# INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

**TRANSWESTERN BOYLE AVENUE WAREHOUSE BUILDING 1 PROJECT**
**FONTANA, SAN BERNARDINO COUNTY, CALIFORNIA**
**MCN 19-133, TPM 19-021, DRC 19-043**

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LSA Project No. CFN1702.24

June 2020

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## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AAQS | Ambient Air Quality Standards |
| ACM | Asbestos-Containing Material |
| ADA | Americans with Disabilities Act |
| ADT | Average Daily Trips |
| ALUCP | Airport Land Use Compatibility Plan |
| APN | Assessor's Parcel Number |
| AQMP | Air Quality Management Plan |
| BMP | Best Management Practice |
| CalEEMod | California Emission Estimator Model |
| Caltrans | California Department of Transportation |
| CARB | California Air Resources Board |
| CBC | California Building Code |
| CCR | California Code of Regulations |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act |
| CIP | Capital Improvement Program |

| | |
|---|---|
| City | City of Fontana |
| CNEL | Community Noise Equivalent Level |
| $CO_2e$ | Carbon Dioxide Equivalent |
| CWA | Federal Clean Water Act |
| dBA | A-weighted decibel |
| DCV | Design Capture Volume |
| DR | Design Review |
| DTSC | California Department of Toxic Substances Control |
| EIR | Environmental Impact Report |
| EPA | U.S. Environmental Protection Agency |
| ESA | Environmental Site Assessment |
| EV | Electric Vehicle |
| FMMP | Farmland Mapping and Monitoring Program |
| FUSD | Fontana Unified School District |
| GHG | Greenhouse Gas |
| GPA | General Plan Amendment |
| HCP | Habitat Conservation Plan |
| HMBEP | Hazardous Materials Business Emergency Plan |
| HMMA | Hazardous Materials Management Act |
| HVAC | Heating, Ventilation and Air Conditioning |
| IEUA | Inland Empire Utilities Agency |
| IS | Initial Study |
| ITE | Institute of Transportation Engineers |
| LBP | Lead-Based Paint |
| $L_{eq}$ | Equivalent Continuous Sound Level |
| LID | Low Impact Development |
| $L_{max}$ | Maximum Measured Sound Level |
| LOS | Level of Service |
| LRA | Local Responsibility Area |
| LST | Localized Significance Threshold |
| MEI | Maximum Exposed Individual |
| MGD | Million Gallons per Day |
| MMRP | Mitigation Monitoring and Reporting Program |
| MND | Mitigated Negative Declaration |
| mpg | miles per gallon |
| MRF | Materials Recycling Facility |
| MT | Metric Ton |
| NCCP | Natural Community Conservation Plan |
| ND | Negative Declaration |
| NHTSA | National Highway Traffic and Safety Administration |
| NPDES | National Pollutant Discharge Elimination System |
| OIA | Ontario International Airport |
| PCE | Passenger Car Equivalent |
| POTWs | Publicly Owned Treatment Works |
| PRC | Public Resources Code |

| | |
|---|---|
| REC | Recognized Environmental Condition |
| ROG | Reactive Organic Compounds |
| RTP | Regional Transportation Plan |
| RWQCB | Regional Water Quality Control Board |
| SBCTA | San Bernardino County Transportation Authority |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SCS | Sustainable Communities Strategy |
| $SO_2$ | Sulfur Dioxide |
| STC | Sound Transmission Class |
| SWPPP | Storm Water Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| TAC | Toxic Air Contaminants |
| TPM | Tentative Parcel Map |
| USACE | United States Army Corps of Engineers |
| USGS | U.S. Geological Survey |
| VHFHSZ | Very High Fire Hazard Severity Zone |
| VMT | Vehicle Miles Traveled |
| WDR | Waste Discharge Requirement |
| WQMP | Water Quality Management Plan |

# 1.0 INTRODUCTION AND PURPOSE OF THE ADDENDUM

## 1.1 INTRODUCTION

Section 1.0 of this Initial Study (IS) describes the purpose, environmental authorization, the intended uses of the IS, documents incorporated by reference, and the processes and procedures governing the preparation of the environmental document. Pursuant to Section 15367 of the State of California *Guidelines for Implementation of the California Environmental Quality Act* (*CEQA Guidelines*), the City of Fontana (City) is the Lead Agency under the California Environmental Quality Act (CEQA). The City has primary responsibility for compliance with CEQA and consideration of the Transwestern Boyle Avenue Warehouse Building 1 Project (Project or proposed Project).

