is 13,135 af/yr in total. Once the agreement with Escalon sunsets (anticipated to occur in 2025), the City's contractual allocation will be reduced to 11,120 af/yr. This additional SCWSP supply has the same reliability as the City's original SCWSP supplies.

Treated water deliveries from the SCWSP commenced in July 2005, and deliveries have been essentially uninterrupted since then (see Figure 6-1). Although the City full allocation was available in first few years, deliveries to the City were less than its allocation because the full allocation was not needed. However, in some years since 2009 the City has actually received more than its allocation.

Due to the seniority of the water rights underling the SCWSP, SSJID's pre-1914 appropriative rights to Stanislaus River water, the City has historically assigned a high reliability to SCWSP water. However, in December 2018, the SWRCB released amendments to the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) which included significant changes and could result in significant surface water cutbacks. In its 2020 UWMP, SSJID presented a water reliability analysis assuming that the Bay-Delta Plan Amendment will not be

[6] Escalon Amendment to Tracy- SSJID Water Supply Development Agreement, March 2006.

implemented given its uncertainties. As an SSJID retail agency customer, the City relies on SSJID for the reliability projections for the Stanislaus River water supply. Consistent with SSJID's approach, the City's 2020 UWMP assumes that the Bay-Delta Plan Amendment will not be implemented. However, to fully assess the potential impacts of the Bay-Delta Plan Amendment and better plan for the potential shortfalls, the City conducted a parallel set of reliability analyses assuming that the Bay-Delta Plan Amendment will be implemented and included it as Appendix G of its 2020 UWMP.[7] Uncertainties regarding dry year supply projections are discussed in Section 7.2.

Consistent with the City's 2020 UWMP and for the purposes of this WSA, the City is assumed to receive 100 percent of its SCWSP contractual entitlement in normal years. In future dry years, the City assumed that allocations would be based on the City's contractual entitlement, rather than consumption in a given year. In single dry years, the City expects to receive 76 percent of its SCWSP water supply allocation during 2025, 2030, and 2035 and 56 percent during 2040 and 2045, based on information received from SSJID. In multiple dry years, the City expects to receive 56 to 100 percent of its SCWSP water supply allocation, depending on hydrological conditions. In addition, SCWSP water transferred from Escalon is assumed to be unavailable after 2025.

The anticipated availability and reliability of the SCWSP supply under normal years, single dry years and multiple dry years may be revised based on updated evaluations in conjunction with resolutions of issues associated with the Bay-Delta Plan Amendment. Further, SSJID anticipates the likelihood that more water will be available for local purposes in 2040 based on more efficient water management and urban development displacing irrigated agricultural land uses.[8]

### *6.1.4 Groundwater*

> *10910(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment.*
>
> *10910(f)(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.*
>
> *10910(f)(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.*
>
> *10910(f)(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The*

[7] City of Tracy 2020 UWMP, June 2021, Section 7.1.1.3.

[8] City of Tracy 2020 UWMP, June 2021, Section 7.1.1.2.

*description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.*

*A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.*

*10910(f)(4) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.*

*A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.*

The City's surface water supply is supplemented by local groundwater. The City overlies a portion of the San Joaquin Valley Groundwater Basin-Tracy Subbasin (Tracy Subbasin). The City currently operates nine groundwater wells, with a total extraction capacity of about 18,300 gallons per minute (gpm), or 26 mgd (GEI, 2015). Four wells (Production Wells 1, 2, 3 and 4) are located near the City's JJWTP and pump directly into the JJWTP clearwells, where the groundwater is blended with treated surface water. The other wells (Lincoln Well, Lewis Manor Well (Well 5), Park and Ride Well (Well 6), Ball Park Well (Well 7) and Well 8) are located throughout the City and pump water directly into the distribution system after disinfection. The City's newest well, Well 8, located near the intersection of Tracy Boulevard and 6th Street, was designed as an ASR well, and has been put into service as an ASR well as permitted by the Central Valley Regional Water Quality Control Board. The City's ASR use is described in Section 6.1.5.

#### 6.1.4.1 Basin Description

The City overlies the Tracy Subbasin (Basin; Department of Water Resources [DWR] 5-22.15) of the San Joaquin Valley Groundwater Basin (DWR 5-22). The Tracy Subbasin is not adjudicated, and it is not in a condition of critical overdraft.

The following section describes the Tracy Subbasin, including its water-bearing formations, water levels, and water quality. Much of the following information has been incorporated from the 2020 UWMP. Except where noted, the description of the subbasin is based largely on information provided in the 2003 DWR Bulletin 118, in which the groundwater basin description was last updated in January 2006. The Tracy Subbasin is designated as a medium priority basin under DWR's 2019 Phase 2 Basin Prioritization (DWR, 2019a).

The Tracy Subbasin covers an area of approximately 373 square miles. It is bounded on the northwest by the Old River south to the tri-county confluence point and on the south by the Clifton Forebay where it then follows the Contra Costa-Alameda County line to the foothills of the Coastal Range mountains. The northeast boundary follows the San Joaquin River south to the San Joaquin County Line with a slight jog to include the City of Lathrop on the west side of the river. The southern border of the Subbasin generally follows the San Joaquin-Stanislaus County line, with some irregular areas belonging to the Delta-Mendota Subbasin to the south. The western border follows the Coastal Range foothills from the San Joaquin-Stanislaus County line; north to the Contra Costa-Alameda County line. The Subbasin is a mix of Delta islands (mostly agriculture) and waterways along with urban and agricultural communities on the southern edge.[9]

Adjacent to the Tracy Subbasin are the Eastern San Joaquin Subbasin to the east, the Delta-Mendota Subbasin to the south, and the Sacramento Valley Groundwater Basin to the north. The three subbasins, not including the Sacramento Valley Groundwater Basin, are part of the San Joaquin Valley Groundwater Basin. The San Joaquin River and one of its major west side tributaries, Corral Hollow Creek, provide drainage from the Tracy Subbasin. The San Joaquin River flows northward into the Sacramento and San Joaquin Delta and discharges into San Francisco Bay.

The Tracy Subbasin is comprised of continental deposits of Late Tertiary to Quaternary age. These deposits include the Tulare Formation, Older Alluvium, Flood Basin Deposits, and Younger Alluvium. The cumulative thickness of these deposits increases from a few hundred feet near the Coast Range foothills on the west to about 3,000 feet along the eastern margin of the subbasin.

Each of these formations is described below.

- The Tulare Formation is exposed in the Coast Range foothills along the western margin of the subbasin and dips eastward toward the axis of the San Joaquin Valley. The Tulare Formation is approximately 1,400 feet thick and consists of semi-consolidated, poorly sorted, discontinuous deposits of clay, silt, and gravel. The Corcoran Clay occurs near the top of the Tulare Formation and confines the underlying fresh water deposits. The eastern limit of the Corcoran Clay is near the eastern boundary of the subbasin. The Tulare Formation is moderately permeable, with most of the larger agricultural, municipal, and industrial wells completed below the Corcoran Clay and capable of producing up to about 3,000 gpm. Smaller, domestic wells are typically completed above the Corcoran Clay, where the groundwater is often of poor quality. Specific yield values for the Tulare Formation in the San Joaquin Valley and Delta area range from 7 to 10 percent.
- The Older Alluvium is approximately 150 feet thick and consists of loosely to moderately compacted sand, silt, and gravel deposited in alluvial fans during the Pliocene and Pleistocene eras. The Older Alluvium is widely exposed between the Coast Range foothills and the Delta and is moderately to locally highly permeable.

[9] GEI, 2020. Draft Tracy Subbasin Groundwater Sustainability Plan, Chapters 1-3, June 23, 2020.

### 6.1.4.2 Groundwater Management

#### *6.1.4.2.1 Pre-SGMA Groundwater Management*

Prior to the passage of the Sustainable Groundwater Management Act (SGMA) in 2014, the 1992 Groundwater Management Act, Assembly Bill (AB) 3030, established provisions by which local water agencies could develop and implement Groundwater Management Plans (GWMP). GWMPs are generally designed to prevent local and regional aquifer overdraft, which reduces available groundwater resources and which, under certain conditions, can lead to degradation of water quality and to land subsidence.

The City, BBID, Banta-Carbona Irrigation District (BCID), and San Joaquin County formed a Groundwater Advisory Committee to facilitate the development of a regional GWMP for the Tracy Subbasin. The planning area of the Tracy GWMP encompassed the portion of the Tracy Subbasin underlying San Joaquin County. The Tracy GWMP was adopted in 2007 and is available on the San Luis & Delta-Mendota Water Authority website:
http://sldmwa.org/OHTDocs/pdf_documents/Groundwater/GroundwaterManagementPlanNorthernApproved11_2011.pdf

The key results of the Tracy GWMP included the following:

- Developed a general consensus among stakeholders regarding the characterization of the area's water problems, current and future demands, and groundwater conditions;
- Documented the region's groundwater management goals and establishing basin management objectives to help measure progress in attaining the goals;
- Developed specific solutions and common programs for the basin; and
- Provided an implementation plan to direct future groundwater management activities.

The Tracy GWMP concluded that the Tracy Subbasin is full, but experiences groundwater quality issues in portions of the basin associated with nitrate, boron, sulfate, chloride, and total dissolved solids (TDS). As such, many of the groundwater management options that were recommended focused on creating available storage and managing pumping in order to increase water quality within the Tracy Subbasin.

San Joaquin County is the designated Monitoring Entity under CASGEM for the portion of the Tracy Subbasin underlying the county. However, upon submission of the GSP, the CASGEM program will be superseded by the SGMA monitoring efforts.

#### *6.1.4.2.2 SGMA Groundwater Management*

On August 29, 2014, the California Legislature passed comprehensive groundwater legislation contained in SBs 1168 and 1319, and AB 1739, which are collectively referred to as SGMA. This legislation was signed by Governor Brown on September 16, 2014 and it became effective on January 1, 2015. The legislative intent of SGMA is to provide sustainable management of groundwater basins, enhance local management of groundwater, establish minimum standards for sustainable groundwater management, and provide local groundwater agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater.

The Tracy Subbasin is designated by DWR as a medium priority basin (DWR, 2019a). As such, the Tracy Subbasin is subject to the requirements of SGMA, which include the formation of a one or more

Groundwater Sustainability Agencies (GSAs) and the development and implementation of one or more Groundwater Sustainability Plans (GSPs) by January 31, 2022. If the statutory deadline is not met for GSP development and/or implementation, the State has the authority to intervene and manage groundwater within non-compliant subbasins. SGMA requires that adopted GSPs result in sustainable groundwater management which avoids undesirable results.

The Tracy Subbasin contained areas of San Joaquin, Contra Costa and Alameda Counties. The Banta-Carbona Irrigation District, Byron-Bethany Irrigation District, City of Tracy, City of Lathrop, Stewart Tract, West Side Irrigation District, and San Joaquin County are GSAs within the Tracy Subbasin. The GSAs recognize that developing and adopting a single GSP for the subbasin would be the most efficient way of achieving sustainability and preventing State intervention into local groundwater management.

Working with San Joaquin County and the Tracy Subbasin GSAs, a Memorandum of Agreement (MOA) has been developed for the development of the San Joaquin County GSP for the Tracy Subbasin. Under the terms of the MOA, San Joaquin County is designated as the lead entity to enter into an agreement with the City of Brentwood to coordinate the allocation of grant funds.

The City, BCID, BBID[10], City of Lathrop, San Joaquin County, and Stewart Tract are the six GSAs formed in the Tracy Subbasin and are working cooperatively to develop a single GSP. The Tracy Subbasin GSAs were awarded a DWR grant to develop the GSP. Pursuant to the Grant Agreement, each GSA designated an appointee to form the GSP Coordination Committee, and the San Joaquin County was appointed as the Grant Administrator. The Grant Administrator or any two appointees may call meetings of the GSP Coordination Committee as needed to in the GSP development process.

The GSP for the Tracy Subbasin has been completed and is currently in the process of being adopted by each of the GSAs. The Tracy City Council adopted the Final GSP on November 16, 2021. The other GSAs are anticipated to adopt the Final GSP in December 2021. The Final GSP must be submitted to DWR by the statutory deadline of January 31, 2022. The Draft Final GSP is available for public review on the Tracy Subbasin website: https://tracysubbasin.org/gsp-chapters/.

As one of the six GSAs that are managing the Tracy Subbasin., the City has been actively involved in GSP development activities and will continue to be involved throughout SGMA implementation. The City has one appointee (and an alternate) on the Tracy Subbasin GSP Coordination Committee, which meets quarterly, and the Technical Committee, which meets monthly.

#### 6.1.4.3 Groundwater Yield

Based on a groundwater study the City completed in 2001 (Bookman-Edmonston, 2001), the City is able to withdraw up to 9,000 af/yr from the Tracy Subbasin on an average annual basis. However, groundwater production is constrained by the City's well production and treatment capacity, as the infrastructure is aging. Production is further limited by the water quality issues of the City's groundwater supplies, including high total dissolved solids (TDS) concentrations, hardness, and potential formation of chloramines. As the Groundwater Sustainability Plan (GSP) for the Tracy Subbasin is developed and implemented, the City's groundwater supply reliability may be revisited.

[10] West Side Irrigation District has officially merged with Byron-Bethany Irrigation District in September 2020, which occurred later than the release of the draft GSP chapters.

A 1990 Kennedy/Jenks/Chilton (K/J/C) study estimated a perennial groundwater yield of 6,700 af/yr in the Tracy Sub-basin within the Tracy Study Area. However, in 2001, to determine if additional groundwater resources were available in the Tracy Study Area, the City conducted an updated groundwater analysis. The Estimated Groundwater Yield Study, prepared by Bookman-Edmonston Engineering provided an evaluation of potential groundwater yield and determined that a 2,300 af/yr increase of the average annual operational groundwater yield above the groundwater yield recommended in the 1990 K/J/C study could be provided within the estimated safe yield of the Tracy Sub-basin in the Tracy Study Area, without adverse impact to groundwater resources or quality in the Tracy Study Area over a 50-year timeframe. This expansion of groundwater usage to 9,000 af/yr would be within the City's estimated 22,000 af/yr share of the aquifer's estimated total safe yield of 28,000 af/yr (total includes City groundwater usage as well as groundwater usage within West Side Irrigation District, Naglee-Burk Irrigation District, Plain View Water District (now part of the Byron Bethany Irrigation District), and Banta-Carbona Irrigation District). It was also estimated that this expansion of groundwater usage would result in a groundwater level drop of 10 feet but would stabilize at this level.

In 2015, the City hired GEI to perform an assessment on what the effects would be if the City were to pump between 16,000 and 22,000 af/yr for a single year to meet its demands during a drought emergency when no surface water supplies were available. The assessment considered potential impacts on groundwater levels, groundwater quality, and land subsidence. GEI's approach to this assessment was to estimate drawdown beneath the City, including drawdown caused by well interference, under scenarios wherein all of the City's wells were pumped for a single year at rates needed to meet the above stated demands. Drawdown estimates were made using analytical methods and aquifer hydraulic property data from pumping tests performed at two of the City's wells. Results showed that the City does have capacity to pump its wells to meet these single dry year demands, but that drawdown in the City's wells and at locations proximate to the City would exceed that which has been historically observed. GEI (2015) estimated that groundwater levels would recover from their drawdown within approximately seven years.

#### 6.1.4.4 Groundwater Quality

Groundwater quality in the Tracy Subbasin varies spatially and with depth. In general, the northern part of the Tracy Subbasin is characterized by a sodium water type, and the southern part of the Tracy Subbasin is characterized by calcium-sodium water type (Sorenson, 1981). The northern part of the Tracy Subbasin is also characterized by a wide range of anionic water types, including bicarbonate; chloride; and mixed bicarbonate-chloride. Major anions in the southern part of the Tracy Subbasin include sulfate-chloride and bicarbonate-chloride.

There is also a difference between the water quality in the water-bearing zones above the Corcoran Clay (termed the "semi-confined aquifer") and below the Corcoran Clay (termed the "confined aquifer"). Generally, the water quality of the confined aquifer is better than that of the semi-confined aquifer (Stoddard & Associates 1996).

Constituents present at elevated concentrations throughout the Tracy Subbasin in both the semi-confined and confined aquifers include chloride, nitrate, sulfate, and boron. Elevated chloride occurs in several areas near Tracy and along the San Joaquin River. Areas of elevated nitrate occur in the northwestern part of the Tracy Subbasin and in the vicinity of Tracy. Elevated boron occurs over a large portion of the Tracy Subbasin from south of Tracy extending to the northwest side of the Tracy Subbasin. Sulfate concentrations of up to 500 mg/L have been detected in Tracy Subbasin groundwater. The groundwater near Tracy is considered to be very hard (Stoddard & Associates, 1996).

A summary of groundwater quality in the Tracy Subbasin is included in the GSP materials available on the Tracy Subbasin website (https://tracysubbasin.org/). The water quality conditions in groundwater represent conditions for source water, prior to treatment by the City and service to customers.

One water quality concern that the City actively manages is TDS. The City's groundwater supply typically meets the primary maximum contaminant level (MCL) of 1,000 milligrams per liter (mg/L) but frequently exceeds the secondary MCL of 500 mg/L. In 2019, the City's groundwater supply ranged from 386 to 876 mg/L of TDS, with an average concentration of 752 mg/L.[25] Because the TDS concentrations are significantly higher in the groundwater supply than in the City's other water supply sources, in order to meet the secondary MCL in its overall water supply, the City typically scales back its groundwater production from its estimated sustainable yield of 9,000 af/yr, particularly in normal rainfall years.

The City continues to rely on groundwater for peaking, and under drought conditions, it typically increases its groundwater production as needed to meet demands when surface water supplies become more limited. Groundwater quality is not expected to impact the reliability of available water supplies in the 2020 UWMP planning horizon.[11]

#### 6.1.4.5 Historical Groundwater Use

As discussed previously, the City currently operates nine groundwater extraction wells:

- Well 1 (at JJWTP)
- Well 2 (at JJWTP)
- Well 3 (at JJWTP)
- Well 4 (at JJWTP)
- Lincoln Well
- Well 5 (Lewis Manor Well)
- Well 6 (Ball Park Well)
- Well 7 (Park & Ride Well)
- Well 8 (for ASR)

The City's newest well, Well 8, was constructed in January 2004 and was permitted by the California Department of Public Health[12] for use as a municipal production well in September 2010, and was used as an ASR demonstration well during 2011, 2012 and 2013, In November 2013, the City received authorization from the Central Valley Regional Water Quality Control Board (RWQCB) to operate Well 8 as an ASR well.

Historically, groundwater had accounted for up to 50 percent of the City's water supply. Prior to 2001, groundwater extraction in Tracy totaled less than 6,000 af/yr. Between 2001 and 2004, to meet increased demands for water, Tracy began extracting additional groundwater, ranging from 6,878 to 7,717 af/yr. In 2005, groundwater extraction decreased to approximately 6,000 af/yr because: (1) the SCWSP was completed and the City began receiving Stanislaus River water, and (2) rainfall was above normal, meaning that the City received a high percentage of its DMC/CVP contractual entitlements. From 2006 to 2010, groundwater extraction ranged from 3,672 af/yr to 498 af/yr, declining as more water was used from SSJID. The City's groundwater production over the last several years is provided in Table 6-2.

[11] City of Tracy 2020 UWMP, June 2021, Section 7.1.1.8.

[12] As of July 1, 2014, the State's administration of the Drinking Water Program transferred from the State Department of Public Health to the SWRCB Division of Drinking Water (DDW).

**Table 6-2. City of Tracy Historical Groundwater Production**

| Condition | 2012[a] | 2013[a] | 2014[a] | 2015[a] | 2016[b] | 2017[b] | 2018[b] | 2019[b] | 2020[b] |
|---|---|---|---|---|---|---|---|---|---|
| Total Groundwater Production, af/yr | 252 | 515 | 680 | 519 | 648 | 996 | 817 | 645 | 1,181 |

(a) Source: City of Tracy 2015 UWMP, Table 5-1 Current and Historical Potable Water Supply, May 2016.
(b) Source: City of Tracy WSMP Update, Table 6-1 Groundwater Volume Pumped, June 2021.

Other groundwater users in the Tracy area include the West Side Irrigation District, Naglee-Burk Irrigation District, Plain View Water District (now the Byron Bethany Irrigation District), and Banta-Carbona Irrigation District. Although current groundwater pumpage by these users was not available for inclusion in this WSA, the 2001 Estimated Groundwater Yield Study, which established the City's estimated groundwater yield of 9,000 af/yr, considered the cumulative groundwater usage in the study area by the City and other users in the Tracy area.

### 6.1.4.6 Projected Future Groundwater Use

As discussed in Section 6.1.4.3, the City may sustainably pump up to 9,000 af/yr from the local groundwater basin. Since the hard, high TDS groundwater is of lower quality than the City's surface water sources, the City has scaled back its groundwater extraction in most years. However, the City will continue to rely on groundwater for peaking and drought and emergency water supply. Table 6-3 shows the anticipated future groundwater production during a normal year and during dry years.

As can be seen in Table 6-3, the City anticipates that total extraction during a normal year will be 2,500 af/yr through the planning horizon. By reducing groundwater extraction on an average annual basis, the City will: (1) increase the overall quality of its drinking water, thus increasing customer satisfaction and reducing system maintenance and repair caused by the lower-quality groundwater; and (2) recharge the underlying aquifer, effectively increasing the availability of groundwater during a drought or emergency condition (i.e., effectively "banking" groundwater). At the production volumes shown in Table 6-3, the City's groundwater supplies are considered to be 100 percent reliable.