The IS is organized as follows:

*Section 1.0* *Introduction and Purpose* provides a discussion of the Initial Study's purpose, focus, legal requirements.

*Section 2.0* *Project Description* provides a detailed description of the proposed Project.

*Section 3.0* *Environmental Checklist* includes a checklist and accompanying analyses of the Project's effect on the environment. For each environmental issue, the analysis identifies the level of Project's environmental impact.

*Section 4.0* *References* details the references cited throughout the document.

*Appendices* Include the technical material prepared to support the analyses contained in the IS.

## 1.2 PURPOSE

CEQA requires that the proposed Project be reviewed to determine the environmental effects that would result if the Project were approved and implemented. The City is the Lead Agency and has the responsibility for preparing and adopting the associated environmental document prior to consideration of the proposed Project. The City has the authority to make decisions regarding discretionary actions relating to implementation of the proposed Project.

This IS has been prepared in accordance with the relevant provisions of CEQA (California Public Resources Code Section 21000 et seq.); the *CEQA Guidelines,*[1] and the rules, regulations, and procedures for implementing CEQA as adopted by the City. The objective of the Initial Study is to inform City decision-makers, representatives of other affected/responsible agencies, the public, and interested parties of the potential environmental effects of the Project.

As established in *CEQA Guidelines* Section 15063(c), the purposes of an IS are to:

- Provide the Lead Agency (City of Fontana) with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR), Negative Declaration (ND), or Mitigated Negative Declaration (MND);

[1] California Code of Regulations. Title 14, Chapter 3, Sections 15000 through 15387.

- Enable an applicant or Lead Agency to modify a Project, thus mitigating significant impacts before an EIR is prepared, and thereby enabling the Project to qualify for an ND or MND;
- Assist in the preparation of an EIR, if one is required;
- Facilitate environmental assessment early in the design of a Project;
- Provide a factual basis for finding in an ND or MND that a Project will not have a significant effect on the environment;
- Eliminate unnecessary EIRs; and
- Determine if a previous EIR could be used to consider the environmental effects of the Project.

## 1.3 INTENDED USE OF THIS INITIAL STUDY

The City formally initiated the environmental process for the proposed Project with the preparation of this Initial Study. The IS screens out those impacts that would be less than significant and do not warrant mitigation, while identifying those issues that require mitigation to reduce impacts to less than significant levels. As identified in the following analyses, Project impacts related to various environmental issues either do not occur, are less than significant (when measured against established significance thresholds), or have been rendered less than significant through implementation of mitigation measures. Based on these analytical conclusions, this IS supports adoption of an MND for the proposed Project.

CEQA[2] permits the incorporation by reference of all or portions of other documents that are generally available to the public. The IS has been prepared utilizing information from City planning and environmental documents, technical studies specifically prepared for the Project, and other publicly available data. The documents utilized in the IS are identified in Section 4.0 and are hereby incorporated by reference. These documents are available for review at the City of Fontana Community Development Department, Planning Division.

## 1.4 PUBLIC REVIEW OF THE INITIAL STUDY

The IS and a Notice of Intent (NOI) to adopt an MND will be distributed to responsible and trustee agencies, other affected agencies, and other parties for a 20-day public review period. Written comments regarding this IS should be addressed to:

Cecily Session-Goins, Assistant Planner
City of Fontana
Community Development Department, Planning Division
8353 Sierra Avenue
Fontana, California 92335
(909) 350-6723
csgoins@fontana.org

[2] *CEQA Guidelines* Section 15150.

After the 20-day public review period, consideration of comments raised during the public review period will be taken into account and addressed prior to adoption of the MND by the City.

# 2.0 PROJECT DESCRIPTION

## 2.1 PROJECT LOCATION AND SETTING

The Project is located in the southern portion of the City of Fontana, in southwestern San Bernardino County, California. The Project site is located in Section 19 of Township 1 South, Range 5 West of the San Bernardino Baseline and Meridian, as depicted on the U.S. Geological Survey (USGS) 7.5-minute series *Fontana, California* quadrangle (1980). Specifically, the center of the Project site is at latitude 34°03'56.69" N and longitude -117°26'13.85" W at an elevation of approximately 1,100 feet above mean sea level and consists of four parcels (Assessor's Parcel Numbers [APNs] 0251-202-05, 06, 07, and 0193-381-01).

The Project site is approximately 8.15 acres and is bounded by Boyle Avenue to the south, Sierra Avenue to the east, the Union Pacific Railroad and Interstate 10 to the north, and an industrial pallet and skids staging yard with office to the west. The nearest sensitive receptors in proximity to the project site are non-conforming single-family and manufactured mobile homes located on property zoned for commercial uses across Boyle Avenue to the south. Commercial retail centers are located to the east and north, beyond Sierra Avenue and Interstate 10, respectively. Figure 1: Regional and Project Location and Figure 2: Existing Setting depict the location of the Project site on a regional and local scale.

The Project site was utilized for agriculture as an orchard from the 1930s and was subject to sporadic development for residential uses since the early 1950s. The last of the remnant orchards was removed in the 1990s.[3] The Project site is currently occupied with two single-family residences with ancillary structures and is used as a storage and staging yard for automobiles, boats, and other mechanical and construction equipment. Undeveloped portions of the site contain a variety of ornamental trees and ruderal vegetation[4] as a result of seasonal weed abatement activities and other on-site disturbances. Figures 3a through 3e include photographs of the project site and surrounding land uses.

## 2.2 LAND USE

Table 2.2.A summarizes the Project site and surrounding land uses, General Plan designations, and zoning designations.

**Table 2.2.A: Surrounding Land Uses**

| Direction | Existing Land Use | General Plan Designation | Zoning Designation |
|---|---|---|---|
| **Project Site** | Single-family homes with ancillary structures and storage/staging yard | (I-G) General Industrial (0.1-0.6 FAR) | (M-2) General Industrial (0.1-0.6 FAR) |
| **North** | Railroad, Interstate 10, and retail/commercial plaza | (WMXU-1) Walkable Mixed Use Corridor & Downtown (0.2-2 FAR, 3-39 du/acre) | (FBC) Form-Based Code (0.2-2 FAR, 2.1-39 du/acre) |

[3] Avocet Environmental, Inc. *Phase I Environmental Site Assessment, NEC Boyle & Juniper Avenues, Fontana, California 92337.* Pages 11-13. February 3, 2020.

[4] Ruderal vegetation consists of species (often invasive) that are first to colonize disturbed lands.

**Table 2.2.A: Surrounding Land Uses**

| Direction | Existing Land Use | General Plan Designation | Zoning Designation |
|---|---|---|---|
| **East** | Sierra Avenue, retail/ commercial plaza, and railroad yard | (C-G) Commercial General (0.1-1.0 FAR) and (I-L) Light Industrial (0.1-0.6 FAR) | Empire Center Specific Plan (#13) and (M-1) Light Industrial (0.1-0.6 FAR) |
| **South** | Boyle Avenue, single-family and manufactured mobile homes | (C-G) Commercial General (0.1-1.0 FAR) | (C-2) General Commercial (0.1-1.0 FAR) |
| **West** | Industrial staging yard | (I-G) General Industrial (0.1-0.6 FAR) | (M-2) General Industrial (0.1-0.6 FAR) |

FAR = Floor to area ratio
du = dwelling unit
Sources: City of Fontana, State of California. *General Plan Land Use Map.* Adopted September 10, 2019.
City of Fontana, State of California. *Zoning District Map*. Adopted September 10, 2019.