The projected uses of groundwater during droughts shown in Table 6-3 are consistent with the City's Groundwater Management Policy (PMC, 2001). In the event that the City is unable to secure additional high-quality surface water supplies in the future, the City is able to expand groundwater production up to 9,000 af/yr. In the event of a severe water supply shortage or emergency, the City has the ability to increase production dramatically, up to 22,000 af/yr (GEI, 2015).

**Table 6-3. City of Tracy Projected Future Groundwater Production in Normal and Dry Years**

| Condition | 2025 | 2030 | 2035 | 2040 | 2045 |
|---|---|---|---|---|---|
| Total Groundwater Production During a Normal Year, af/yr[a] | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 |
| Total Groundwater Production During Dry Years, af/yr[b] | 4,500 | 4,500 | 4,500 | 4,500 | 4,500 |

(a) *Source: City of Tracy 2020 UWMP, Table 7-2 Projected Water Supply in Normal Years, June 2021.*
(b) Source: *City of Tracy 2020 UWMP, Section 7.1.2.2 and Section 7.1.2.3, June 2021.*

#### 6.1.4.7 Groundwater Sufficiency

The 2020 UWMP addressed the sufficiency of the City's groundwater supplies, in conjunction with the City's other existing and additional water supplies, to meet the City's existing and planned future uses[13]. Based on the information provided above and included in the 2020 UWMP, the City's groundwater supply, together with the City's other existing and additional planned future water supplies, is sufficient to meet the water demands of the Proposed Project, in addition to the City's existing uses.

As discussed above, the City's use of groundwater over the last few years has significantly declined, primarily due to the availability of higher-quality surface water supplies from the SCWSP. In the future, although the City can sustainably extract up to 9,000 af/yr of groundwater on a continuous basis, the City's use of groundwater under normal hydrologic conditions is anticipated to be lower, as available higher-quality surface water supplies would be utilized first. As shown in Table 6-3, in the future, assuming normal year hydrologic conditions, annual groundwater use is anticipated to be 2,500 af/yr. This anticipated future groundwater pumpage is significantly below the City's maximum historical groundwater pumpage (see Figure 6-1) and the average annual operational yield of 9,000 af/yr.

- The Flood Basin Deposits occur in the Delta portion of the subbasin and are the distal equivalents of the Tulare Formation and Older and Younger alluvial units. The Flood Basin Deposits consist primarily of silts and clays with occasional interbeds of gravel along the present waterways. Because of their fine-grained nature, the Flood Basin Deposits have low permeability and generally yield low quantities of water to wells. Occasional zones of fresh water are found in the Flood Basin Deposits, but they generally contain poor quality groundwater. The maximum thickness of the Flood Basin Deposits is about 1,400 feet.
- The Younger Alluvium includes those deposits that are currently accumulating, including sediments deposited in the channels of active streams, as well as overbank deposits and terraces of these active streams. The Younger Alluvium, consisting of unconsolidated silt, fine- to medium-grained sand, and gravel, is present to depths of less than 100 feet below ground surface (bgs) along the channel of Corral Hollow Creek. Sand and gravel zones in the Younger Alluvium are highly permeable and, where saturated, yield significant quantities of water to wells.

### *6.1.5 Aquifer Storage and Recovery*

The City has been implementing an ASR Program to store surplus treated surface water in the confined aquifer beneath Tracy and extract that water to meet peak demands or supplement surface water sources during dry years. The City has one former groundwater extraction well, Well 8, which has been operated as an ASR well since 2013 after the successful demonstration of ASR feasibility.[14] Well 8 is located near the intersection of Tracy Boulevard and 6th Street and penetrates the Lower Tulare Formation.

The recharge water source of the City's ASR Program is treated SCWSP water.[15] The City's SCWSP water supply is of exceptionally high water quality, with a TDS concentration of approximately 64 milligrams per

[13] Chapter 6, City of Tracy 2020 Urban Water Management Plan, prepared by Erler & Kalinowski, Inc., June 2021.

[14] Notice of Applicability for General Water Quality Order 2012-0010-DWQ-RB5S-0002, Aquifer Storage and Recovery Program, City of Tracy (Well No. 8), San Joaquin County, dated 13 November 2013.

[15] Per the terms of its agreement with the RWQCB, the City is not permitted to inject treated DMC/CVP at Well 8.

liter (mg/L).[16] Since the TDS concentration of the recharge water source is much lower than that of the Lower Tulare Formation aquifer's native groundwater, operation of the City's ASR Program reduces the localized salinity of the aquifer, resulting in lower TDS content in water supplies extracted from Well 8 than would be expected in the absence of the ASR Program. Additionally, the reduced salinity in groundwater recovered from Well 8 results in lower salt loading at the City's wastewater treatment plant (WWTP), which eventually reduces the salinity of effluent from the WWTP. This helps the City meet its Regional Water Quality Control Board (RWQCB) effluent salinity requirements and provides environmental benefits to the river ecosystems.

Injection of SCWSP water into the ASR well occurs during the winter months (i.e., November through April), when City demands are low. Extraction occurs primarily in the summer months to meet increased demands associated with irrigation needs, and as needed during droughts and water shortage emergencies. It is estimated that between 685 and 915 af/yr of potable water could be injected into the aquifer, assuming a 5-month continuous injection rate of 1.5 to 2.0 mgd at Well 8. The City's strategic plan for ASR operations at Well 8 involves injecting up to 1,000 af/yr over six months during the winter and extracting 75 percent of the injection volume during the following summer. These operations would result in net injection into the Lower Tulare Formation aquifer, which will gradually create a "buffer supply" that the City can utilize in dry years or during water shortage emergencies. In 2020, a net volume of approximately 190 af was injected and stored at Well 8 for the following year.

The City plans to implement its ASR Program stages as new ASR wells are constructed. The ASR supply will be available to meet demands in dry years, thereby increasing the reliability of the City's water supply during drought conditions or water shortage emergencies.

### *6.1.6 Semitropic Groundwater Storage Bank*

The City has acquired the rights to store and recover water in the Semitropic Groundwater Storage Bank (Semitropic) operated by the Semitropic Water Storage District (Semitropic WSD). The Semitropic facilities are located in Kern County alongside the California Aqueduct and the DMC. The first phase of Semitropic was initiated in the early 1990s and established one million acre-feet of storage for a group of agencies referred to as the Original Banking Partners. In response to increased demand for banking capacity, up to 650,000 af of additional storage was created for the Stored Water Recovery Unit (SWRU). When an agency purchases storage capacity in Semitropic, it is able to recover the volume of water it has banked over a period of three consecutive years (i.e., 3,000 af equates to a maximum recovery rate of 1,000 af/yr for three years).

The City originally entered into a pilot agreement with Semitropic WSD in June 2006 for 1,000 af of water storage in Semitropic's SWRU. The pilot agreement was intended to establish the procedures for water deposits and withdrawals by the City and was terminated when the permanent agreement was implemented. In 2012, the City entered into a long-term agreement with Semitropic WSD for up to 10,500 af of storage volume.[17] This storage agreement allows the City to withdraw up to 3,500 af of water annually for three years. To store water in Semitropic, the City withdraws less than its available allocation

[16] City of Tracy 2019 Water Quality Report: https://www.ci.tracy.ca.us/documents/2019_City_of_Tracy_Water_Quality_Report.pdf.

[17] "Agreement Between City of Tracy and Semitropic Water Storage District and Its Improvement Districts for Participation in the Stored Water Recovery Unit of the Semitropic Water Banking and Exchange Program" dated November 2012.

of CVP water from the DMC.This water travels through the DMC where it is diverted by Semitropic and used for local groundwater recharge. When the City wishes to withdraw water that it has banked previously, Semitropic arranges for the City to divert CVP water beyond its allocation from the DMC. This source of water is provided through either an exchange of Semitropic WSD's contractual entitlement to State Water Project (SWP) water or through direct "pump back" of stored groundwater into the California Aqueduct by Semitropic WSD.

Though the City could utilize this supply in any year, it is most valuable during extended drought years when the City's surface water supplies are reduced. The City anticipates that banking water at Semitropic will increase the reliability of the City's water supply and help close the potential future gap between supply and demand during drought conditions or other water supply shortage emergencies. If the City uses water from the Semitropic water bank in any given year, it would manage its supplies during subsequent years such that it could refill the water bank for future use. The City plans to actively maintain storage in Semitropic as feasible.

As of December 2020, the City had 6,887 af of water in storage at Semitropic.

## 6.2 Additional Planned Future Potable Water Supplies

In addition to the City's existing potable water supplies described above, the City has a number of additional planned future potable water supplies to meet the City's existing and projected future water demands, including those associated with the Proposed Project. The inclusion of planned future water supplies in this WSA is specifically allowed by the Water Code:

> *Water Code Section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

The City anticipates implementation of the following projects for additional future potable water supplies:

- ASR Program Expansion
- Recycled Water Distribution Network and Exchange Program for Additional CVP Water Supplies

The City also anticipates increased water supply to meet M&I demands as agricultural land is developed. However, additional water supply through land use conversion has associated constraints that must be resolved.

These additional planned future water supplies are described in further detail below. Summary tables listing the City's existing and additional planned future water supplies, and historical and anticipated future quantities are provided in Section 6.5.

### *6.2.1 ASR Program Expansion*

As described above, the City currently has one ASR well (Well 8) which allows the City to inject excess SCWSP water supplies into the groundwater basin for later extraction when needed. The current injection and extraction capacity is 700 af/yr. The City is planning to expand the ASR program with the installation of additional ASR wells. According to the WSMP Update, the City's ASR Program will be expanded to provide up to 1,000 af/yr of water supplies from the existing and new ASR wells by 2040. The ASR supply will be used to meet demands during dry years, thereby increasing the reliability of the City's water supply

and helping to close the potential gap between supply and demand during drought conditions or water shortage emergencies.

One constraint with the City's ASR Program is that the permit only allows for SCWSP water to be injected. This means that the City has to shut down the JJWTP and the groundwater wells during the injection period so that only SCWSP supplies are being utilized. A potential alternative to avoid this operational restriction, if the City's ASR permit cannot be modified to allow for other water supplies to be injected, would be to construct a dedicated SCWSP water pipeline to the ASR well(s). Future expansion of the ASR program will need to fully evaluate these operational restrictions and potential alternatives.

### *6.2.2 Recycled Water Distribution Network and Exchange Program for Additional CVP Water Supplies*

The City is evaluating indirect reuse of its recycled water through an exchange agreement with the USBR, where a portion of the City's recycled water would be discharged into the DMC, and a like amount of water would be diverted from the DMC for treatment at the JJWTP for potable use. This project is considered an essential part of the City's projected future water supply portfolio as it provides the following multiple benefits:

- Provides for the beneficial use of recycled water;
- Provides an additional potable water supply for the City;
- Improves water supply reliability and reduces the City's dependence on other imported supplies;
- Builds on the existing wastewater and recycled water infrastructure; and
- Reduces salt loading in the Delta as USBR has to release additional water from the New Melones Reservoir to meet Delta salinity standards.

The Recycled Water Distribution Network and Exchange Program would require development of a project description, National Environmental Policy Act (NEPA) / California Environmental Quality Act (CEQA) review, an exchange agreement with the USBR, and design and construction of a new recycled water pipeline to discharge recycled water to the DMC downstream of the City's JJWTP intake. Assuming such a project is implemented, the City expects that it would initially provide an estimated 1,925 af/yr of potable water, and future expansion of the program could be implemented as needed to meet future demands up to 7,500 af/yr. This supply would be 100 percent reliable and would not be subject to drought cutbacks.

### *6.2.3 Additional Central Valley Project Water Supplies from BBID via the Delta-Mendota Canal*

Additional BBID DMC/CVP water supplies may be available to the City as agricultural land is converted to M&I uses. The land area that could potentially provide this additional water supply includes the portion of BBID's service area that falls within the City's planning areas (excluding the BBID Raw Water Service Area 2). Eligible land area is estimated to be approximately 2,600 acres. While the exact quantity of water that would be available is unknown, a contractual entitlement equal to 3.4 af/yr/acre may be available, resulting in a total supply of up to 8,800 af/yr (2,600 acres x 3.4 af/yr/acre).

The additional water supplies would, however, have agricultural reliability similar to the City's Ag reliability CVP supplies described in Section 6.1.1.2 above and would be subject to significant cutbacks in dry years. Agreements between the City and BBID, as well as environmental review, would need to occur before such a transaction could take place.

Because of the uncertainty associated with the availability and reliability of this supply source, especially in dry years, for purposes of the City's 2020 UWMP and this WSA, this future water supply is assumed to be unavailable to the City.

## 6.3 Additional Planned Future Non-Potable Water Supplies

### *6.3.1 Recycled Water*

The City has invested in infrastructure to produce and deliver recycled water. The City's WWTP has sufficient treatment capacity to produce approximately 9.0 mgd of tertiary-treated recycled water meeting the Title 22 requirements, which can be reused for landscape irrigation and other non-potable uses. The City's current recycled water system consists of a pump station at the WWTP and approximately 7.6 miles of recycled water transmission line from the WWTP west to Lammers Road and south to W. Schulte Road. Currently the only service connection is for the Legacy Fields Sports Complex.

#### 6.3.1.1 Planned Uses Within Service Area

At this time, no recycled water is used within the City's service area. The City is planning to expand the existing recycled water system to serve future development areas, as well as a small number of existing parks and irrigated areas. New developments in the City are required to include recycled water distribution systems in accordance with the City's Recycled and Non-Potable Water Ordinance (Tracy Municipal Code, Chapter 11.30). The City's Department of Utilities and Development Services are coordinating planning efforts to connect existing water customers and new development to recycled water.

The City intends to expand the existing recycled water system to serve non-potable water demands in most of the new development areas. Recycled water is planned to be used at: (a) parks, sports fields, and other landscape areas; (b) industrial facilities such as the Tracy Power Plant; (c) fill stations for dust control during construction, street sweeping, and residential emergency landscape irrigation; and (d) the proposed lakes at Tracy Village. The future recycled water use was estimated to be 1,000 af/yr in 2025, increasing to 6,300 af/yr in 2045 as new development areas build out, based on the adopted unit water demand factors and the future dwelling units or gross acreage.

Several future service areas already have recycled water distribution pipelines installed by developers, including Cordes Ranch, Ellis Specific Plan Phase 1, and Tracy Hills Phase 1. These pipelines are not yet connected to the recycled water mains, but instead are temporarily connected to the potable water system to meet irrigation demands. Once recycled water system construction is complete and the appropriate permitting is completed, the pipelines will be connected to the recycled water system and the temporary connections to the potable water system will be removed.

#### 6.3.1.2 Other Potential Future Uses

The City is considering other potential future uses for recycled water. As described in Section 6.2.2, the City is evaluating the use recycled water in exchange for additional CVP supply through the proposed Recycled Water Distribution Network and Exchange Program.

The City is also considering the potential for direct potable reuse of recycled water in the future. With direct potable reuse, recycled water would be discharged directly into the DMC and then conveyed to downstream users, including the City. However, the project is in the conceptual evaluation stage and therefore the future recycled water use associated with this potential approach is not quantified.

### *6.3.2 Shallow Non-Potable Groundwater*

The Tracy Subbasin underlying the City has two aquifers: semi-confined and confined. The City's production wells draw groundwater solely from the confined portion of the Lower Tulare Formation aquifer. Above the confining Corcoran Clay is shallow groundwater that is not currently used for groundwater production. The water quality is considered to be not suitable for direct use due to the poor water quality. Thus, it is not included as a future supply source.

## 6.4 Summary of Existing and Additional Planned Future Water Supplies

Table 6-4 provides a summary of the City's existing and additional planned future water supply entitlements. As indicated in the table and discussed in Section 6.1, the City has historically used its existing water supply entitlements.

A discussion of the future anticipated availability of these existing and additional planned future water supplies during normal year, single dry year, and multiple dry years is provided in Section 6.5.

**Table 6-4. Summary of Existing and Additional Planned Future Water Supplies**

| Supply | Water Supply Entitlement, af/yr | Supply Used by City |
|---|---|---|
| Existing Water Supplies | | |
| USBR CVP - Tracy Contract[a] | 10,000 | Yes |
| USBR CVP - BCID Contract[b] | 5,000 | Yes |
| USBR CVP - WSID Contract[c] | 5,000 | Yes |
| BBID (pre-1914)[d] | 3,330 | Yes |
| SCWSP (SSJID) (pre-1914)[e] | 11,120 | Yes |
| Groundwater[f] | 9,000 | Yes |
| Dry Year Supplies | | |
| Semitropic Water Storage Bank[g] | 3,500 | Yes |
| Aquifer Storage and Recovery | 1,000 | Yes |
| Additional Planned Future Water Supplies | | |
| Additional USBR CVP (BBID contract)[h] | — | No |
| Recycled Water Exchange (Potable) | 7,500 | No |
| Recycled Water (for non-potable uses)[i] | 6,300 | No |

(a) M&I-reliability CVP water. Assumes the terms of the long-term renewal contract with the USBR are consistent with those of the interim renewal contract entered into between the City and USBR in February 2016.

(b) In June 2001, the USBR approved the assignment of 5,000 af/yr of BCID's contractual entitlement to Ag-reliability CVP water.

(c) In August 2001, the USBR approved the assignment of 2,500 af/yr of WSID's contractual entitlement to Ag-reliability CVP water, with the option to purchase an additional 2,500 af/yr in the future. In December 2013, the City and WSID approved the additional assignment; the City's current assignment of WSID CVP water is 5,000 af/yr.

(d) The City anticipates that up to 4,500 af/yr of BBID pre-1914 water will be available to serve the Tracy Hills Specific Plan development. This water is only available for use in the portion of Tracy Hills that lies within BBID Raw Water Service Area 2 the CVP Consolidated Place of Use, so the quantity of supply is limited to potable water demand in this area. Therefore, the maximum BBID supply delivered to this area is reduced to 3,330 af/yr.

(e) Includes the 10,000 af/yr allocation and the additional 1,120 af/yr obtained through the 2013 Lathrop-Tracy Purchase, Sale, and Amendment Agreement. Does not include the interim purchase from Escalon.

(f) The City is able to withdraw up to 9,000 af/yr of groundwater from the Tracy Subbasin. However, due to the aging infrastructure and water quality issues in the City's groundwater supplies, the City is projecting to be able to withdraw up to 2,500 af/yr in normal years. During dry years, the City anticipates increasing its groundwater production on a short-term basis from the normal year production of 2,500 af/yr to 4,500 af/yr.

(g) The City has purchased 10,500 af of water storage in the Stored Water Recovery Unit, which allows the City to withdraw up to 3,500 af/yr for three consecutive years.

(h) While up to 8,800 af/yr of BBID's Ag-reliability CVP water may be available as agricultural lands are converted to other uses, for purposes of water supply planning, the City assumes this supply will not be available.

(i) Based on the total projected recycled water demand at buildout of the City WSMP Update.

## 6.5 Water Supply Availability and Reliability

Water Code Section 10910 (c)(4) requires that a WSA include a discussion with regard to "whether total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses." Accordingly, this WSA addresses these three hydrologic conditions through the Year 2045. Further, this WSA provides a discussion of the availability and reliability of the City's available water supplies to meet the City's water demands in the event that the City's surface water supplies are limited under emergency water supply conditions.

The reliability of each of the City's existing and additional planned water supplies and their projected availability during normal, single dry, and multiple dry years is described in Section 6 of the 2020 UWMP. Water supply and demands for these hydrologic years, from 2025 to 2045, are compared in Section 7 of the 2020 UWMP and summarized herein. These hydrologic year types are characterized as follows:

- A **normal year** represents the water supplies available under normal conditions, this could be an averaged range of years or a single representative year;
- A **single dry year** represents the lowest available water supply; and
- A **multiple dry year drought** (also referred to as five-consecutive-year drought) represents the driest five-year period in the historical record.

A summary of the reliability of the City's water supply sources is provided in Table 6-5 and discussed in the following sections.

**Table 6-5. Water Supply Reliability in Normal, Single Dry and Multiple Dry Years**

| Supply Source | Anticipated Reliability (% of Entitlement) | | |
|---|---|---|---|
| | Normal Years | Single Dry Years | Multiple Dry Years |
| Current Water Supplies | | | |
| USBR CVP | | | |
| M&I Reliability Water (Tracy Contract)[a] | 75 | 25 | 40 |
| Ag Reliability Water (BCID & WSID Contract) | 50 | 0 | 0 |
| BBID for Tracy Hills Demand | 100 | 100 | 100 |
| South County Water Supply Project (SSJID) | 100 | 56-76[b] | 56-100[b] |
| Groundwater[c] | 100 | 100 | 100 |
| Current Dry Year Supplies | | | |
| Semitropic Water Storage Bank[d] | — | 0 | 67 |
| Aquifer Storage and Recovery | — | 100 | 100 |
| Additional Planned Future Water Supplies | | | |
| USBR CVP (BBID contract) (Ag Reliability Water) | 0 | 0 | 0 |
| Recycled Water Exchange (Potable) | 100 | 100 | 100 |
| Recycled Water (for non-potable uses)[e] | 100 | 100 | 100 |

*Source: City of Tracy 2020 UWMP, Tables 7-2 and 7-3, and Section 7.1.2.3, June 31, 2020.*

(a) Anticipated reliability percentage is based on historical use in accordance with 2017 USBR CVP Municipal and Industrial Water Shortage Policy Update.

(b) Based on information from SSJID.

(c) Although the City can sustainably extract up to 9,000 af/yr of groundwater on a continuous basis, the City is planning to scale back its groundwater extraction in normal years to increase the overall quality of its water supply. With these reduced supply volumes, the groundwater resource is considered 100 percent reliable.

(d) Due to the difficulties experienced by the City in accessing stored water via the DMC, the City has conservatively assumed that 0 percent of the City's Semitropic water supply will be available in the first year of a multiple dry year period and 100 percent will be available in the second and third year. The 67 percent presented in this table for multiple dry years is the average value for a three-year period.

(e) Although recycled water supplies are currently available from the City's WWTP, required recycled water pipelines and pump stations to convey and deliver the recycled water to the recycled water use areas have not yet been constructed. See Section 6.3.1 of this WSA for additional information regarding the City's plan for implementation of its recycled water system.

### *6.5.1 Normal Years*

Normal or wet water years are those that match or exceed median rainfall and runoff levels. The reliability of each of Tracy's existing and future water supplies and their projected availability during normal year is outlined below:

- The City's contract with the USBR for 10,000 af/yr of DMC/CVP water is subject to M&I reliability. Based on the historical record, the City's long-term average allocation of DMC/CVP water pursuant to this contract is anticipated to be at least 85 percent of the total entitlement. However, due to recent environmental concerns in the Delta and potential future impacts due to climate change, the normal year supply of DMC/CVP M&I water is assumed to be 75 percent of the City's historical use. Based on a historical use of 5,930 af/yr (i.e., the average quantity of CVP water put to beneficial use by the City during the last three years of water deliveries that were unconstrained by the availability of CVP water), the projected normal year supply is 4,448 af/yr.
- The City has received acquired assignments from Banta-Carbona Irrigation District (BCID; 5,000 af/yr) and West Side Irrigation District (WSID; 5,000 af/yr) for a total entitlement of 10,000 af/yr of DMC/CVP water. These supplies are subject to Ag-reliability. The City is conservatively estimating that it will receive 50 percent of its Ag-reliability contractual entitlement, or 5,000 af/yr, in normal years.
- The City has acquired up to 4,500 af/yr of pre-1914 appropriative water rights water from BBID. These supplies are restricted in their place of use, and therefore the supply is anticipated to be equal to the projected demand within that place of use (i.e., the Tracy Hills area) ranging from 800 af/yr in 2025 to 3,300 af/yr in 2045. The City anticipates being able to receive 100 percent of this supply in normal years.
- The City has a total contractual entitlement of 13,135 af/yr of Stanislaus River water provided through the SCWSP, including 10,000 af/yr from its original contract with SSJID, 1,120 af/yr purchased from Lathrop, and 2,015 af/yr purchased on an interim basis from Escalon. The agreement between Tracy and Escalon is assumed to terminate after 2025. Based on information provided by SSJID, the City expects to receive 100 percent of its SCWSP water supply allocation during a normal water year. As such, the City anticipates being able to receive 13,135 af/yr of SCWSP supply in 2025 and 11,120 af/yr afterwards, assuming normal year conditions.
- The City is able to withdraw up to 9,000 af/yr of groundwater from the Tracy Subbasin. However, due to the aging infrastructure and water quality issues in the City's groundwater supplies, the City is projecting to be able to withdraw up to 2,500 af/yr in normal years. This groundwater supply is considered to be 100 percent reliable.
- The City does not anticipate using its Semitropic water or ASR water in normal years.
- The City anticipates that a Recycled Water Distribution Network and Exchange agreement will be executed with the USBR by 2030 to provide additional CVP supplies to the City in exchange for the City discharging a like amount of tertiary-treated recycled water to the DMC. The City assumes that the Recycled Water Distribution Network and Exchange will be implemented as needed to meet future demand conditions and is currently projected to supply an amount ranging from 1,925 af/yr in 2030 to 7,500 af/yr in 2045. This water supply is considered to be 100 percent reliable.

- The City's recycled water supply is expected to be 100 percent reliable. Based on the projected non-potable demands and assuming that the City makes investments in infrastructure and permitting, the City estimates that they will have access to 1,000 af/yr of recycled water supply in 2025, increasing to 6,300 af/yr in 2045.

The reliability of each of the City's existing and additional planned future water supplies and their projected availability during normal years at buildout is shown in Table 6-6.

**Table 6-6. Projected Existing and Additional Planned Future Water Supplies Available in Normal Years at Buildout**

| Supply | Percent Allocation/ Entitlement | Projected Available Supplies, af/yr |
|---|---|---|
| Existing Water Supplies | | |
| USBR CVP - Tracy Contract[a] | 75 | 4,448 |
| USBR CVP - BCID Contract | 50 | 2,500 |
| USBR CVP - WSID Contract | 50 | 2,500 |
| **Total CVP Supplies** | | **9,448** |
| BBID (pre-1914 to meet Tracy Hills demand) | 100 | 3,300 |
| SCWSP (SSJID) (pre-1914) | 100 | 11,120 |
| Groundwater | 100 | 2,500 |
| Semitropic Water Storage Bank[b] | 0 | 0 |
| **Total Existing Potable Supplies** | | **26,368** |
| Additional Planned Future Water Supplies[a] | | |
| Additional USBR CVP (BBID contract) | 0 | 0 |
| Aquifer Storage and Recovery[b] | 0 | 0 |
| Recycled Water Exchange | 100 | 7,500 |
| Recycled Water (non-potable) | 100 | 6,300 |
| **Total Additional Planned Future Potable Supplies** | | **7,500** |
| **Total Potable Supplies** | | **33,868** |
| **Total Additional Planned Future Non-Potable Supplies** | | **6,300** |
| **TOTAL WATER SUPPLY** | | **40,168** |

*Source: City of Tracy 2020 UWMP, Table 7-2, June 2021.*

(a) Percent of historical use
(b) Not used in normal years.

### *6.5.2 Single Dry Years*

During a single dry year, all of the City's existing surface water allotments are subject to some level of reduction. Assumed reductions are based on actual reductions in CVP deliveries experienced in the recent drought and the new USBR M&I Reliability Policy adopted in 2017. The actual reductions will vary with the severity of the regional water supply shortage and climatic conditions, and the consideration of contract agreements.

The reliability of each of Tracy's existing and future water supplies and their projected availability during a single dry year is outlined below and summarized in Table 6-7.

- The City's contract with the USBR for 10,000 af/yr of DMC/CVP water is subject to M&I reliability. During a single dry year, the City estimates to receive 25 percent of the City's historical use. Based on the historical use of 5,930 af/yr, the projected supply is 1,483 af/yr.
- The City has a total entitlement of 10,000 af/yr of DMC/CVP Ag-reliability water. The City anticipates receiving 0 percent of its DMC/CVP Ag-reliability water in a single dry year.
- The City has acquired up to 4,500 af/yr of pre-1914 appropriative water rights water from BBID. This supply is restricted with regard to the place of use (Tracy Hills). The City anticipates being able to receive 85 percent of its contractual entitlement in a single dry year (3,825 af/yr). As the projected demand is 3,300 af/yr in 2045 and is lower than the 3,825 af/yr of available supply, the reduction in reliability does not result in a reduction to actual amount of water used. Therefore, the supply in a single dry year is anticipated to be equal to the projected demand within the Tracy Hills area, ranging from 800 af/yr in 2025 to 3,300 af/yr in 2045.
- The City has a total contractual entitlement of 13,135 af/yr of Stanislaus River water provided through the SCWSP. Based on information provided by SSJID, the City expects to receive 76 percent of its SCWSP water supply allocation during 2025, 2030, and 2035 and 56 percent during 2040 and 2045. In addition, the SCWSP water transferred from Escalon is assumed to be unavailable after 2025. As such, the City estimates 9,974 af/yr of SCWSP supply in 2025, 8,444 af/yr in 2030 and 2035, and 6,177 af/yr afterwards.
- During a single dry year, the City anticipates increasing its groundwater production on a short- term basis from the normal year production of 2,500 af/yr to 4,500 af/yr. The groundwater supply is considered to be 100 percent reliable.
- The City anticipates that 700 af/yr of water will be available for use in a single dry year through operation of its ASR well. An additional 300 af/yr is estimated to be available by 2040 for a total of 1,000 af/yr. This water supply is considered to be 100 percent reliable assuming that the City is consistently able to refill the ASR storage during non-drought years to maintain at least 1,000 af in storage at the beginning of a single dry year.
- The City has acquired 10,500 af/yr of storage in Semitropic, which allows the City to withdraw up to 3,500 af/yr for three consecutive years. Due to the difficulties experienced by the City in accessing stored water via the DMC on a short timeframe, the City has conservatively assumed that the Semitropic water will not be available in a single dry year.

- The City anticipates that a Recycled Water Distribution Network and Exchange agreement will be executed with the USBR by 2030 to provide additional CVP supplies to the City in exchange for the City discharging a like amount of tertiary-treated recycled water to the DMC. The City assumes that the Recycled Water Distribution Network and Exchange will be implemented as needed to meet future demand conditions and is currently projected to supply an amount ranging from 1,925 af/yr in 2030 to 7,500 af/yr in 2045. This water supply is considered to be 100 percent reliable.
- The City's recycled water supply is expected to be 100 percent reliable. Based on the projected non-potable demands and assuming that the City makes investments in infrastructure and permitting, the City estimates that they will have access to 1,000 af/yr of recycled water supply in 2025, increasing to 6,300 af/yr in 2045.

The reliability of each of the City's existing and additional planned future water supplies and their projected availability during a single dry year at buildout is shown in Table 6-7.

**Table 6-7. Projected Existing and Additional Planned Future Water Supplies Available in Single Dry Years at Buildout**

| Supply | Percent of Entitlement | Projected Available Supplies, af/yr |
|---|---|---|
| Existing Water Supplies | | |
| USBR CVP - Tracy Contract[a] | 25 | 1,483 |
| USBR CVP - BCID Contract | 0 | 0 |
| USBR CVP - WSID Contract | 0 | 0 |
| **Total CVP Supplies** | | **1,483** |
| BBID (pre-1914 to meet Tracy Hills demand) | 100 | 3,300 |
| SCWSP (SSJID) (pre-1914)[b] | 56 | 6,177 |
| Groundwater[c] | 100 | 4,500 |
| Semitropic Water Storage Bank | 0 | 0 |
| **Total Existing Potable Supplies** | | **15,460** |
| Additional Planned Future Water Supplies | | |
| Additional USBR CVP (BBID contract) | 0 | 0 |
| Aquifer Storage and Recovery[c] [d] | 100 | 1,000 |
| Recycled Water Exchange[c] | 100 | 7,500 |
| Recycled Water (non-potable)[c] | 100 | 6,300 |
| **Total Additional Planned Future Potable Supplies** | | **8,500** |
| **Total Potable Supplies** | | **23,959** |
| **Total Additional Planned Future Non-Potable Supplies** | | **6,300** |
| **TOTAL WATER SUPPLY** | | **30,259** |

*Source: City of Tracy 2020 UWMP, Table 7-3, June 2021.*

(a) Percent of historical use.
(b) Percentage of contract entitlement is based on information from SSJID for 2040 and later.
(c) Groundwater and recycled water volumes assume the City invests in infrastructure and/or permitting.
(d) ASR volumes assume surplus supplies are available in wet years to inject and store, as well as additional investment in ASR construction and operation.

### *6.5.3 Multiple Dry Years*

During multiple dry years, the City's surface water supplies (from both the CVP and SCWSP) may be significantly reduced. Thus, in the event of drought, the City will have to depend more heavily on conservation efforts, groundwater, and the proposed future supply projects.

The reliability of each of Tracy's existing and future water supplies and their projected availability during a five consecutive year drought is outlined below and summarized in Table 6-8.

- The City's contract with the USBR for 10,000 af/yr of DMC/CVP water is subject to M&I reliability. During multiple dry years, the City estimates that it will receive 40 percent of the City's historical use. Based on the historical use of 5,930 af/yr, the projected supply is 2,372 af/yr.
- The City has a total entitlement of 10,000 af/yr of DMC/CVP Ag-reliability water. The City anticipates receiving 0 percent of its DMC/CVP Ag-reliability water in multiple dry years.
- The City has acquired up to 4,500 af/yr of pre-1914 appropriative water rights water from BBID. This supply is restricted with regard to the place of use (Tracy Hills). The City anticipates being able to receive 85 percent of its contractual entitlement in multiple dry years (3,825 af/yr). As the projected demand is 3,300 af/yr in 2045 and is lower than the 3,825 af/yr of available supply, the reduction in reliability does not result in a reduction to actual amount of water used. Therefore, the supply in multiple dry years is anticipated to be equal to the projected demand within the Tracy Hills area, ranging from 800 af/yr in 2025 to 3,300 af/yr in 2045.
- The City has a total contractual entitlement of 13,135 af/yr of Stanislaus River water provided through the SCWSP. Based on information provided by SSJID, the City's SCWSP water supply reliability during multiple dry years range from 56 to 100 percent. In addition, the SCWSP water transferred from Escalon is assumed to be unavailable after 2025. The City's projected SCWSP supply is presented in Table 6-8.
- During multiple dry years, the City anticipates increasing its groundwater production on a short-term basis from the normal year production of 2,500 af/yr to 4,500 af/yr. The groundwater supply is considered to be 100 percent reliable.
- The City anticipates that 700 af of water will be available for use in multiple dry years through operation of its ASR well. An additional 300 af is estimated to be available by 2040 for a total of 1,000 af. The City is assumed to be unable to refill the ASR storage during multiple dry years. Therefore, the annual ASR supply available is assumed to equal one fifth of the total stored volume (i.e., 140 af/yr between 2025 and 2035 and 200 af/yr between 2040 and 2045). This water supply is considered to be 100 percent reliable assuming that the City is consistently able to refill the ASR storage in non-drought years to maintain at least 1,000 af in storage at the beginning of a multiple dry year sequence.

- The City has acquired 10,500 af/yr of storage in Semitropic, which allows the City to withdraw up to 3,500 af/yr for three consecutive years. Due to the difficulties experienced by the City in accessing stored water via the DMC on a short timeframe, the City has conservatively estimated that the 0 percent of the City's storage will be available in the first year of a five-consecutive-year drought, and 100 percent will be available over the following four years. Based on the City's current storage at Semitropic of 6,887 af, the amount available in the second to fifth year of a five- consecutive-year drought is assumed to be 1,722 af/yr (6,887 af divided by four). A similar reliability estimate is provided for all dry-year sequences under the assumption that the City is consistently able to re-fill the water bank in non-drought years to maintain at least 7,000 af/yr in storage at the beginning of a multiple dry year sequence.
- The City anticipates that a Recycled Water Distribution Network and Exchange agreement will be executed with the USBR by 2030 to provide additional CVP supplies to the City in exchange for the City discharging a like amount of tertiary-treated recycled water to the DMC. The City assumes that the Recycled Water Distribution Network and Exchange will be implemented as needed to meet future demand conditions and is currently projected to supply an amount ranging from 1,925 af/yr in 2030 to 7,500 af/yr in 2045. This water supply is considered to be 100 percent reliable.
- The City's recycled water supply is expected to be 100 percent reliable. Based on the projected non-potable demands and assuming that the City makes investments in infrastructure and permitting, the City estimates that they will have access to 1,000 af/yr of recycled water supply in 2025, increasing to 6,300 af/yr in 2045.

The reliability of each of the City's existing and additional planned future water supplies and their projected availability during a five-consecutive-dry year (multiple dry year) period at buildout is shown in Table 6-8.

**Table 6-8. Projected Existing and Additional Planned Future Water Supplies Available Five-Consecutive-Dry Years at Buildout**

| Supply | Percent of Entitlement | Projected Available Supplies, af/yr | | | | |
|---|---|---|---|---|---|---|
| | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Existing Water Supplies | | | | | | |
| USBR CVP - Tracy Contract[a] | 40 | 2,372 | 2,372 | 2,372 | 2,372 | 2,372 |
| USBR CVP - BCID Contract | 0 | 0 | 0 | 0 | 0 | 0 |
| USBR CVP - WSID Contract | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total CVP Supplies** | | **2,372** | **2,372** | **2,372** | **2,372** | **2,372** |
| BBID (pre-1914 to meet Tracy Hills demand) | 100 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 |
| SCWSP (SSJID) (pre-1914) | [b] | 11,120 | 11,120 | 6,177 | 6,177 | 11,120 |
| Groundwater[c] | 100 | 4,500 | 4,500 | 4,500 | 4,500 | 4,500 |
| Semitropic Water Storage Bank | 100 | 0 | 1,722 | 1,722 | 1,722 | 1,722 |
| **Total Existing Potable Supplies** | | **21,292** | **23,014** | **18,071** | **18,071** | **23,014** |
| Additional Planned Future Water Supplies | | | | | | |
| Additional USBR CVP (BBID contract) | 0 | 0 | 0 | 0 | 0 | 0 |
| Aquifer Storage and Recovery[c][d] | 100 | 200 | 200 | 200 | 200 | 200 |
| Recycled Water Exchange[c] | 100 | 7,500 | 7,500 | 7,500 | 7,500 | 7,500 |
| Recycled Water (non-potable)[c] | 100 | 6,300 | 6,300 | 6,300 | 6,300 | 6,300 |
| **Total Additional Planned Future Potable Supplies** | | **7,700** | **7,700** | **7,700** | **7,700** | **7,700** |
| **Total Potable Supplies** | | **28,992** | **30,714** | **25,771** | **25,771** | **30,714** |
| **Total Additional Planned Future Non-Potable Supplies** | | **6,300** | **6,300** | **6,300** | **6,300** | **6,300** |
| **TOTAL WATER SUPPLY** | | **35,292** | **37,014** | **32,071** | **32,071** | **37,014** |

*Source: City of Tracy 2020 UWMP, Tables 7-4 and 7-5, June 2021.*

(a) Percent of historical use.

(b) Information provided by SSJID. SSJID's reliability estimates for a five consecutive year drought were based on the historical supplies available during the 2012 to 2016 drought period. During 2012, 2013, and 2016 (the first, second, and fifth years), SSJID was able to provide the full allocation, whereas during 2014 and 2015 (the third and fourth years), SSJID was only able to provide 75 percent of the full allocation.

(c) Groundwater and recycled water volumes assume the City invests in infrastructure and/or permitting.

(d) ASR volumes assume surplus supplies are available in wet years to inject and store, as well as additional investment in ASR construction and operation.

### *6.5.4 Emergency Water Supply Conditions*

During the recent drought conditions in California, water supply deliveries from the SWP and CVP (and other surface water supply sources throughout California) were severely reduced and even the availability of pre-1914 water rights was challenged. Many water supply agencies, including the City, implemented their Water Shortage Contingency Plans, including mandatory water conservation measures, to reduce water use. Even with 0 percent deliveries from the City's USBR CVP agricultural supplies in 2014, the diversity of the City's water supply portfolio together with water conservation efforts by the City's customers allowed the City to meet all water demands. If the recent drought were to re-occur, and deliveries of surface water supplies are reduced further, the City's Water Shortage Contingency Plan would be enacted as needed.

The City's Water Shortage Contingency Plan includes shortage response actions for six water shortage levels up to greater than 50 percent shortage due to foreseeable or unforeseeable events. The City's Water Shortage Contingency Plan is included in Appendix H of the 2020 UWMP. The City may implement demand reduction actions, supply augmentation, mandatory restrictions, and other actions as appropriate for the shortage level to reduce the gap between supply and demand.

Further, the City has prepared a Water System Emergency Response Plan which provides a framework for emergency response by the City's Utilities Department by describing the department's emergency management organization, roles, and responsibilities and emergency policies and procedures. The Water System Emergency Response Plan provides action plans to be implemented to address the emergency.

# 7.0 DETERMINATION OF WATER SUPPLY SUFFICIENCY BASED ON REQUIREMENTS OF SB 610

Water Code Section 10910 states:

> *10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.*

Pursuant to Water Code section 10910(c)(4), analyses were conducted to assess the sufficiency of total projected water supply for existing and planned future demands, including the demands of the Proposed Project, during normal, single dry, and multiple dry water years over a 20-year projection. A service reliability analysis was conducted in Section 7 of the City's 2020 UWMP, which compared future supplies and demand to buildout, assumed as 2045 but is certain to occur beyond that planning horizon. As discussed in Section 5.2, the Proposed Project's demands are included in the City's future water demand projections.

## 7.1 Sufficiency of Water Supply

Table 7-1 summarizes the projected availability of the City's existing and planned future potable water supplies compared with projected water demands in normal, single dry and multiple dry years at Buildout. Figure 7-1 shows the City's existing and planned future potable water supplies and the City's projected water demands in normal, single dry and multiple dry years under the Buildout time frame, which is expected to occur after 2045.

To be conservative, water demands were assumed to be at normal levels. With future planned projects implemented, the results of the assessment show that water supply is sufficient during normal years. However, during a single dry year or a multiple dry year period, the City must depend more heavily on conservation efforts, groundwater, and the proposed future supply projects to overcome the gap between supply and demand. As described in this WSA and the City's 2020 UWMP, these findings are primarily due to projected reduced reliability of the City's CVP supplies and SSJID supplies in dry years.