The City's *Land Use, Zoning, and Urban Design* General Plan Element indicates the (I-G) General Industrial land use is intended for a variety of manufacturing and warehousing applications, including fabrication, assembly, processing, trucking, equipment, and automobile and truck sales and services.[5] Pursuant to Chapter 30, Section 30-522 (Industrial Districts) of the City's Zoning and Development Code, the (M-2) General Industrial zoning district is intended to accommodate high-cube warehousing and logistics, including the manufacture and treatment of goods from raw materials. The specific warehouse use is speculative but would be consistent with the (I-G) General Industrial land use designation and (M-2) General Industrial Zoning District as a logistics/distribution warehouse building.

## 2.3 PROJECT DESCRIPTION

The Project includes development of a 176,219-square foot logistics/distribution warehouse building, of which approximately 12,000 square feet would be office space. The conceptual site plan is presented as Figure 4.

### 2.3.1 Construction

Existing site elevations range from 1,097 to 1,107 feet above mean sea level with the site sloping slightly downward from north to south. Construction activities include demolition of two residential buildings and ancillary structures and removal of all stored equipment and materials from the site. On-site soils will be over-excavated and recompacted in accordance with the 2019 California Building Code (CBC) to accommodate the proposed warehouse building and parking areas.

Construction parking and staging areas will occur on site. Construction hours will conform to City standards and be limited to 7:00 a.m. to 6:00 p.m. Monday through Friday and 7:00 a.m. to 5:00 p.m. Saturday. According to the Project conceptual grading plans, rough grading is expected to require approximately 13,737 cubic yards of imported soil to account for over-excavation and compaction in accordance with the 2019 CBC. During Project construction, it is possible there will be temporary lane closures and/or detours necessary along Boyle Avenue.

Construction of the Project is anticipated to commence in late 2020 and be completed in the third quarter of 2021, resulting in a total construction duration of approximately nine months. Construction

[5] City of Fontana, State of California. *General Plan Update 2015–2035. Chapter 15: Land Use, Zoning, and Urban Design Element.* Page 15.26. Adopted November 13, 2018.

equipment anticipated to be used includes rubber-tired dozers, tractors/loaders/backhoes, excavators, graders, scrapers, cranes, forklifts, generators, welders, air compressors, pavers, rollers and paving equipment.

### 2.3.2 Site Access

Existing site access consists of four residential driveways off Boyle Avenue with limited pedestrian connectivity to the site consisting of a 160-foot sidewalk along the north side of Boyle Avenue. An earthen utility access road along the eastern boundary of the site leads to the Union Pacific Railroad corridor north of the site.

Proposed vehicle access to the Project site would include a two-way 40-foot-wide driveway off of Boyle Avenue at the western end of the site, and a two-way 54-foot-wide driveway off of Boyle Avenue at the eastern end of the site. Passenger vehicles would be able to enter and exit at either driveway, but freight trucks are expected to enter the site only from the western driveway and exit the site only from the eastern driveway (refer to Figure 4). A 30-foot-wide fire lane would provide emergency access around the entire warehouse building from both driveways.

Entrances and exits to and from parking and loading facilities will be marked with appropriate directional signage, and all site access points and driveway aprons are designed and will be constructed to adequate widths for public safety pursuant to City Municipal Code Section No. 30-550(H).

### 2.3.3 Parking

Parking at the Project site will comply the City's minimum parking requirements as codified in Article XI (On-site street parking and loading regulations) of the City Municipal Code. The Project site (refer to Figure 4) would include 103 passenger vehicle parking stalls, 5 of which would be Americans with Disabilities Act (ADA) spaces and 2 of which would be electric vehicle (EV)/ADA spaces. Additionally, the Project site would include 35 tractor-trailer parking stalls.

### 2.3.4 Pedestrian and Bicycle Connectivity

The Project site is accessible from nearby public bus stops near the Slover Avenue/Sierra Avenue intersection approximately 0.4 mile from the site, as well as via other amenities such as Class 2 and 3 bicycle lanes along nearby major corridors. Pedestrian access to the Project site would occur via curb and sidewalks to be constructed along the north side of Boyle Avenue and east side of Juniper Avenue as part of the frontage roadway improvements for the Project.