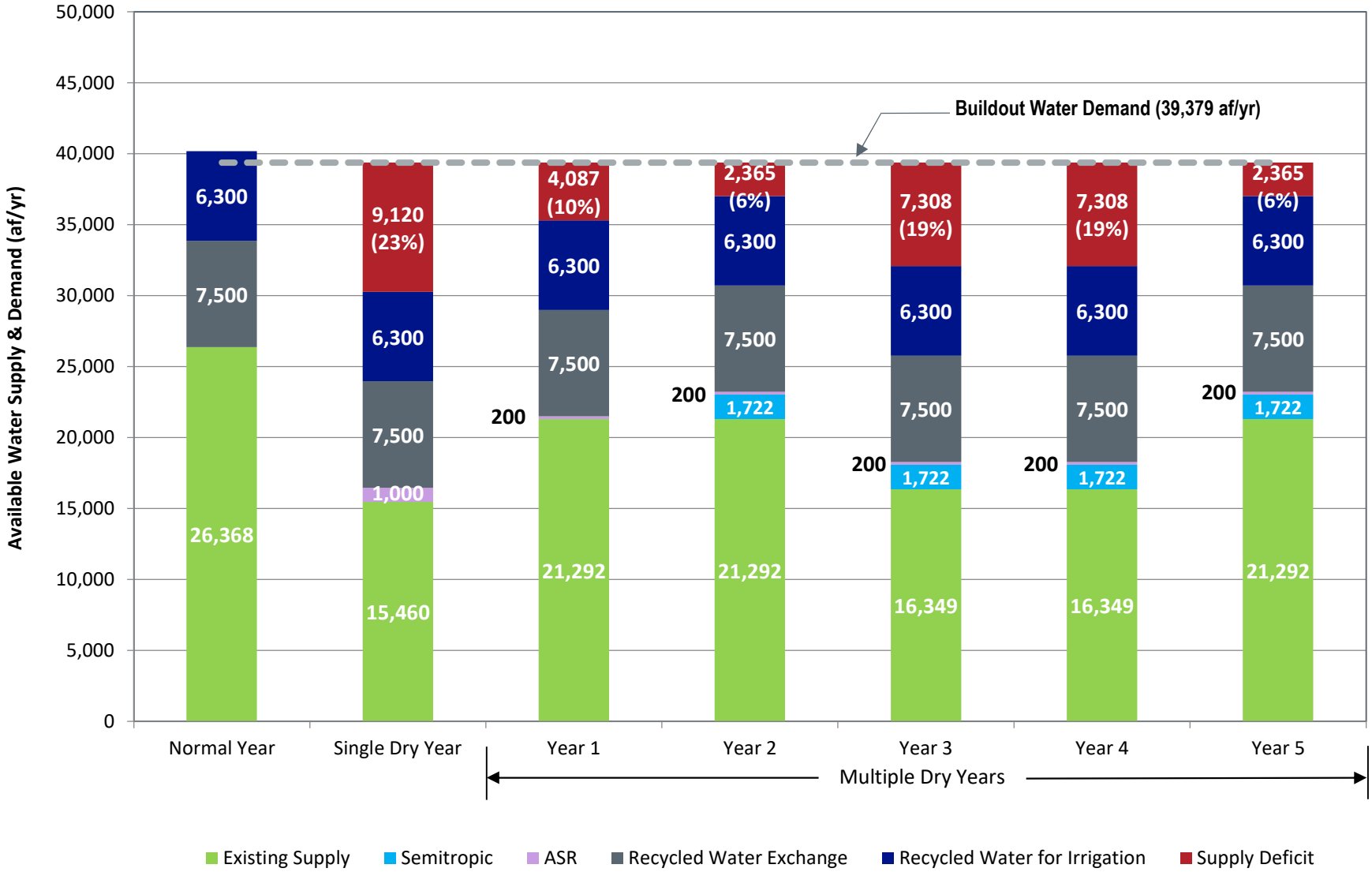
To close the gap between supply and demand during dry years, the City will need to implement its Water Shortage Contingency Plan to reduce water demands. As discussed in Section 5.3, the City has shown that it can achieve its water conservation goals. During the 2012-2016 statewide drought, the City exceeded its water conservation goals of 25 percent. Further, the City must fully implement its proposed future water supply projects, including the Recycled Water Distribution Network and Exchange Program and expansion of the ASR Program. Investments in wet year water supplies will also be needed to refill storage in Semitropic and expand the City's ASR program. Delays in implementing the proposed future water supply projects could result in greater water supply shortages and the need for additional water conservation to meet demands.

**Table 7-1. Summary of Buildout Total Water Supply Versus Demand During Hydrologic Normal, Single Dry, and Multiple Dry Years[a]**

| Hydrologic Condition | | Supply and Demand Comparison, af/yr |
|---|---|---|
| Normal Year[b] | | |
| Available Total Water Supply | | 40,168 |
| Total Water Demand (with Proposed Project) | | 39,379 |
| Potential Surplus (Deficit) | | 789 |
| Percent Shortfall of Demand | | - |
| Single Dry Year[c] | | |
| Available Total Water Supply | | 30,259 |
| Total Water Demand (with Proposed Project) | | 39,379 |
| Potential Surplus (Deficit) | | (9,120) |
| Percent Shortfall of Demand | | 23% |
| Multiple Dry Years[d] | | |
| Year 1 | Available Total Water Supply[e] | 35,292 |
| | Total Water Demand (with Proposed Project) | 39,379 |
| | Potential Surplus (Deficit) | (4,087) |
| | Percent Shortfall of Demand | 10.4% |
| Year 2 | Available Total Water Supply | 37,014 |
| | Total Water Demand (with Proposed Project) | 39,379 |
| | Potential Surplus (Deficit) | (2,365) |
| | Percent Shortfall of Demand | 6.0% |
| Year 3 | Available Total Water Supply | 32,071 |
| | Total Water Demand (with Proposed Project) | 39,379 |
| | Potential Surplus (Deficit) | (7,308) |
| | Percent Shortfall of Demand | 18.6% |
| Year 4 | Available Total Water Supply | 32,071 |
| | Total Water Demand (with Proposed Project) | 39,379 |
| | Potential Surplus (Deficit) | (7,308) |
| | Percent Shortfall of Demand | 18.6% |
| Year 5 | Available Total Water Supply | 37,014 |
| | Total Water Demand (with Proposed Project) | 39,379 |
| | Potential Surplus (Deficit) | (2,365) |
| | Percent Shortfall of Demand | 6.0% |

(a) Water demands are from Table 5-2.
(b) Normal Year supplies are from Table 6-6.
(c) Single Dry Year supplies are from Table 6-7.
(d) Multiple Dry Year supplies are from Table 6-8.
(e) Assumes 0 percent of the City's storage in Semitropic is available for the first year.

**Figure 7-1. City of Tracy Existing and Planned Future Potable Water Supplies vs. Projected Demand - Buildout**



The dry year shortfalls presented in Table 7-1 are based on water supply and demand projections with numerous uncertainties and the situation is dynamic as discussed in Section 7 of the 2020 UWMP. The City continues to work on strategies and actions to address the projected water supply shortfall. Uncertainties are itemized below, along with the City's water management strategies and options.

## 7.2 Uncertainties in Dry Year Water Supply Projections

Significant water supply shortfalls are currently projected in future single and multiple dry years. These projections include numerous sources of uncertainty as summarized below:

- The Bay-Delta Plan Amendment implementation is under negotiation. The SSJID and others are continuing negotiations with the SWRCB on implementation of the Bay-Delta Plan Amendment for water supply cutbacks, particularly during droughts. This is a dynamic situation and the projected drought cutback allocations may need to be revised before the next (i.e., 2025) UWMP depending on the outcome of ongoing negotiations. The City has considered a conservative estimate of the potential impacts of the Bay-Delta Plan Amendment on the SCWSP (and therefore the City), which is provided in Appendix G of its 2020 UWMP.
- The supply yield of the City's development of additional ASR and recycled water supplies are accounted for in current supply projections. However, implementation of these projects will require significant investment by the City. Similarly, investments in wet years supplies will be needed to refill storage in Semitropic and expand the City's ASR program.
- The City continues to work closely with the USBR and SSJID on their rationing policies to ensure that M&I needs can be met. Rationing policies may potentially be revised.
- The City's projected water demands are subject to change in the future based on water conservation policies and regulations for current and future development, and the pace and extent of development.
- Frequency and duration of cutbacks and, therefore, the shortfalls are also uncertain. In addition to the supply volumes, the above listed uncertainties would also impact the projected frequency and duration of shortfalls.

## 7.3 Water Management Strategies and Options

The City has developed strategies and actions to address the projected supply shortfalls discussed in the City's 2020 UWMP and provided below.

### *7.3.1 Recycled Water for Non-Potable Use*

The City continues to develop recycled water supplies as discussed in Section 6.2. Recycled water is planned to augment non-potable demands that would otherwise be supplied with potable water. Buildout potable water demands could be less than the current projections and therefore the resultant supply shortage will likely to be smaller.

### *7.3.2 Future Water Supply Projects*

The City continues to evaluate the expansion of its existing supply and to obtain new supply sources, including the ASR Program and Recycled Water Distribution Network and Exchange Program. Other potential supply options, such as direct potable reuse of recycled water, are also being considered.

### 7.3.3 Implementation of Demand Management Measures

The City has an active water conservation program and continues to implement the demand management measures described in Section 9 of its 2020 UWMP. Further, in response to the anticipated future shortfalls, the City has developed a robust Water Shortage Contingency Plan (WSCP) that systematically identifies ways in which the City can reduce water demands. The WSCP is included in Section 8 of its 2020 UWMP.

### 7.3.4 Policy-Based Water Efficiency Tools

The City is currently exploring other policy-based water efficiency tools that other supply-constrained agencies across California have implemented. These policy-based tools are often bundled together and referred to as Water Demand Offset (WDO) or Water Neutrality policies. Through these policies, project developers are generally required to offset the new demand anticipated by the development through some combination of demand mitigation options, such as:

- **On-site retrofits.** Project developer with existing property reduces total projected water demand by retrofitting existing property with efficient water fixtures. If projected water demand is reduced below baseline for existing property, no off-site WDOs are required. If not, offsite WDOs are required.
- **Off-site retrofits.** Project developer coordinates and pays for installation of water efficient fixtures at other properties or converts existing irrigation systems to recycled water for other off- site properties, typically those owned by other entities.
- **On-site reuse.** Larger scale developments are required to implement on-site reuse of water, including rainwater, greywater, stormwater, and blackwater, as has recently been implemented by the Cities of San Francisco and Menlo Park.
- **Supply augmentation.** Project developer secures its own water supply to serve the development, either through direct provision of water to the development or through an agreement to transfer rights to the water supplier.
- **WDO fees.** Project developer pays fees to implementing entity based on the amount of water offset, and the agency uses the fees to fund water conservation programs. Such conservation programs could include system water loss mitigation projects (e.g., capital improvement, Advanced Metering Infrastructure [AMI] meters, etc.), purchase of water efficient equipment (e.g., NO-DES hydrant flushing machine to recycle water used to flush mains), and recycled water system infrastructure, as well as fixture rebate or retrofit and education-based conservation programs.

Such policies could be designed as a “net neutral” policy wherein the new development is required to offset all new demands associated with the development project and minimize the overall supply reliability impacts for the existing customers.

# 8.0 WATER SUPPLY ASSESSMENT APPROVAL PROCESS

> *10910 (g)(1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.*
>
> *10911 (b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.*

As the approving agency for the Proposed Project, the Tracy City Council must approve this WSA at a regular or special meeting. Furthermore, the City must include this WSA and its findings in the Draft Environmental Impact Report (EIR) that is being prepared for the Proposed Project.

# 9.0 REFERENCES

Bookman-Edmonston, 2001. *Estimated Groundwater Yield Study*.

City of Tracy. 2011. *General Plan Amendment*, adopted by City Council on February 1, 2011.

City of Tracy. 2016. 2015 Urban Water Management Plan, prepared by Erler & Kalinowski, Inc., adopted by City Council on May 17, 2016.

City of Tracy. 2021. 2020 Urban Water Management Plan, prepared by EKI Environment and Water, adopted by City Council on June 15, 2021.

GEI Consultants. 2014. *Summary of Groundwater Conditions*, October 2011 through September 2013, prepared for the City of Tracy, November 25, 2014.

GEI Consultants. 2015. *Groundwater Assessment for Drought Emergency Conditions Requiring Groundwater to be Used as the Sole Source of Potable Water Supply*, prepared for City of Tracy, August 10, 2015.

Kennedy/Jenks/Chilton. 1990. *Tracy Area Groundwater Yield Evaluation*, Appendix B, Table B-2.

Pacific Municipal Consultants. 2011. *Groundwater Management Policy Mitigated Negative Declaration*, prepared for the City of Tracy, dated December 7, 2011.

Pueblo Water Resources. 2011. *Interim (Final) Status Report for Well 8 ASR Demonstration Program Memorandum, prepared for City of Tracy.* December 7, 2011.

Sorenson, S.K. 1981. *Chemical Quality of Groundwater in San Joaquin and Part of Contra Costa Counties, California,* Water Resources Investigation 81-26, USGS, 1981.

Stoddard & Associates. 1996. *Groundwater Management Plan for the Northern Agencies in the Delta-Mendota Canal Service Area and a Portion of San Joaquin County*, revised April 1996.

West Yost Associates. 2012. *Citywide Water System Master Plan*, Final Report, prepared for City of Tracy, December 2012.

West Yost Associates. 2019. *Technical Memorandum: Hydraulic Evaluation of Costco Depot.* prepared for City of Tracy, September 2019.

West Yost Associates. 2021. *Citywide Water System Master Plan Update*, Draft Report, prepared for City of Tracy. October 2021.

# APPENDIX H

**Costco Depot Wastewater Letter Report**

Engineers...Working Wonders With Water®

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P. 775.324.4427 F. 775.324.5128

May 13, 2021

Rick Steiner
SNG & Associates
5776 Stoneridge Mall Road, Suite 365
Pleasanton CA, 94588

Subject: Tracy Costco Depot (Project) Annexation EIR Support

Dear Mr. Steiner,

The purpose of this letter report is to document the findings of the Costco Depot Project Annexation EIR Support, which was conducted by Carollo Engineers, Inc. (Carollo).

## Background

Carollo developed a draft Wastewater Master Plan Update (Master Plan Update) for the City of Tracy (City) that was submitted in August 2020. The Master Plan Update was created to help the City plan wastewater system upgrades to serve existing and future developments. The proposed Costco Project is a Costco Depot that will consist of two warehouse and distribution buildings located along the southwestern City limits, south of West Schulte Road, north of 580 freeway, and along the Delta-Mendota Canal. Figure 1 displays the location of the Costco Depot and Figure 2 displays the proposed pipeline that will possibly be servicing the Costco Depot. The objectives of this study are to:

- Evaluate the impacts of the proposed Costco Project on the existing wastewater collection and treatment system.
- Confirm the infrastructure to convey the projected flows for the development is properly sized.

## Costco Depot Project

The Costco Project is a proposed Costco Depot located just outside the southwestern City limits. The Costco Project is proposing to change the land use designation from general agriculture to light industrial. Table 1 shows a summary of the updated land use and projected flows for the Costco Project. As shown in Table 1, the updated land use designation includes a total of 104 acres of light industrial land with a total average dry weather flow (ADWF) of 78,000 gallons per day (gpd) (0.078 million gallons per day [mgd]). The flow factor of 750 gpd/ac for industrial land use type was generated as part of the City's Wastewater Master Plan Update.

Table 1 Updated Land Use

| Land Use | Area (ac) | Flow Factor (gpd/ac) | ADWF (gpd) |
|---|---|---|---|
| Industrial | 104 | 750(1) | 78,000 |

Notes:
(1) Flow factor was developed in the City of Tracy's Wastewater Master Plan Update (August 2020).

Maximum dry day weather flow (MDDWF) and Peak wet weather flow (PWWF) are used to evaluate the collection system. The MDDWF was determined by applying a peaking factor of 1.12 to the ADWF. This peaking factor was determined by looking at historical MDDWF and ADWF. The MDDWF for the Costco



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Project is 0.087 mgd. The PWWF is the highest observed hourly flow that occurs following the design storm event, and therefore is used for evaluating the collection system. Wet weather infiltration and inflow (I/I), which occurs during and after rainfall events, increases flows in the collection system. PWWF was derived by routing a 10-year, 24-hour design storm through the hydraulic model. A peak I/I rate for future development of 500 gpd/acre was applied to the Costco Project. This calculated I/I rate was added to the ADWF to derive the PWWF. The PWWF for the Costco Project is 0.13 mgd. Table 2 shows a summary of the ADWF, MDDWF, and PWWF.

Table 2 Wastewater Flows

| Flow Type | Wastewater Flow (mgd) |
|---|---|
| ADWF | 0.078 |
| MDDWF[(1)(2)] | 0.087 |
| PWWF | 0.13 |

Notes:
(1) MDDWF to ADWF peaking factor is 1.12.
(2) This peaking factor was developed in the City of Tracy's Master Plan Update (August 2020).

## Collection System Performance Criteria

The evaluation of the impacts of the Costco Project is based on the evaluation criteria summarized in the Master Plan Update. The performance criteria include maximum flow depth to pipe diameter ratio (d/D). The d/D value is defined as the depth of flow (d) in a pipe during peak (design) flow conditions divided by the pipe's diameter (D). The maximum allowable flow depth varies depending on the flow condition:

- Peak Hour Dry Weather Flow (PHF): Under dry weather flow conditions, the maximum allowable flow depth to pipe diameter (d/D) ratio is 0.75 for all pipelines.
- Peak Wet Weather Flow (PWWF): Under PWWF conditions, flow depths are allowed to exceed the maximum d/D ratio established for dry weather conditions. The maximum d/D ratio is 0.90 for all pipelines.

## Collection System Evaluation

Due to the location of the Project, the developer has proposed to use an existing but currently abandoned 8-inch sewer that runs along Schulte Rd to Lammers Rd. As part of the study, the City is requiring a full inspection of the abandoned pipeline to determine if rehabilitation is needed to meet the City's Standards. The rehabilitation may include, but is not limited to, ball flushing, cleaning, CCTV inspection, repairs where needed and a possible PVC or CIPP liner.

Keir & Wright conducted the CCTV video inspections and cleaning of the proposed 8-in pipeline in spring of 2020 and the videos were provided to Carollo and the City. Keir & Wright identified multiple locations that need repairs and ensured the City that those locations will be repaired to meet City standards before this pipeline will be approved to come online.

Keir & Wright provided the Patterson Pass Business Center Sanitary Sewer and Water System Phase II project plans which include the 8-in portion of pipeline that runs along Schulte Rd to Lammers Rd. The project plans are included as an enclosure to this letter.

The 8-inch pipeline along Schulte Rd originally flowed to a now abandoned lift station. This lift station is not going to be rehabilitated, but instead a new pipeline along Lammers Rd will need to be constructed to allow the pipeline on Schulte Rd to be a viable option. The pipeline running north along Lammers Rd that needs to be constructed will be an 18-inch diameter pipeline that is 3,310 feet long (pipeline WWGM-5 from the Master Plan Update 2040 recommended improvements, see Figure 6.5 from the Draft Master Plan Update (August 2020) as an enclosure to this letter). A similar pipeline with a slightly different layout was also recommended in the Tracy Wastewater Master Plan completed in December 2012 by CH2MHill (see Figure 5-1 as an enclosure to this letter).

The City's wastewater system hydraulic model was used to conduct the evaluation and analysis of the potential impacts of the Costco Project. The following scenarios were evaluated:

- Existing System, Design Storm
- Existing System, Maximum Dry Day

Based on modeling results, the flows from the Costco Project cause the maximum d/D under PWWF conditions in the sewer along Schulte Road and along Lammers Road to raise to 0.39 and 0.23, respectively. With the addition of the Costco Project, the maximum d/D in the sewer along Schulte Road and Lammers Road under existing maximum dry day conditions is 0.42 and 0.23, respectively. The projected d/D levels in the Schulte Road and Lammers Road sewers do not trigger the need for improvements as the maximum d/D criteria established in the sewer Master Plan Update is 0.75.

## Treatment System Evaluation

The existing wastewater flows are nearing the rated capacity of the City's wastewater treatment plant (WWTP). The City is in the process of constructing a project to increase the capacity to manage growth in the future. According to City staff, the existing plant has the capacity to treat and dispose of the proposed 0.078 mgd increase in flows from the Costco project.

## Conclusion and Recommendations

The objectives of this study were to evaluate the impacts of the Costco Project on the existing sewer collection and treatment system, and to confirm the infrastructure to convey the projected flows are properly sized and rehabilitated.
The main concern for this project is the impact the Costco Project has on the Schulte Rd and Lammers Rd sewers and the WWTP.
The hydraulic model was used to evaluate the impacts from the construction of the Costco Project. Since this was a previously abandoned pipeline, there are currently no flows. The flows from the Costco Project raise the maximum d/D in the Schulte Road sewer to 0.39 under PWWF conditions and raise the maximum d/D in the Schulte Road sewer to 0.42 under MDDWF conditions. Therefore, the additional flows from the

Costco Project do not cause any capacity deficiencies downstream or trigger the need for capacity projects. It is assumed that the pipeline along Schulte Road (pipeline WWGM-5 from the Master Plan Update 2040 recommended improvements) will be constructed to serve this area.

Currently the City's WWTP has the available capacity to treat and dispose of the proposed flows attributed to the Costco project.

Sincerely,

CAROLLO ENGINEERS, INC.



Tim Loper, P.E.

Project Manager

TJL:cjp

Enclosures:
Figure 1 – Costco Depot Location
Figure 2 – Costco Depot Discharge Pipeline
Figure 6.5 from the Draft Master Plan Update (August 2020) – 2040 System Improvements
Patterson Pass Business Center Sanitary Sewer and Water System Phase II project plans
Figure 5-1 from the Final Wastewater Master Plan (December 2012) – Major Wastewater Conveyance Facilities

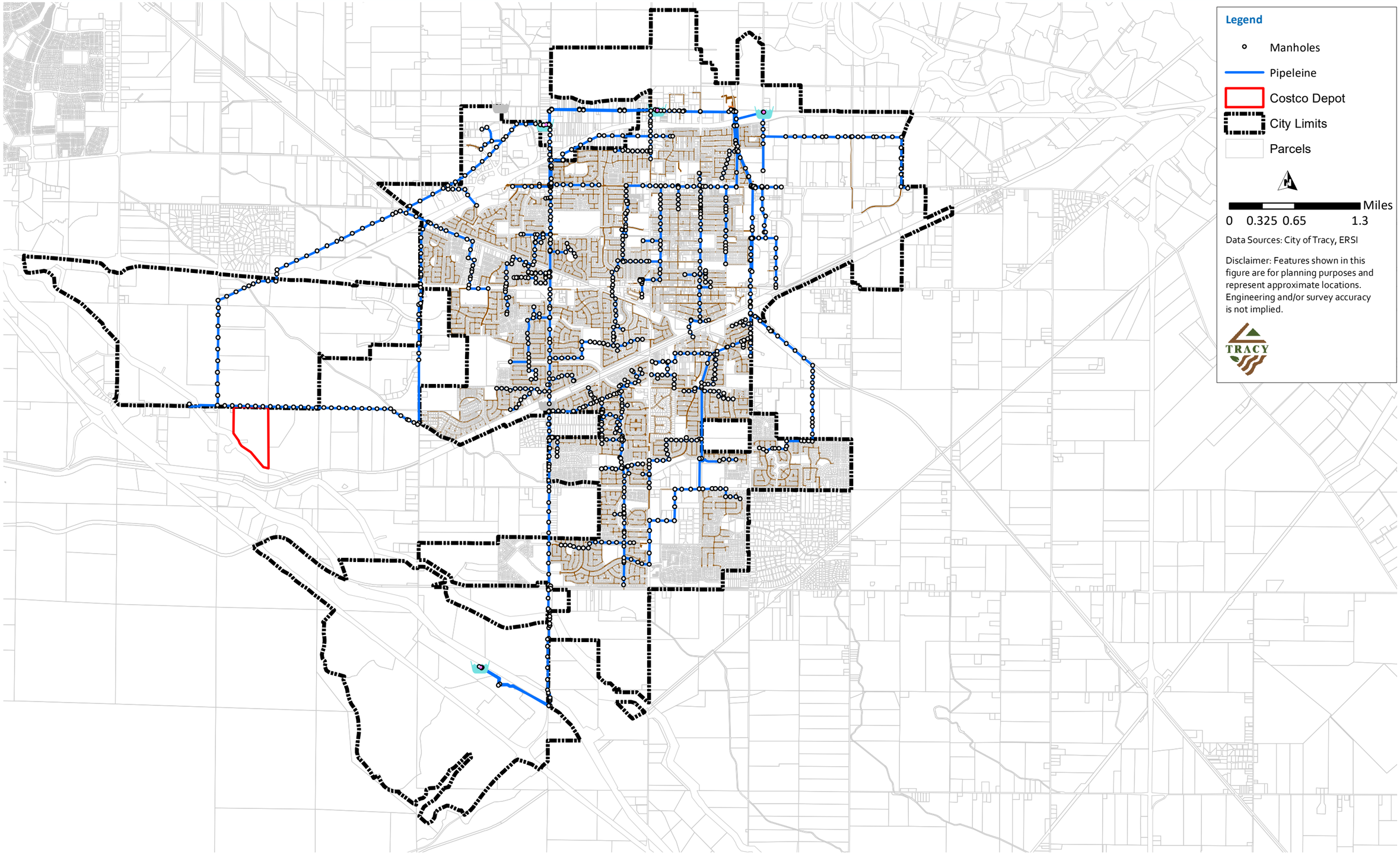





Figure 1 Costco Depot Location

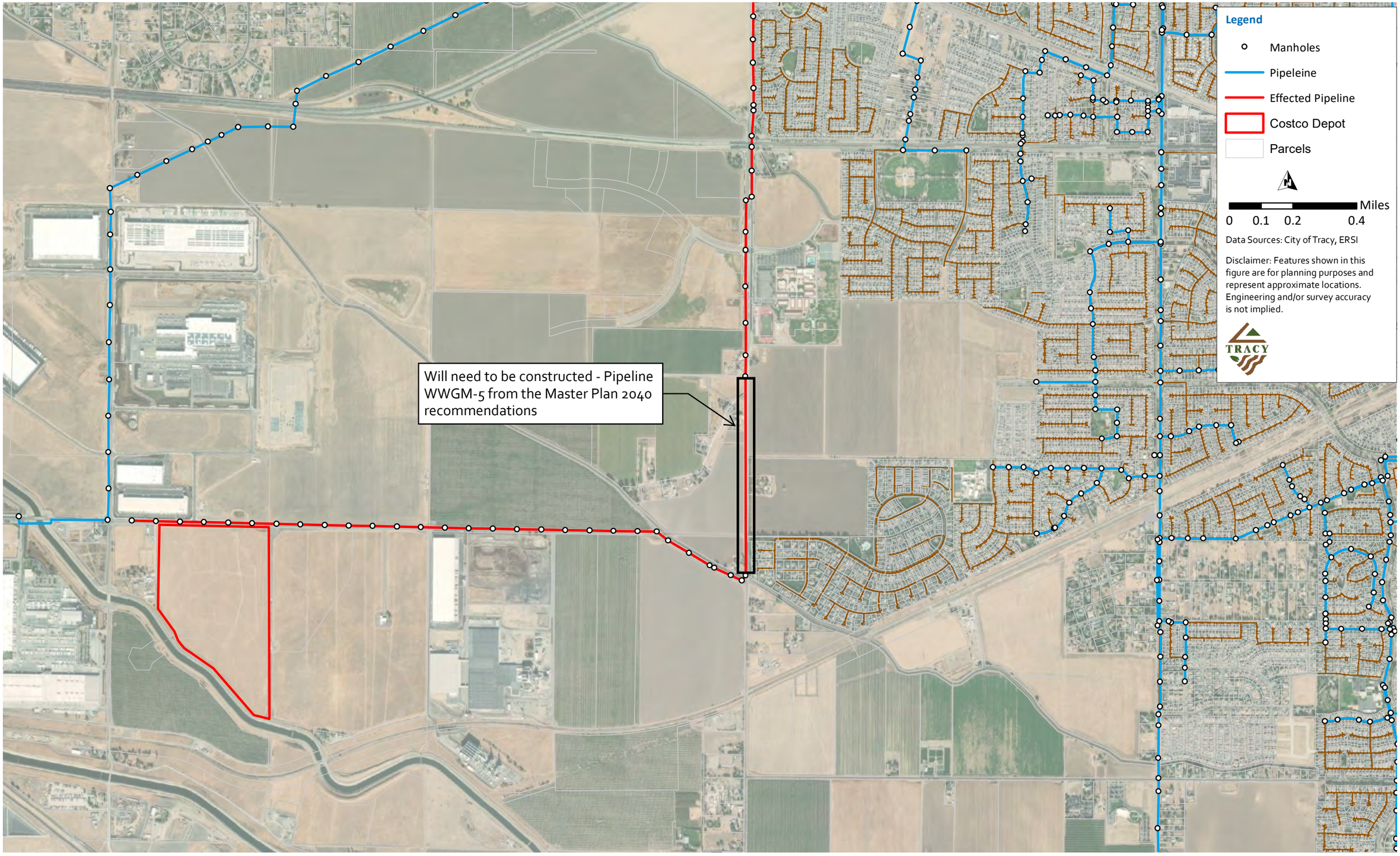
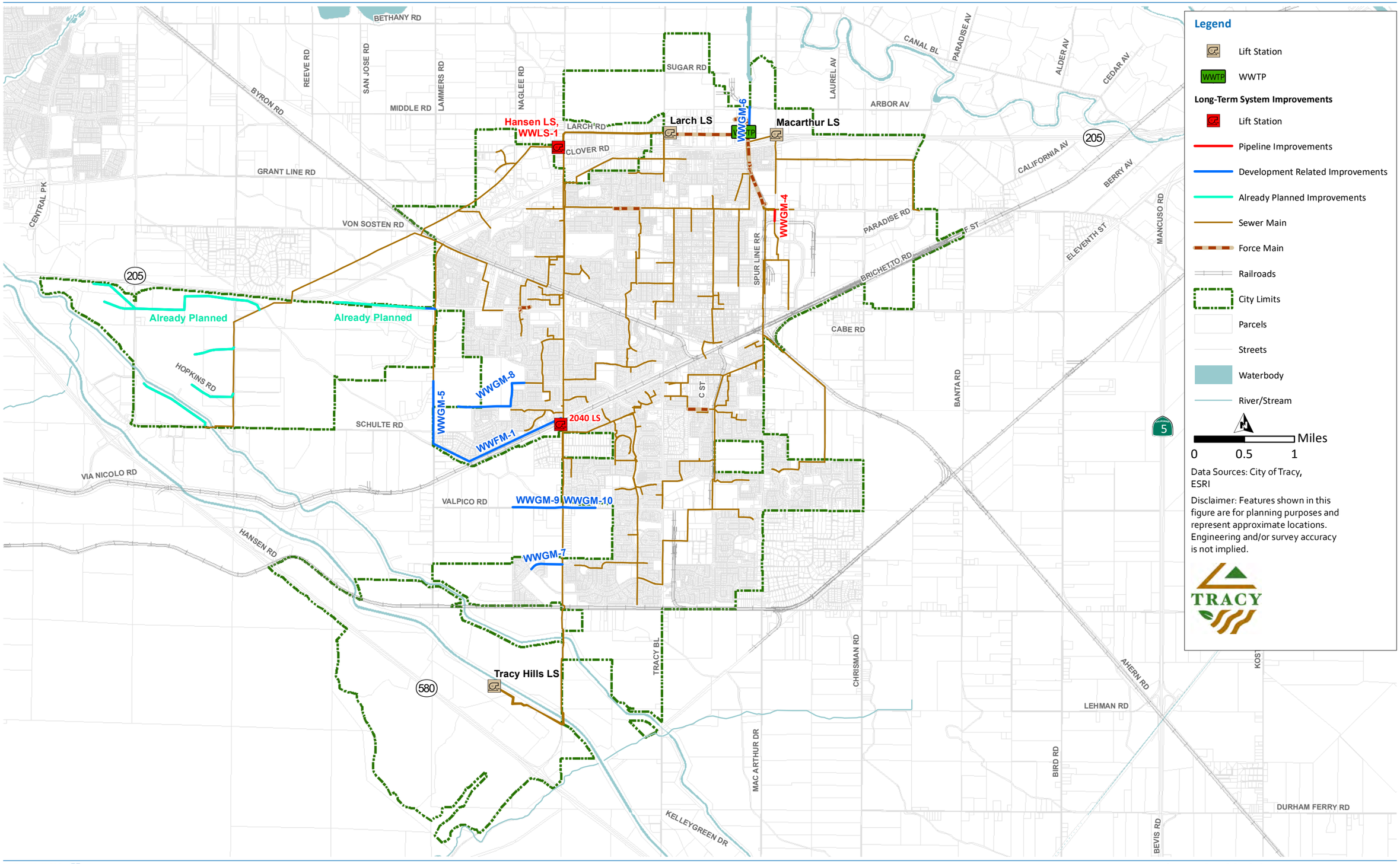




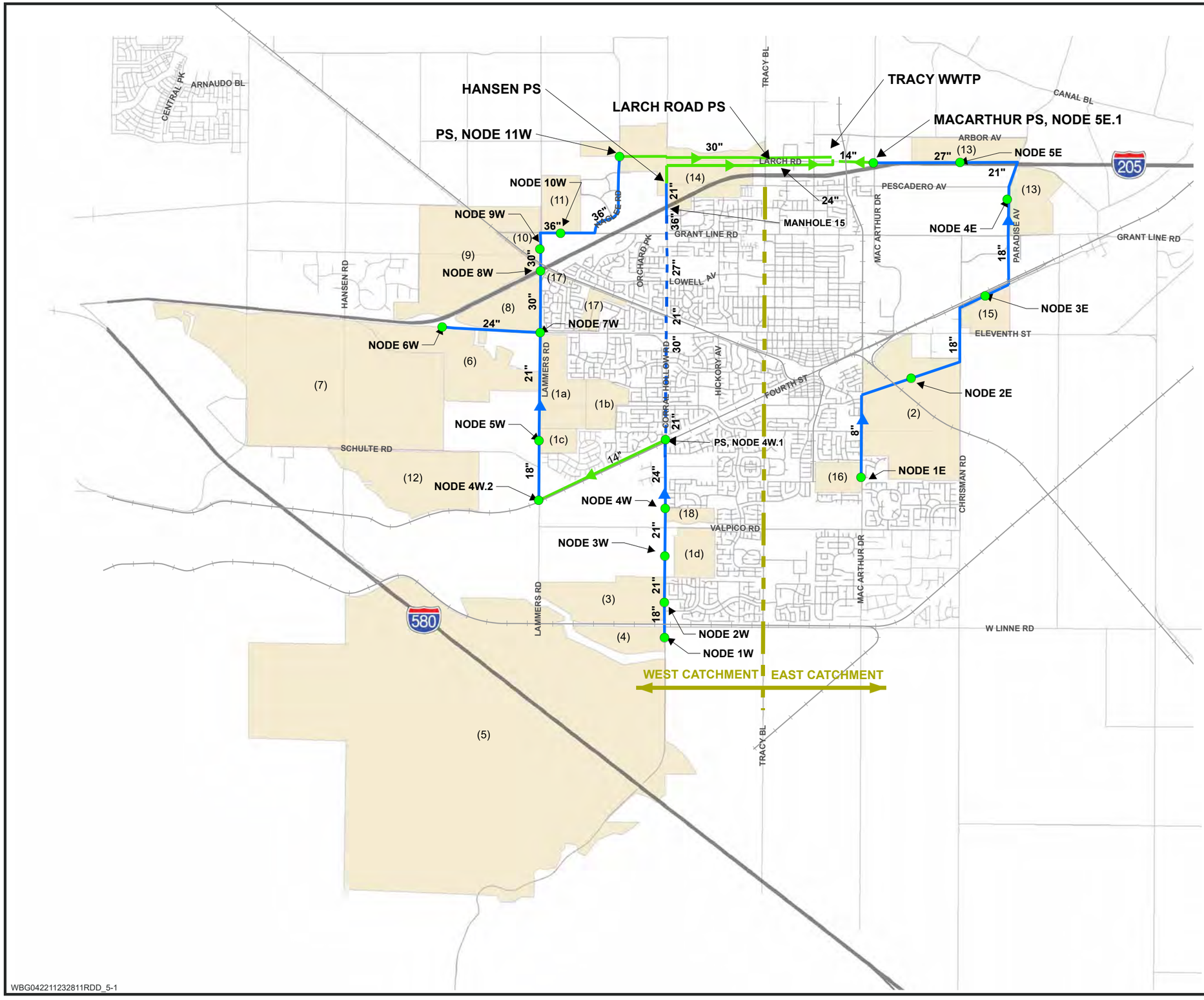

Figure 2 Costco Depot Discharge Pipeline




carollo

Last Revised: July 30, 2020 pw:\\IO-PW-INT.Carollo.local:Carollo\Documents\Client\CA\Tracy\111011A00\Data\GIS\FutureCapacityDeficiencies.mxd

**Figure 6.5 2040 System Improvements**




## LEGEND

- Future Service Areas
- Node # (point of wastewater contribution)
- Proposed Force Main
- Proposed Gravity Main
- Proposed Gravity Main, Replacement
- 18" — Pipe Diameter (See pipe schedule)

## FUTURE SERVICE AREAS INDEX

(1a) UR 5 (Bright)
(1b) UR 7 (Bright)
(1c) UR 8 (Fahmy)
(1d) UR 9 (Keenan)
(2) UR 1 (Alvarez & others)
(3) UR 10 (Ellis)
(4) South Linne
(5) Tracy Hills
(6) Gateway (excluding Phase 1)
(7) Cordes Ranch
(8) Bright
(9) Catellus
(10) Filios
(11) I-205 Expansion
(12) Westside Industrial
(13) Eastside Industrial
(14) Larch Clover
(15) Chrisman Road
(16) Rocha
(17) Berg/Byron
(18) Kagehiro

## ABBREVIATIONS

| | |
|---|---|
| EXST | EXISTING |
| FM | FORCE MAIN |
| PS | PUMP STATION |
| WWTP | WASTEWATER TREATMENT PLANT |

N

0 0.5 1
Miles

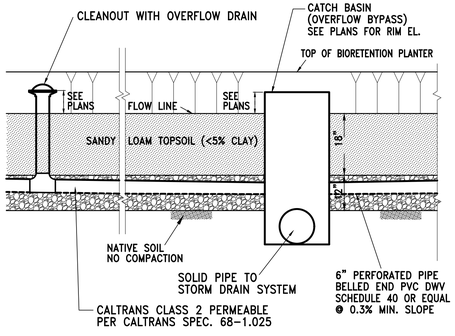
**FIGURE 5-1**
**MAJOR WASTEWATER CONVEYANCE FACILITIES**
TRACY WASTEWATER MASTER PLAN

CH2MHILL®

WBG042211232811RDD_5-1

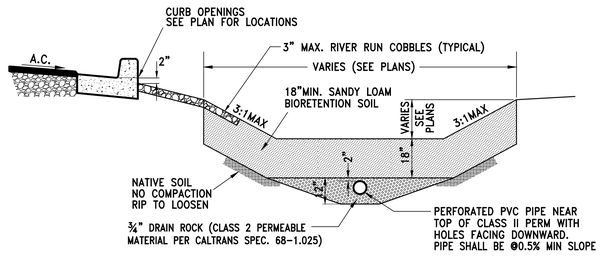
# APPENDIX I

**Stormwater Quality Control Plan**




STORMWATER TREATMENT PLANTER - TYPICAL SECTION

N. T. S.

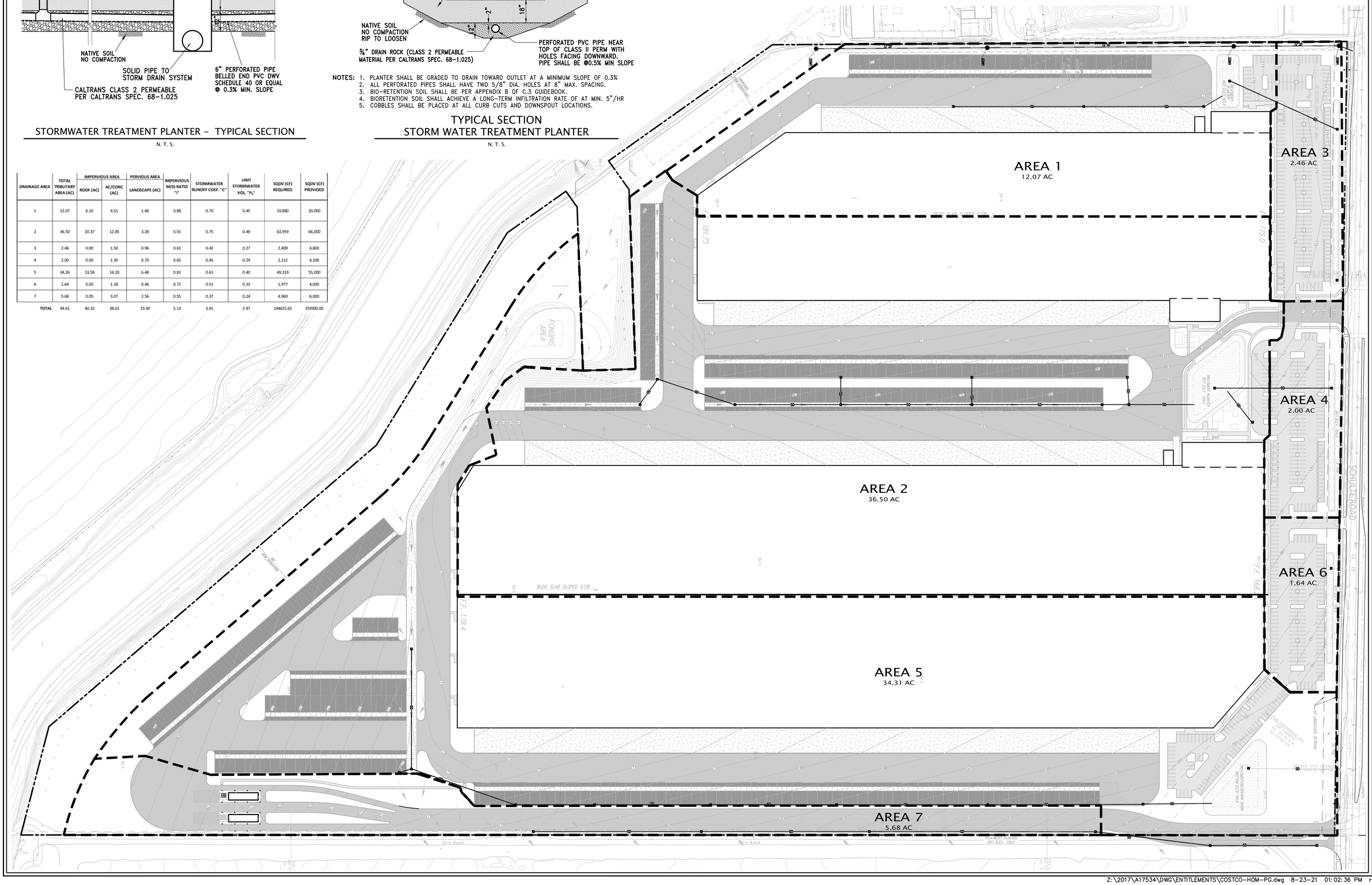



NOTES:
1. PLANTER SHALL BE GRADED TO DRAIN TOWARD OUTLET AT A MINIMUM SLOPE OF 0.3%
2. ALL PERFORATED PIPES SHALL HAVE TWO 5/8" DIA. HOLES AT 8" MAX. SPACING.
3. BIO-RETENTION SOIL SHALL BE PER APPENDIX B OF C.3 GUIDEBOOK.
4. BIORETENTION SOIL SHALL ACHIEVE A LONG-TERM INFILTRATION RATE OF AT MIN. 5"/HR
5. COBBLES SHALL BE PLACED AT ALL CURB CUTS AND DOWNSPOUT LOCATIONS.

TYPICAL SECTION
STORM WATER TREATMENT PLANTER

N. T. S.

| DRAINAGE AREA | TOTAL TRIBUTARY AREA (AC) | IMPERVIOUS AREA ROOF (AC) | IMPERVIOUS AREA AC/CONC (AC) | PERVIOUS AREA LANDSCAPE (AC) | IMPERVIOUSNESS RATIO "I" | STORMWATER RUNOFF COEF. "C" | UNIT STORMWATER VOL "$P_0$" | SQDV (CF) REQUIRED | SQDV (CF) PROVIDED |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 12.07 | 6.10 | 4.51 | 1.46 | 0.88 | 0.70 | 0.45 | 19,880 | 20,000 |
| 2 | 36.50 | 20.37 | 12.85 | 3.28 | 0.91 | 0.75 | 0.48 | 63,959 | 66,000 |
| 3 | 2.46 | 0.00 | 1.50 | 0.96 | 0.61 | 0.42 | 0.27 | 2,409 | 4,800 |
| 4 | 2.00 | 0.00 | 1.30 | 0.70 | 0.65 | 0.45 | 0.29 | 2,112 | 4,100 |
| 5 | 34.26 | 13.58 | 14.20 | 6.48 | 0.81 | 0.61 | 0.40 | 49,319 | 55,000 |
| 6 | 1.64 | 0.00 | 1.18 | 0.46 | 0.72 | 0.51 | 0.33 | 1,977 | 4,000 |
| 7 | 5.68 | 0.05 | 3.07 | 2.56 | 0.55 | 0.37 | 0.24 | 4,969 | 6,000 |
| TOTAL | 94.61 | 40.10 | 38.61 | 15.90 | 5.13 | 3.81 | 2.47 | 144625.62 | 159900.00 |




CITY OF TRACY

PERSONAL & PUBLIC PARK DEDICATION: THE DEVELOPER OF THE PROJECT IS RESPONSIBLE FOR CONSTRUCTION OF MISTAKES, ERRORS, OR OMISSIONS ON THE PLANS. THE DEVELOPER SHALL HAVE THE AUTHORITY TO INCLUDE SUCH IMPROVEMENTS AS PUBLIC INTEREST REQUIRES. MODIFICATION OF OR A DEPARTURE FROM THE APPROVED PLANS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER. THE CITY ENGINEER SHALL HAVE THE AUTHORITY TO REQUIRE SUCH MODIFICATIONS AS HE DEEMS NECESSARY TO ASSURE THE PROJECT IS SUBSTANTIALLY AS APPROVED. THE CITY APPROVES ONLY THE INFORMATION SHOWN ON THE SAME SHEET(S) AS THE CITY ENGINEER'S APPROVAL BLOCK. ANY OTHER INFORMATION SUBMITTED HEREIN, APPROVED FOR THE CITY OF TRACY

ROBERT ARMIJO, P.E. CITY ENGINEER DATE:

Think Inside the Triangle

REGISTERED PROFESSIONAL ENGINEER MICHAEL F. BASSETT No. 71814 CIVIL STATE OF CALIFORNIA

KIER+WRIGHT
2850 Collier Canyon Road
Livermore, California 94551
Phone (925) 245-8788
www.kierwright.com

REVISIONS

| SYMBOL | DATE | DESCRIPTION | APPROVED |
|---|---|---|---|
| | 06/07/20 | CITY RE-SUBMITTAL | |
| | 09/07/20 | CITY RE-SUBMITTAL | |
| | 04/23/21 | CITY RE-SUBMITTAL | |
| | 06/15/21 | CITY RE-SUBMITTAL | |
| | 08/24/21 | CITY RE-SUBMITTAL | |

DESIGNED BY: CJP
DRAWN BY: R.S.
CHECKED BY: M.F.B.
SCALE: 1" = 100'

# COSTCO FACILITIES
## COSTCO WHOLESALE
### STORMWATER QUALITY CONTROL PLAN

SHEET
C.4.1
OF 8 SHEETS

# APPENDIX J

**Costco Depot Project Planning Submittal Review for Drainage and Flood**

WOOD RODGERS

**TECHNICAL MEMORANDUM**




**TO:** Ms. Ilene Macintire, PE, City of Tracy
Mr. Richard Steiner, PE, LEED AP, EnvSP, SNG & Associates, Inc.

**FROM:** Mr. Harvey Oslick, PE, CFM, CPSWQ, EnvSP, Wood Rodgers, Inc.

**DATE:** August 10, 2021

**SUBJECT:** Costco Depot Project Planning Submittal Review for Drainage and Flood Management

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## PURPOSE

The purpose of this Technical Memorandum is to present the results of an evaluation of pre-project 100-year flood conditions, a qualitative discussion about post-project flood management with respect to the proposed Costco Depot Project (Project), and comments on drainage elements shown on the on-site and off-site planning-level documents. Runoff from off-site watersheds that can impact the site originates in a watershed upstream of the Delta-Mendota Canal. This evaluation included a review of the measures to manage flows that originate off-site and to mitigate the impacts of the proposed project on 100-year flows as shown on the plans for New Costco Facilities dated June 6, 2021 (6th Submittal). Sheets 2, C.2.1, C.2.2 and C.2.3 from the 6th Submittal are attached for reference. This Technical Memorandum also discusses storm drainage detention requirements in the context of the city of Tracy's (City's) adopted and draft storm drainage master plans.

## LOCATION

The location of the Project is south of the City limit along W. Schulte Road as shown on the attached **Figure 1** - Watershed Map and on Sheet 2 from the 6th Submittal. The site is north of the Delta-Mendota Canal, extending from approximately 700 feet to 2,700 feet east of Hansen Road. The proposed Project site area is approximately 104 acres and it is within the City's sphere of influence. The proposed Project area is within the Lammers Watershed as defined in the Citywide Storm Drainage Master Plan (2012 CSDMP) dated November 2012 prepared by Stantec and in the Draft Citywide Storm Drainage Master Plan Update (Draft CSDMP Update) dated March 13, 2020 prepared by Wood Rodgers. The site is located downstream from an overchute that carries runoff from a large watershed across the Delta-Mendota Canal and is referred to as Offsite Tributary Area 3 in the legend on Figure 1. **Figure 2** illustrates Key Existing Features and the existing conditions 100-year flood results discussed below.

## EXISTING CONDITIONS 100-YEAR FLOOD MODELING

Wood Rodgers developed two existing conditions models. One of the models covers the upstream off-site areas and was based on 2007 LiDAR topographic data. The other model focused on the Project site and is based on site topographic data provided by Kier and Wright.

The existing conditions model that includes the off-site watersheds was created using Innovyze's InfoWorks ICM and employing the methodology described in the Draft CSDMP Update. The 100-year storm analysis used a 24-hour storm. The purpose of the existing conditions model that includes the off-site watersheds was to estimate the amount of runoff that would be expected to flow across the Delta-Mendota Canal onto the Project site.

The major watershed upstream from the Project is called Offsite Tributary Area 3 (or OFF3). The majority of this watershed is south of the California Aqueduct and it drains under Interstate 580 through a large culvert, across the California Aqueduct through an overchute, and under the railroad tracks that are south of the Safeway Distribution Center. To the north of the railroad tracks, the runoff turns to the east towards Hansen Road. There is a weir along the south side of an access road that runs on the south side of the Safeway Distribution Center to the north of the flow path towards Hansen Road. If the flood levels upstream of Hansen Road reach the level of the weir, some of the runoff from Offsite Tributary Area 3 will drain to the north through a drainage path within the Safeway Distribution Center. Any flows that drain over the weir to the north will not impact the Project site. Four 3-foot-high by 6-foot-wide concrete box culverts (CBCs) under Hansen Road convey most of the runoff east, towards an overchute crossing of the Delta-Mendota Canal that drains towards the Project site. There are a two other culverts located under Interstate 580 upstream from the minor pipe crossings over the California Aqueduct. These pipe overchutes (estimated to be 18-inch and 36-inch diameter pipes based on imagery) were included in this evaluation and were determined to not contribute significantly to the flows towards the Project site due to insignificant conveyance towards the box culverts under Hansen Road. The model routed the flows through the Hansen Road culverts and added local runoff, routing the combined flow through the Delta-Mendota Canal overchute.

Wood Rodgers reviewed the plans for the Delta-Mendota Canal overchute and evaluated its capacity. The ICM model calculated the 100-year discharge through the 3.5-foot-high by 7.5-foot-wide restriction at the upstream end of the overchute over the Delta-Mendota Canal to be approximately 170 cubic feet per second (cfs). The design plan (see Sheet 214-D-12201, included as **Figure 3**) indicates a design discharge of 200 cfs for the overchute.

In the existing conditions, the runoff from Offsite Tributary Area 3 that crosses the Delta-Mendota Canal would spread across the Project site, flowing generally to the northeast and perpendicular to existing contours. Most of the flow would pass across the eastern boundary of the Project. Some of the flow would re-concentrate on the north side of the Project site (W1951 on Figure 2), along the south side of Schulte Road before flowing to the east. Only an insignificant amount of flow would be expected to cross Schulte Road to the north based on a two-dimensional hydraulic analysis. The presentation of results was truncated at the future Pavilion Parkway because the

modeled topography does not reflect existing conditions to the east of Pavilion Parkway. A review of the site plans for the building and associated grading southeast of the corner of Pavilion Parkway and Schulte Road found that the finished floor of the structure is well above the potential overland flooding elevation along Schulte Road.

The existing conditions model, which was based on the pre-project site topography provided by Kier and Wright, was prepared using the computer program HEC-RAS. The HEC-RAS model simulates 200 cfs from the Delta-Mendota Canal overchute flowing across the Project site to provide a distribution of flows along the eastern Project boundary. The Project will be conditioned to approximate this simulated distribution as part of the detailed design and analysis process. The HEC-RAS results were provided to Kier and Wright. Kier and Wright superimposed these results on a site plan (included as **Figure 4**) that presents a concept for maintaining approximate existing conditions for the distribution of runoff crossing the Project site.

## PROPOSED PROJECT

The Project includes two buildings and associate parking and drive aisles. Sheets C.2.1, C.2.2 and C.2.3 of the 6th Submittal illustrate the proposed plan to convey flows onto the Project site from the Delta-Mendota Canal overchute around to the eastern side of the Project area. A Ponding Area is proposed near the northern end of the Delta-Mendota Canal overchute. A berm with a crest elevation of 186 feet is proposed to direct flow into the Ponding Area, away from the proposed building to the north of the Ponding Area. A concrete and asphalt swale integrated into the parking area will convey the flow out of the Ponding Area to the southeast and around the south side of the proposed eastern building. The proposed configuration is adequate to convey 200 cfs without impacting the proposed structures.

The 6th Submittal shows a Treatment Planter along the eastern edge of the Project with a label indicating a bottom elevation of 159.0 feet. Calling out a bottom elevation of the Treatment Planter infers that the bottom is planned to be horizontal, as it should be for typical treatment planter installations. However, a single horizontal bottom elevation for this entire Treatment Planter may not be appropriate. A stepped bottom along the Treatment Planter may be considered during detailed design.

Sheet C.4.1 of the 6th Submittal presents the Stormwater Quality Control Plan. The Project area is divided into seven Drainage Management Areas (DMAs), each draining into a Treatment Planter. It should be noted that the DMAs must follow design condition topographic drainage area boundaries, even when these boundaries do not correspond to property boundaries. For example, the off-site area that will be graded to drain into the Ponding Area must be included in DMA 5. The expected minor adjustments to the DMA boundaries would not be expected to significantly change the treatment requirements, and this can be addressed as part of detailed design.

It is reasonable to assume that no flows originating south of the Delta-Mendota Canal would be expected to flow onto the site during a stormwater quality event. No water quality flows originating off-site would be expected to enter the site because, per the Multi-Agency Post-Construction Stormwater Standards Manual, the mean runoff producing event is 0.33 inch and the

initial abstraction (precipitation loss) is 0.70 inch for a Soil Conservation Service (SCS) Curve Number (CN) of 74, which is applicable to the undeveloped portions of the watershed.

The table on Sheet C.4.1 lists a total tributary area of 94.61 acres for the seven DMAs. The table lists 78.71 impervious acres based on the combination of roof and pavement areas. This equates to an imperviousness of 83.2 percent. The table lists a total imperviousness ratio of 5.13. The total values should be blank, or weighted averages should be listed, where sum totals do not provide useful information.

Flow arrows were used on the 6th Submittal drawings to indicate that overflow from the site that result from high flows originating off-site would be distributed along the eastern edge of the Project site. Some of these flow arrows were determined to be located too far to the south because the arrows are south of where existing conditions modeling shows existing conditions site runoff discharging to the east. The Project will be conditioned to control overflow from the site in a manner that approximates how overflows would have occurred in the pre-project condition, as illustrated on Figure 4.

## PROJECT IN THE CONTEXT OF THE 2012 CSDMP

Exhibit B from Supplement No. 3 to the 2012 CSDMP, by Stormwater Consulting Inc. dated October 8, 2019, shows the Project area in the context of the 2012 CSDMP. The Project site is in drainage area L12, which is downstream from detention basin DET LW12 and upstream from detention basin DET LW11 in drainage area L10. Figure 3-2 from the 2012 CSDMP lists assumptions relative to the Project area. Figure 3-2 from the 2012 CSDMP and Exhibit B from Supplement No. 3 are attached for reference.

Detention basin DET LW 11 will receive piped runoff from the Project area and has a planned piped outlet to the north. The overland release from the Project area (drainage area L12) is through drainage area L10, including the portion of L10 that will become DET LW11. The overland release from DET LW11 is to the east into drainage area L05, and the overland release from L05 is further to the east into drainage area L06. The implications of the potential overland release on these areas and other areas further downstream was not evaluated. Figure 3-2 includes the following statements:

1. "There is not a detention basin proposed to regulate discharges into the Sphere of Influence from Sub-basin OFF3."
2. In reference to Sub-basin OFF3 (and OFF2), "Offsite sub-basins that must be accounted for in onsite design, but not included in sizing of detention basins serving new development."
3. Regarding drainage areas L05 and L06, "Sub-basins draining to Delta Mendota Canal, WSID Upper Main Canal, or tailwater ponds."

In other words, the 2012 CSDMP did not evaluate potential impacts of overland release from off-site tributary areas reaching the City limit. The 2012 CSDMP focused on managing runoff originating with the City's sphere of influence. The 2012 CSDMP called for detention basin DET

LW11 to have a peak storage volume of 30 acre-feet with a peak discharge of 2.5 cfs. Part of the 2.5 cfs peak discharge from DET LW11 was planned to be the 0.5 cfs discharge from DET LW 12 that would flow through DET LW11, leaving DET LW11 with an effective drawdown rate of 2 cfs. The 2012 CSDMP calls for DET LW11 to serve drainage areas L10 and L12.

The 2012 CSDMP sized DET LW11 based on drainage area L12 (the Project area) being 103.3 acres at 57-percent effective imperviousness and drainage area L10 being 225.5 acres at 6-percent effective imperviousness.

## CITY DESIGN STANDARDS AND THE OFF-SITE STORM DRAIN

The City Design Standards were applied to planned conditions in order to provide comments on the sizing of the off-site storm drainage system. The Design Standards allow for combined street and pipe conveyance to be considered in the design, and they refer to both the 10-year and 100-year storm events. Rational Method analysis was used to compute discharges. Flow routing that would occur in the Treatment Planters was assumed to result in a site time of concentration of 20 minutes.

The Rational Method computes a discharge as the product of the runoff coefficient, rainfall intensity and tributary area. A runoff coefficient of 0.75 was computed for the 103-acre tributary area based on 95 acres of commercial area (C=0.8) and 8 acres of open space (C=0.1). The 10-year and 100-year rainfall intensities are 0.8 and1.3 inches per hour, respectively, based on Plate 5-1 in the Design Standards. These values result in a 10-year design discharge of 62 cfs and a 100-year discharge of 100 cfs. Based on Plate 5-4 in the Design Standards, the capacity of Schulte Road would be approximately 20 cfs at the top-of-curb and 60 cfs at the right-of-way limits. A minimum pipe capacity of 42 cfs is, therefore, required based on the 10-year discharge of 62 cfs less the street conveyance capacity of 20 cfs.

Storm Drain Exhibit Sheet 4 of 6 shows a transition from a 30-inch to a 36-inch storm drain pipe (both at a slope of 0.005) at the easternmost of two 24-inch stubs from the parcels between the Project site and DET LW11. Storm drain pipes with diameters of 30 inches and 36 inches at a slope of 0.005 have capacities of approximately 30 cfs and 49 cfs, respectively. Therefore, a minimum pipe size of 36 inches should be used from the point where all runoff from the Project site is combined to a point where a capacity in excess of 49 cfs is required. Analysis of the incremental increases in flow at the various connection points along the Project's frontage will be required to size the storm drains upstream from the 36-inch pipe. The City's General Plan does not include development of the two parcels to the east of the Project. Therefore, there is no basis for planning for flows towards Schulte Road that could potentially be collected in storm drain stubs.

As part of detailed design, the Project will need to demonstrate that all runoff originating from the Project site will be directed into DET LW11. There is a potential that runoff originating from the Project site could flow along Schulte Road to the east to a point where it could reach, and possibly cross, Pavilion Parkway. The Project will need to demonstrate that no flow from the project site crosses Pavilion Parkway when there is a discharge of 100 cfs from the Project. Multiple inlets west of Pavilion Parkway will likely be needed to direct the runoff conveyed along Schulte Road

into DET LW11. A 48-inch pipe would have sufficient capacity to convey 100 cfs into DET LW11, which should be adequate if there are not additional significant connections (such as the two 24-inch stubs that are currently shown) into the storm drain along Schulte Road. The final segments of pipe from Schulte Road into DET LW11 will need to be 48 inches in diameter. The precise configuration of the pipe and inlet system will need to be developed during the design phase.

The General Plan land use designation for the two parcels situated to the east of the Project (for which 24-inch stubs are shown on the Storm Drain Exhibit) is "Park", and this designation was used as a basis for sizing DET LW11. When and if this land use designation changes, DET LW11 would need to be expanded to accommodate runoff from additional impervious areas. The Project is not responsible for this potential future expansion. The Project does not need to plan for future development of the area that is currently zoned as Park and, therefore, does not need to include stubs for future development into the Schulte Road storm drain that is being planned.

## PROJECT IN THE CONTEXT OF THE CSDMP UPDATE

The overall system configuration serving the Lammers Watershed was not revised between the 2012 CDSMP and the Draft CSDMP Update. However, the Draft CSDMP Update provides recommendations for updated design criteria to address identified issues with the 2012 CSDMP and apply current best available information. These recommendations resulted in the basin sizes in the Draft CSDMP Update to be larger than those called for in the 2012 CSDMP. Key reasons for why the Draft CSDMP Update recommends a larger basin for DET LW11 include the 2012 CSDMP assumption that the developing portion of the drainage area would only have an effective imperviousness of 57 percent and that only a 24-hour storm was used, even though it would take 15 days to drain at the design net discharge rate of 2 cubic feet per second. The Draft CSDMP Update uses an effective imperviousness of 85 percent for industrial development based on a 5-percent reduction from 90 percent to account for the effectiveness of Low Impact Development measures.

The area tributary to DET LW11 downstream from DET LW12 is approximately 326 acres. With a land use designation of park assigned to the two parcels situated to the east of the Project site, the CSDMP Update computed an effective imperviousness of 33.7 percent for the DET LW11 tributary area. DET LW11 should have a total depth of 10 feet based on the invert of the outlet at an elevation of 121 feet, and the existing ground elevations that control the top elevation, in order to satisfy the requirement to not have an embankment. Based on the recommended sizing approach in the Draft CSDMP Update, the DET LW11 should have a capacity of 64 acre-feet, including freeboard. The Draft CSDMP Update recommends that DET LW12 be designed with a peak outflow rate of 1 cfs rather than 0.5 cfs in order to achieve more reasonable drawdown times because this would allow for the use of a 10-day design storm. Therefore, the orifice outlet that will control the peak flow from DET LW11 should be sized for 3 cfs rather than 2.5 cfs. Additionally, it is recommended that the outlet from DET LW11 be fitted with a manual gate that can stop outflow in case downstream conditions require flow reductions at a time when there is available capacity in the basin.

Due to the expectation that site runoff would typically occur before peak runoff from the upstream watershed, the storm drainage system would be expected to direct some of the flow originating off-site into DET LW11. Additionally, DET LW11 is along the overland release path that would receive runoff originating from Offsite Tributary Area 3. Therefore, the detailed design of DET LW11 should include sufficient erosion control measures to limit damage when there is overland flow into the basin and when the basin overflows.

## CONCLUSIONS AND RECOMMENDATIONS

Wood Rodgers evaluated the existing and proposed conditions for the Costco Depot Project site with respect to impacts on 100-year runoff and flooding. The evaluation considered how runoff originating off-site and on-site is planned to be collected and conveyed across the site.

The recommendations in this TM include conditioning the Project to provide detailed analysis during the Project design phase to demonstrate how flows originating off-site will be distributed along the eastern side of the Project. Additionally, calculations will need to be provided to support final sizing of the storm drainage system along Schulte Road. The final sizing of the storm drainage system and inlet configuration near Pavilion Parkway will need to demonstrate how 100-year flows originating on the Project will be directed into DET LW11.

Wood Rodgers recommends that DET LW11 be sized to have a capacity of 64 acre-feet including freeboard based on the basin sizing approach detailed in the Draft CSDMP Update. Because DET LW11 is situated along the overland release path for flows originating in Offsite Tributary Area 3, the basin should be designed to accommodate overland inflow and overflow.

Attachments

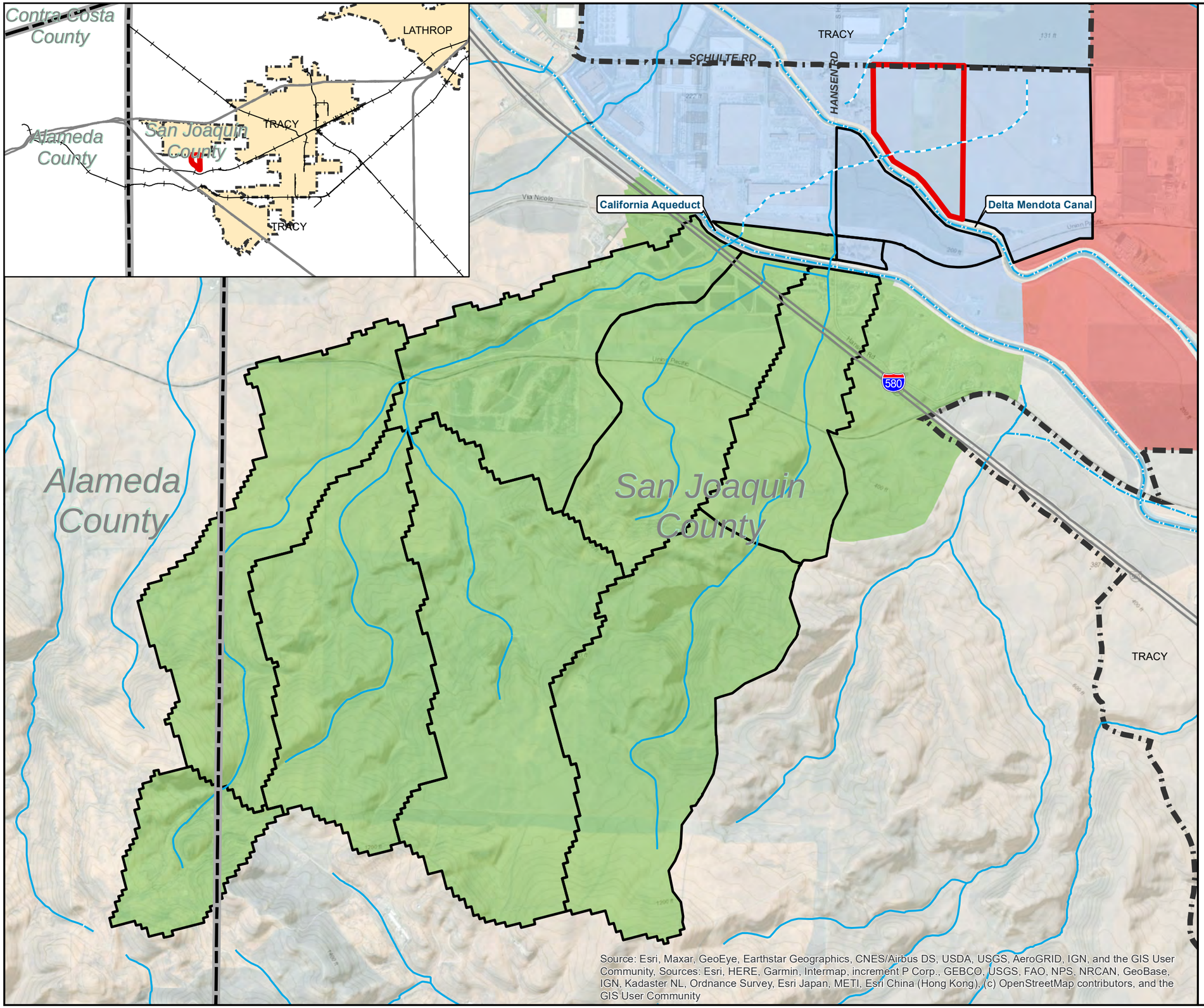
# WATERSHED MAP

COSTCO DEPOT PROJECT

CITY OF TRACY

AUGUST 2021




NORTH

0 2,000 4,000

Feet

## Legend

- Interstate
- Highways
- Railroads
- Artificial Path, Canal, Ditch
- Pipeline, Connector
- Stream, River
- Historic Flow Path
- Project Site
- Lammers Watershed
- Offsite Tributary Area 3
- Non-Connected Lammers Watershed
- Modeled Drainage Areas
- CityLimits
- CountyLimit

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

WOOD RODGERS

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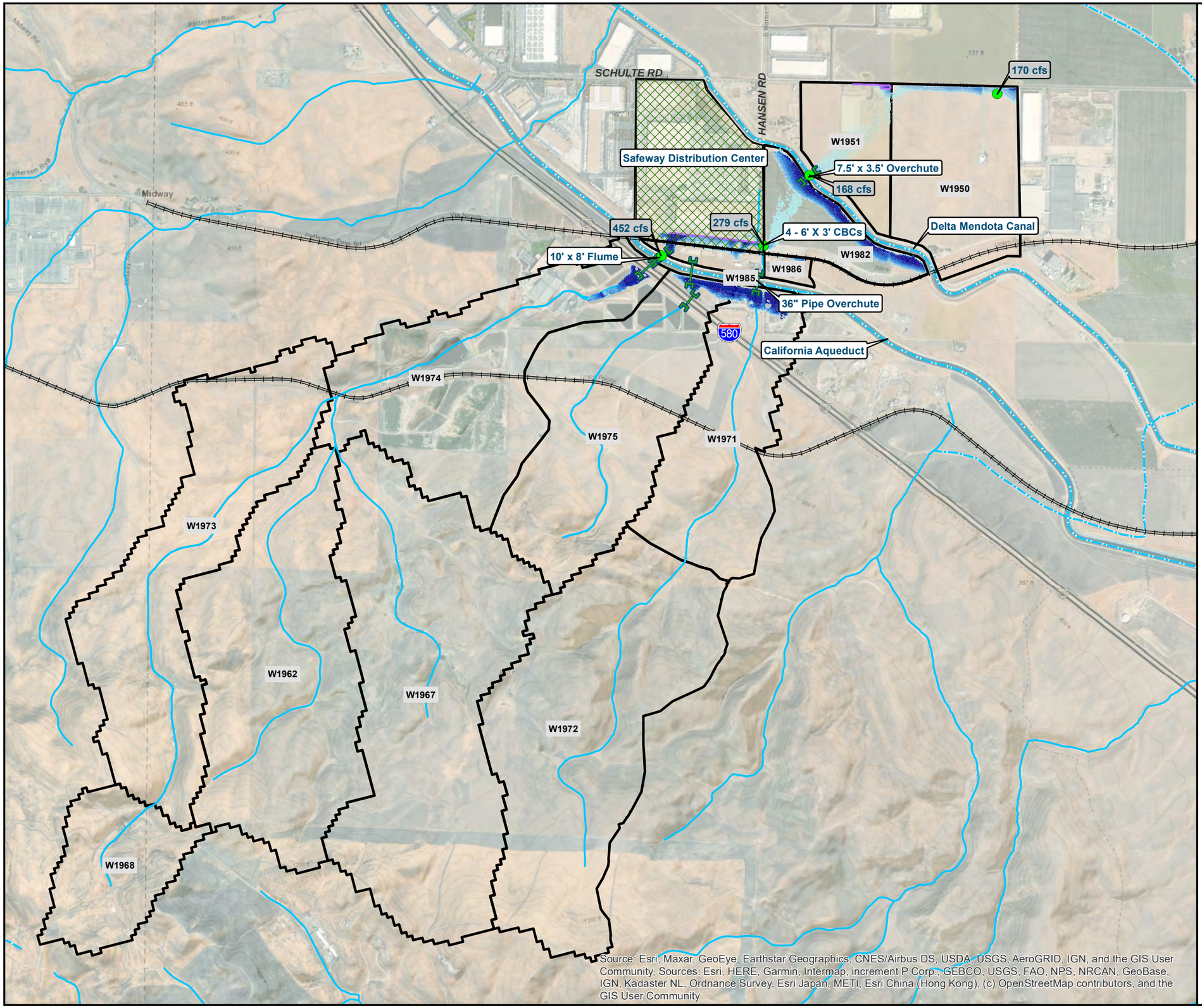
FIGURE 1

# KEY EXISTING FEATURES MAP

COSTCO DEPOT PROJECT

CITY OF TRACY

AUGUST 2021




NORTH

0 2,000 4,000

Feet

## Legend

- Key Locations
- Model Weir
- Model Conduit
- Railroads

**100-year Model Results (depth in feet)**

- 0.25 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- 2.0 - 2.5
- 2.5 - 3.0
- 3.0 - 6.4
- ### cfs 100-year Discharge
- Model Drainage Areas
- Artificial Path, Canal, Ditch
- Stream, River

WOOD RODGERS

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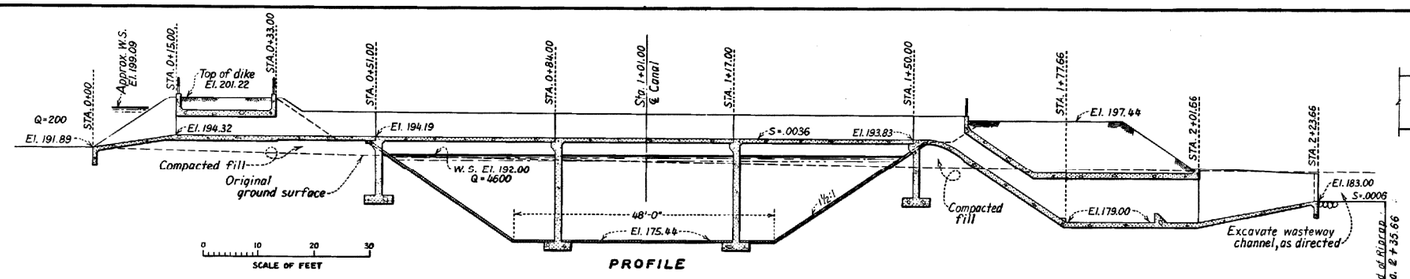
FIGURE 2

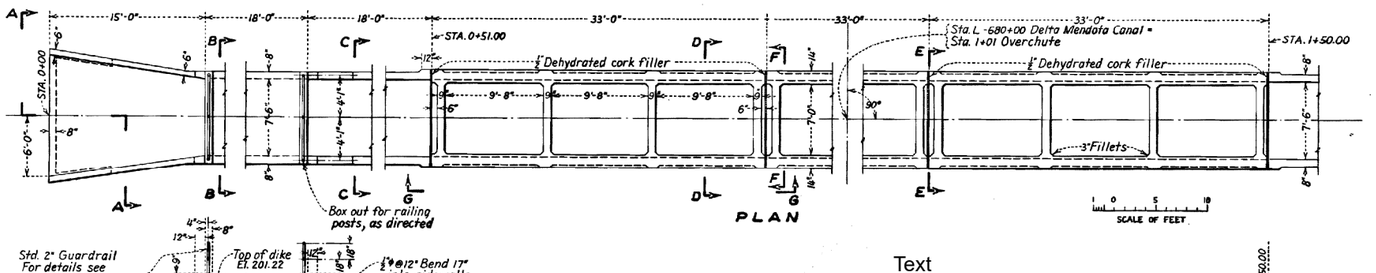
# DELTA-MENDOTA CANAL
# OVERCHUTE PLAN

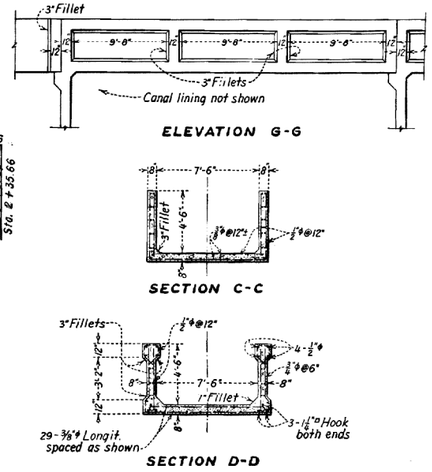
COSTCO DEPOT PROJECT

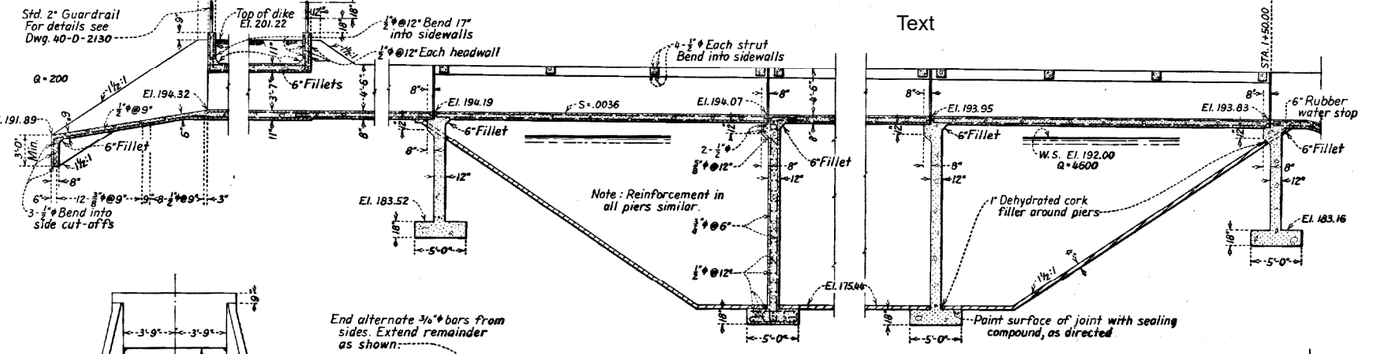
CITY OF TRACY

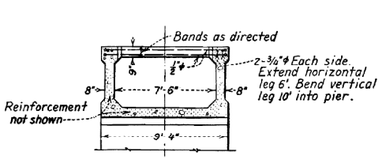
AUGUST 2021

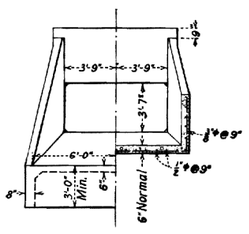


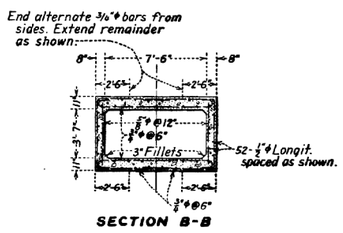



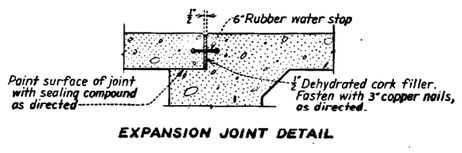



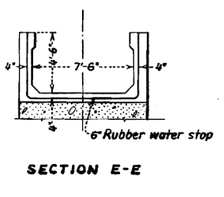




NOTE

For general notes see sheet 2

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
CENTRAL VALLEY PROJECT - CALIFORNIA
DELTA DIVISION

DELTA-MENDOTA CANAL-STA. L-680+00
OVERCHUTE
INLET AND FLUME

DRAWN: C.R.M. SUBMITTED: [signature]
TRACED: D.F.W. RECOMMENDED: [signature]
CHECKED: [signature] APPROVED: [signature]
ASST. CHIEF ENGINEER

DENVER, COLORADO JUNE 27, 1946
SHEET 1 OF 2

214-D-12201

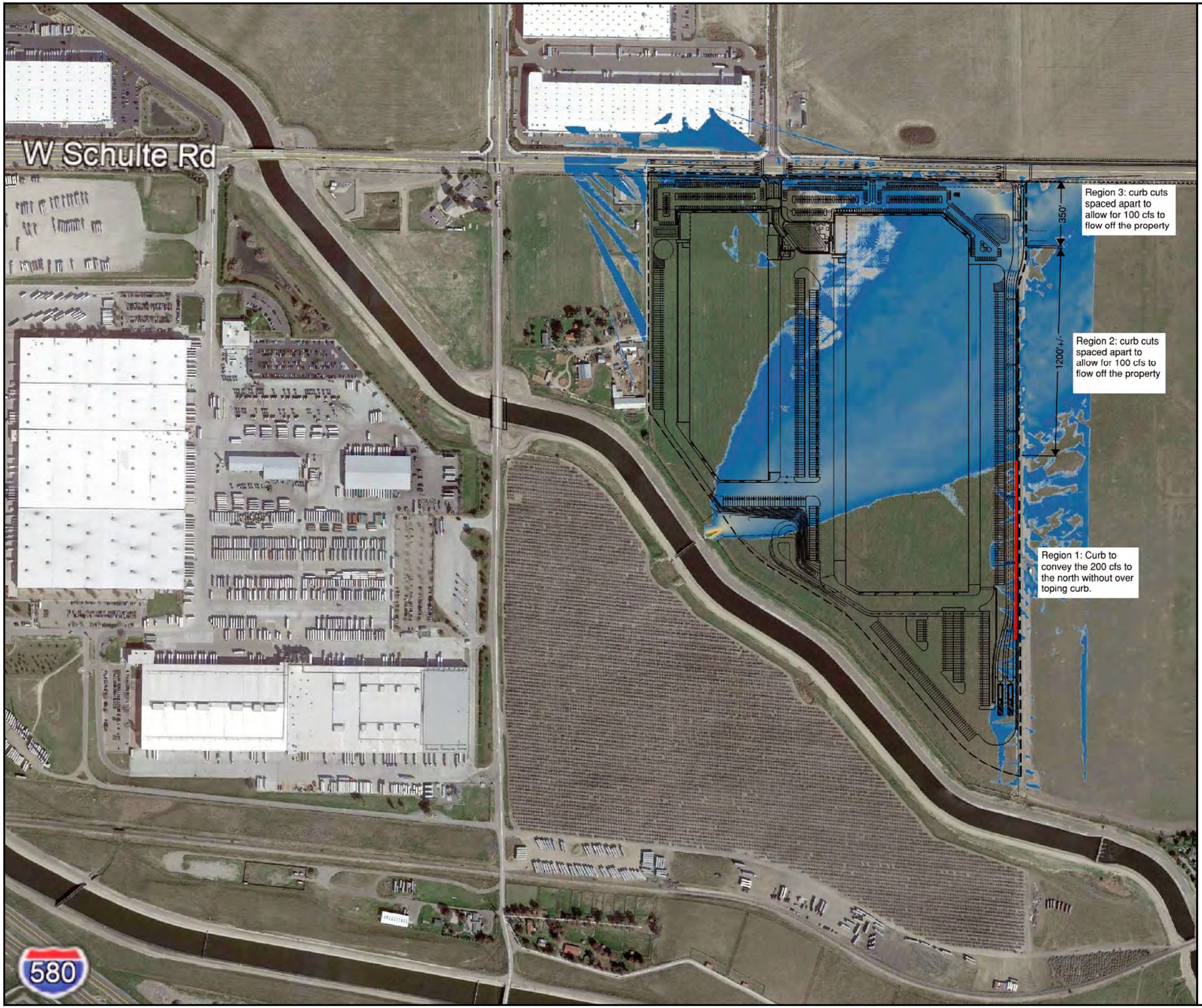
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Text

WOOD RODGERS

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FIGURE 3




**EXISTING CONDITIONS 100-YEAR FLOOD EXTENTS WITH PROPOSED DEVELOPMENT**

COSTCO DEPOT PROJECT

CITY OF TRACY

AUGUST 2021

NORTH

WOOD RODGERS

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FIGURE 4




DBA # P.281

DB+A

DAVID BABCOCK ✦ ASSOCIATES
ARCHITECTURE PLANNING LANDSCAPE
3581 MT. DIABLO BLVD. SUITE 235
LAFAYETTE, CALIFORNIA 94549
T: 925.283.5070

# COSTCO FACILITIES

## CONTEXT SITE PLAN

NOT TO SCALE
JUNE 16, 2021

NORTH

NORTH

0 30 60 120 180

Scale 1" = 60 ft

SCHULTE ROAD

TREATMENT PLANTER BOT ELEV 168.5

TREATMENT PLANTER BOT ELEV 164.5

TREATMENT PLANTER BOT ELEV 159.5

TREATMENT PLANTER BOT ELEV 159.0

TREATMENT/DETENTION BASIN BOTTOM ELEV 156.0

10' PUE

6' PUE

30' LANDSCAPE SETBACK

30' HISTORIC ROAD RIGHT OF WAY

F.F. 175.0

F.F. 168.25

12' WIDE ACCESS ROAD

20' WIDE UTILITY EASEMENT

BLDG SLAB SLOPED 0.5%

BLDG SLAB SLOPED 0.5%

ALL STORM DRAINS 0.5% SLOPE, UNLESS OTHERWISE NOTED

## PAVEMENT LEGEND

AUTO PAVEMENT: 3" AC OVER 4" CLASS II AB OVER 12" LIME TREATED SOIL
AUTO PAVEMENT (T.I.=5.5)

TRUCK PAVEMENT: 5.5" AC OVER 5.5" CLASS II AB OVER 18" LIME TREATED SOIL
TRUCK PAVEMENT (T.I.=9.0)

CONCRETE TRUCK PAVEMENT: 6" CONCRETE OVER 4" CLASS II AB OVER 12" LIME TREATED SUBGRADE

STORMWATER TREATMENT BIO-RETENTION PLANTER

SEE SHEET C2.2

CITY OF TRACY

APPROVAL OF THESE PLANS DOES NOT RELEASE THE DEVELOPER OF THE OBLIGATION TO COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, STANDARDS AND REGULATIONS IN EFFECT AT THE TIME OF APPROVAL OF THE IMPROVEMENT PLANS. THE CITY OF TRACY, BY ISSUING PERMITS AND APPROVING PLANS, DOES NOT ASSUME RESPONSIBILITY FOR ANY OMISSIONS OR ERRORS THAT MAY APPEAR ON THE PLANS, NOR DOES IT ASSUME ANY RESPONSIBILITY FOR THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THE PLANS. THE DEVELOPER IS RESPONSIBLE FOR THE CORRECTION OF ERRORS, OMISSIONS, AND/OR VIOLATIONS OF ANY ORDINANCE OR REGULATION THAT MAY APPEAR DURING THE CONSTRUCTION OF THE IMPROVEMENTS. ACCEPTANCE OF THE IMPROVEMENTS SHALL NOT BE CONSTRUED TO RELIEVE THE DEVELOPER OF THIS OBLIGATION. APPROVAL OF THESE PLANS SHALL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL BY THE CITY ENGINEER UNLESS WORK HAS BEEN COMMENCED WITHIN SAID TWO YEARS AND IS BEING DILIGENTLY PURSUED TO COMPLETION, OR UNLESS AN EXTENSION OF TIME HAS BEEN APPLIED FOR BY THE DEVELOPER AND GRANTED BY THE CITY ENGINEER. IF THE PLANS HAVE EXPIRED, THEY MAY NOT BE USED UNTIL THEY HAVE BEEN RESUBMITTED TO THE CITY ENGINEER AND APPROVED AGAIN. NO CHANGES OR ALTERATIONS MAY BE MADE IN THE PLANS AFTER THEY HAVE BEEN APPROVED BY THE CITY ENGINEER, EXCEPT BY WRITTEN AUTHORIZATION OF THE CITY ENGINEER. ANY PERSON ALTERING APPROVED PLANS WITHOUT AUTHORIZATION FROM THE CITY ENGINEER SHALL BE SUBJECT TO PENALTIES AS PRESCRIBED BY THE CITY OF TRACY.

ROBERT ARMIJO, P.E. CITY ENGINEER DATE:

Think Inside the Triangle

REGISTERED PROFESSIONAL ENGINEER
MICHAEL F. BASSITAS
No. 71814
CIVIL
STATE OF CALIFORNIA

KIER+WRIGHT
2850 Collier Canyon Road
Livermore, California 94551
Phone (925) 245-8788
www.kierwright.com

| REVISIONS | | |
|---|---|---|
| SYMBOL | DATE | DESCRIPTION |
| | 05/07/20 | CITY RE-SUBMITTAL |
| | 10/27/20 | CITY RE-SUBMITTAL |
| | 04/23/21 | CITY RE-SUBMITTAL |
| | 06/15/21 | CITY RE-SUBMITTAL |

APPROVED

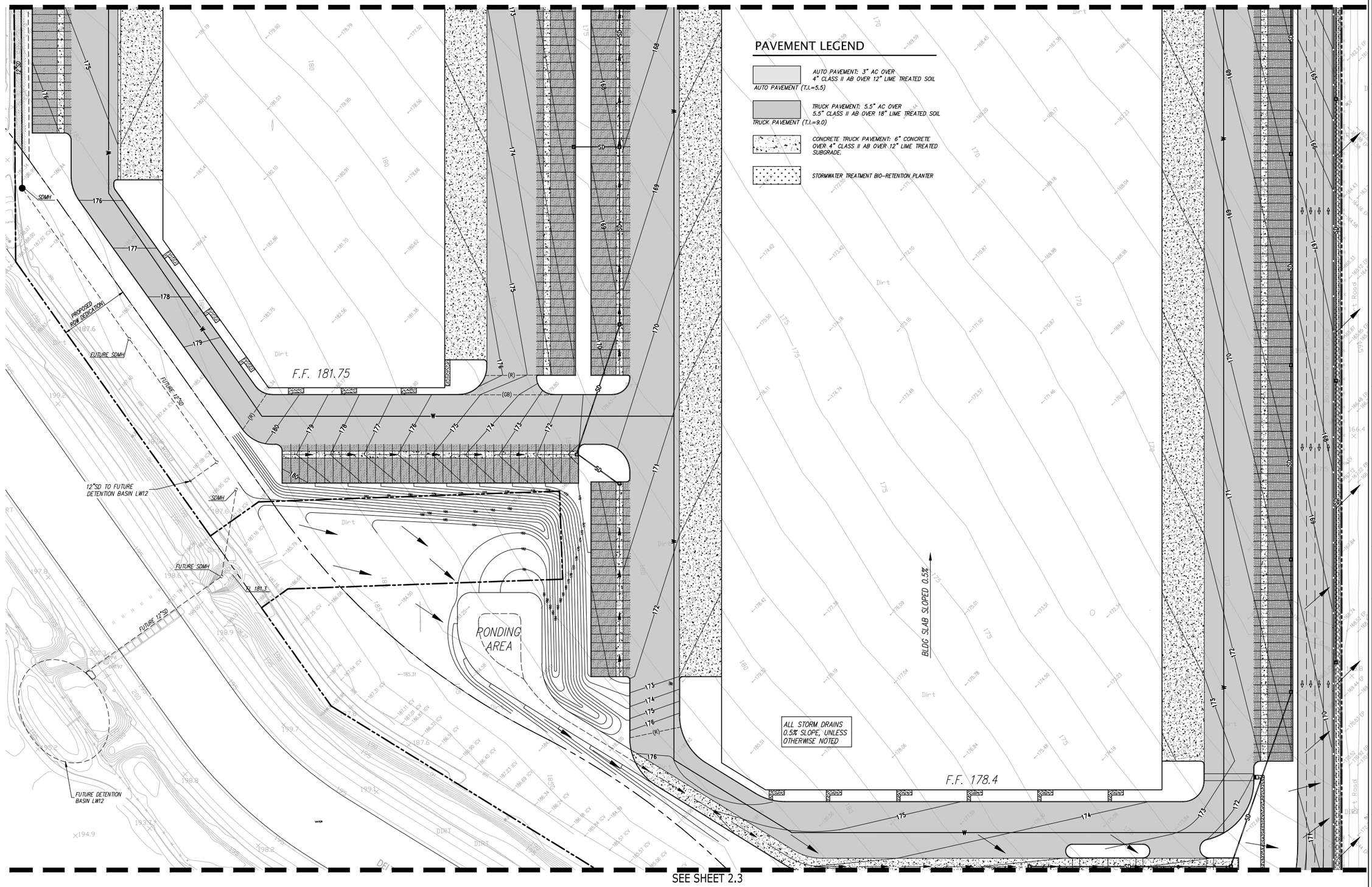
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DRAWN BY: R.S.
CHECKED BY: M.F.B.
SCALE: 1" = 60'

# COSTCO FACILITIES
## COSTCO WHOLESALE
### PRELIMINARY GRADING AND DRAINAGE PLAN

SHEET
C.2.1
OF 8 SHEETS

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SEE SHEET C2.1




SEE SHEET 2.3

CITY OF TRACY

APPROVAL OF THESE PLANS DOES NOT RELEASE THE DEVELOPER OF THE RESPONSIBILITY OF OBTAINING THE NECESSARY PERMITS FROM ANY AGENCY OTHER THAN THE CITY OF TRACY. IT SHALL BE THE DEVELOPER'S RESPONSIBILITY TO OBTAIN ALL PERMITS AND EASEMENTS NOT LISTED AS CONDITIONS OF APPROVAL AND TO SUBMIT A COPY OF EACH TO THE CITY OF TRACY. THE DEVELOPER AND NOT THE CITY SHALL BE LIABLE FOR ANY VIOLATION OF THE CONDITIONS OF ANY PERMIT OR EASEMENT OBTAINED BY THE DEVELOPER AND NOT THE CITY OF TRACY

ROBERT ARMIJO, P.E. CITY ENGINEER DATE:

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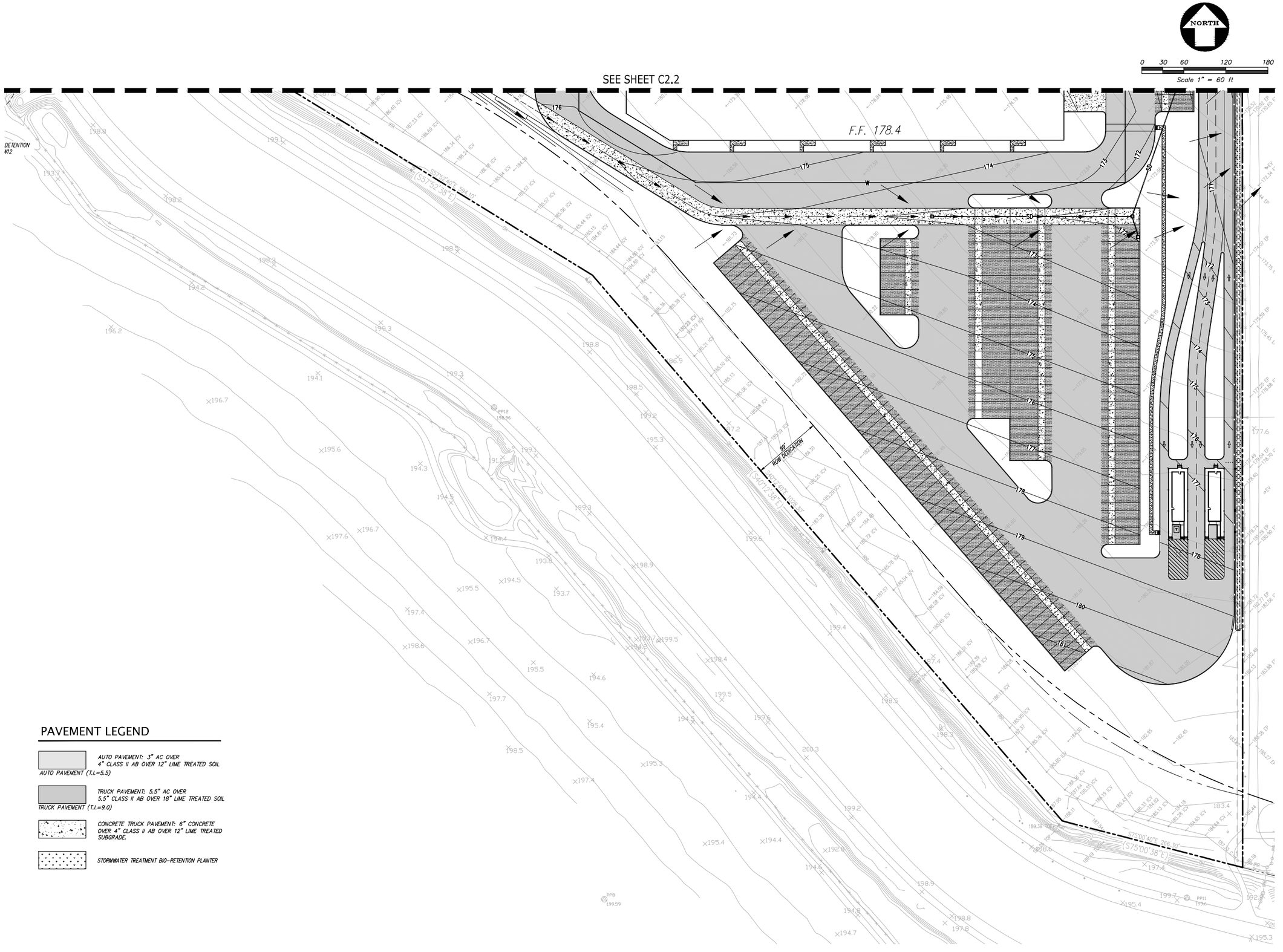
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| | 12/17/20 | CITY RE-SUBMITTAL | |
| | 04/23/21 | CITY RE-SUBMITTAL | |
| | 06/15/21 | CITY RE-SUBMITTAL | |

DESIGNED BY: CJP
DRAWN BY: R.S.
CHECKED BY: M.F.B.
SCALE: 1" = 60'

# COSTCO FACILITIES
## COSTCO WHOLESALE
PRELIMINARY GRADING AND DRAINAGE PLAN

SHEET
C.2.2
OF 8 SHEETS

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## PAVEMENT LEGEND

AUTO PAVEMENT: 3" AC OVER 4" CLASS II AB OVER 12" LIME TREATED SOIL
AUTO PAVEMENT (T.I.=5.5)

TRUCK PAVEMENT: 5.5" AC OVER 5.5" CLASS II AB OVER 18" LIME TREATED SOIL
TRUCK PAVEMENT (T.I.=9.0)

CONCRETE TRUCK PAVEMENT: 6" CONCRETE OVER 4" CLASS II AB OVER 12" LIME TREATED SUBGRADE.

STORMWATER TREATMENT BIO-RETENTION PLANTER

CITY OF TRACY

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ROBERT ARMIJO, P.E. CITY ENGINEER DATE:

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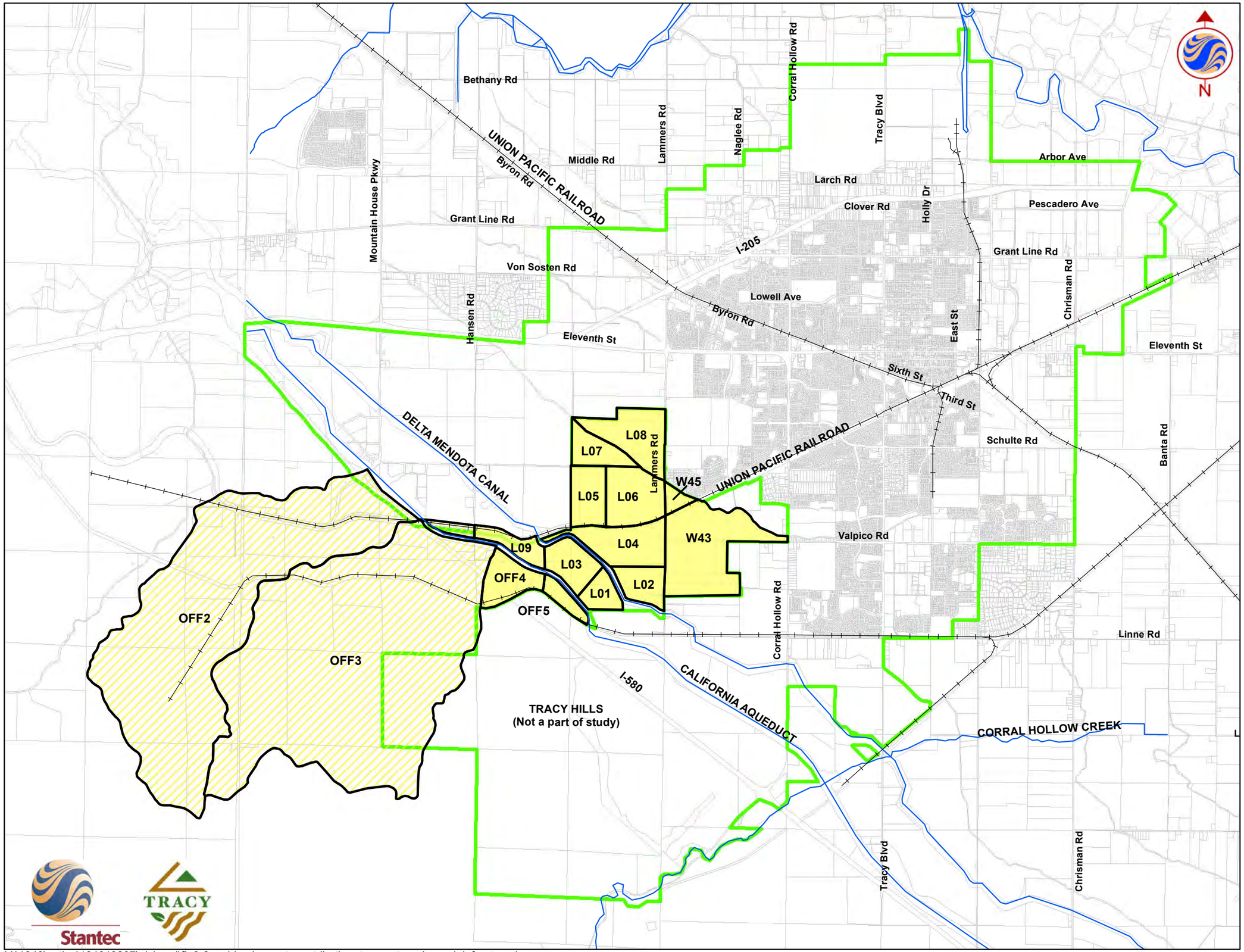
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| | 04/23/21 | CITY RE-SUBMITTAL |
| | 06/15/21 | CITY RE-SUBMITTAL |

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| DESIGNED BY: | CJP |
| DRAWN BY: | R.S. |
| CHECKED BY: | M.F.B. |
| SCALE: | 1" = 60' |

# COSTCO FACILITIES
## COSTCO WHOLESALE
## PRELIMINARY GRADING AND DRAINAGE PLAN

SHEET
C.2.3
OF 8 SHEETS

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## Legend

- Sphere of Influence
- L01 — Sub-basins draining to Delta Mendota Canal, WSID Upper Main Canal, or tailwater ponds
- OFF3 — Offsite sub-basins that must be accounted for in onsite design, but not included in sizing of detention basins serving new development
- Railroad

NOTE: A detention basin is proposed to capture flows derived from Sub-basin OFF2 in the future and limit the downstream discharge to a metered outflow of 5 cfs during a 100-year 24-hour storm. Upon completion of this detention basin (DET OFF2), downstream onsite design will only need to account for the 5 cfs outflow from this sub-basin. There is not a detention basin proposed to regulate discharges into the Sphere of Influence from Sub-basin OFF3.

Client/Project
CITY OF TRACY
CITYWIDE STORM DRAINAGE MASTER PLAN

FIGURE 3-2

Title
SUB-BASINS ASSUMED NOT TO CONTRIBUTE TO MASTER PLANNED INFRASTRUCTURE

**NOVEMBER 2012**
**184010207**
**SCALE 1" = 5000'**

Stantec

TRACY

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Scale:
1" = 1,500'
(if printed full size at 11"x17")

## Supplement No. 3 Changes to the Citywide SDMP

**List of proposed changes:**

- Changes to Lammers Outfall pipe alignments
- Minor Sub-basin changes (L17A/L17B, extend Lammers Watershed 22 acres into Mountain House Watershed, L20/L14)
- DET MWH3a/3b/3c storage volume reduced from 37 AF to 33 AF
- DET LW6 storage volume increased from 101 AF to 103 AF
- DET LW9a storage volume increased from 89 AF to 94 AF
- DET LW8 no longer depicted as linear basin
- DET LW10A, LW10B, LW9a and LW6 have minor location or configuration changes
- DET LW3 is aggregate basin not located as of yet and will become 3 or so smaller basins to be determined by Specific Plan process for the property formerly known as Gateway
- DET LW4 and LW5 will drain to Lammers Road street storm drain system that will be directed to DET LW3; DET LW4 and LW5 (1 cfs outflow, total) will be "pass through" drainage in DET LW3

**Provisions that are not changing:**

- Outflow rates from detention basins (except DET LW3 outflow increase from 4 cfs to 5 cfs for "pass through" of 1 cfs from DET LW4 and LW5)
- Drainage Agreement between the City and WSID

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## Exhibit B – Proposed Revisions to the Existing Citywide Storm Drainage Master Plan per Supplement No.3

**Supplement No. 3 to the Citywide SDMP**

**Legend:**

- Existing Storm Drain
- Proposed Storm Drain
- Existing Detention
- Proposed Detention
- Pipe Change
- Overchutes
- Culverts
- Proposed Culverts
- Outfalls
- Proposed Pump Stations
- Subbasins
- Watershed Boundaries
- Sphere of Influence
- Existing Channel
- Proposed Greenbelt Parkway
- 100-yr Floodplain
- Drain Inlet to Delta Mendota Canal

**Notes:**

1. To DET LW3 via Lammers Road street drainage facilities and/or onsite Gateway facilities.
2. Location(s) and size of DET LW3 to be determined by specific plan process.

DATE: May 2019
SWC PROJECT NO. 2014-96CC

Storm Water Consulting Inc. | Stantec | TRACY