### 2.3.5 Facility and Site Design

The Project would be a modern warehouse building of varied massing, 360-degree articulation, and landscaped areas in accordance with Division 7 (Design Guidelines) of Article VII (Industrial Zoning Districts) of the City Municipal Code (Figure 5 details the building elevations). Design elements of the proposed Project include landscaped setbacks and installation of street trees along the site perimeter and on-site trees throughout the parking lot and drive aisles. Additionally, the Project includes retaining walls along the northern site boundary to shore the site against changes in surface grade, as

well as 14-foot-tall concrete tilt-up screen walls with 8-foot-tall metal sliding gates to shield the loading docks from surrounding properties.

Light poles will be installed throughout the surface parking lot and along on-site pedestrian pathways. The warehouse building will have security lighting located on the building façades. All lighting on the Project site will comply with Section No. 30-550(F) (Lighting) of the City Municipal Code, which requires light shielding, functional and aesthetic design, and compatibility with surrounding uses.

### 2.3.6 Landscaping

The City requires a minimum 15 percent of the site (excluding building area) to be landscaped, and the Project includes approximately 35,543 square feet of landscaping, which equates to approximately 17.6 percent of the site. The Project would incorporate landscape through a combination of hedges and trees along the site perimeter and include dozens of additional trees throughout the site. Enhanced landscaping will be installed throughout the Project site pursuant to Section No. 30-551(E)(4) (Landscaping), which requires the Applicant to incorporate a three-tiered planning system compatible with the scale of adjacent structures, streets, and public spaces. Proposed landscaping would be drought-tolerant and complement existing natural and manmade features, including the dominant landscaping of surrounding areas (Figure 6 details the Project landscape design).

### 2.3.7 Drainage

The majority of the Project site consists of pervious surface area. Currently, storm water generally sheet flows from north to south and drains onto Boyle Avenue before flowing west along Boyle and then south along Juniper Avenue to existing storm drains at the northeast and northwest corners of Slover Avenue and Juniper Avenue. The proposed Project is expected to generally maintain the existing drainage pattern. Upon development of the site, all on-site storm water will be captured on site in accordance with Santa Ana Regional Water Quality Control Board Order Number R8-2010-0036, National Pollutant Discharge Elimination System Permit No. CAS618036, also known as the Municipal Separate Storm Sewer System or MS4 permit. The runoff will be infiltrated via a subterranean chamber system and a pretreatment hydrodynamic separator located on the south side of the proposed warehouse building prior to discharge onto Boyle Avenue at volumes that do not exceed the existing, pre-developed condition.

### 2.3.8 Infrastructure and Off-site Improvements

The Project will dedicate and widen Boyle Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install asphalt concrete, curb, gutter, sidewalk, landscaping, and streetlights and trees along Boyle Avenue from Juniper Avenue to its eastern terminus at Sierra Avenue. The proposed Project will dedicate and widen Juniper Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install curb, gutter, sidewalk, landscaping, and streetlights and trees along Juniper Avenue north of Boyle Avenue to its terminus at the Union Pacific Railroad tracks. Overhead electrical facilities along the Project site frontage will be relocated underground where feasible. South of Boyle Avenue, Juniper Avenue will be repaved with asphalt

concrete to a half-width of 28 feet.[6] Additionally, the eastern terminus of Boyle Avenue and the northern terminus of Juniper Avenue will be improved with cul-de-sacs. The Project also includes installation and expansion of utilities such as sewer, water, electrical, gas, and telecommunications within the Boyle Avenue and Juniper Avenue rights-of-way for interconnection to the Project site. Some reconfiguration of the storm drain and catch basin facilities at Slover Avenue also would be required. (Figures 7a through 7d detail the infrastructure and off-site improvements.)

## 2.4 METHODOLOGY

The environmental analysis in this IS/MND provides an environmental review of the Project pursuant to CEQA. The details of this proposed Project, off-site improvements, and associated actions have been characterized in this section and are also addressed in detail throughout Section 3.0 of this IS/MND. If the Project is approved, the proposed development would be allowed without further discretionary approval, so long as the development complies with the City's regulations and project-specific mitigation measures and Conditions of Approval.

## 2.5 PROJECT APPROVALS

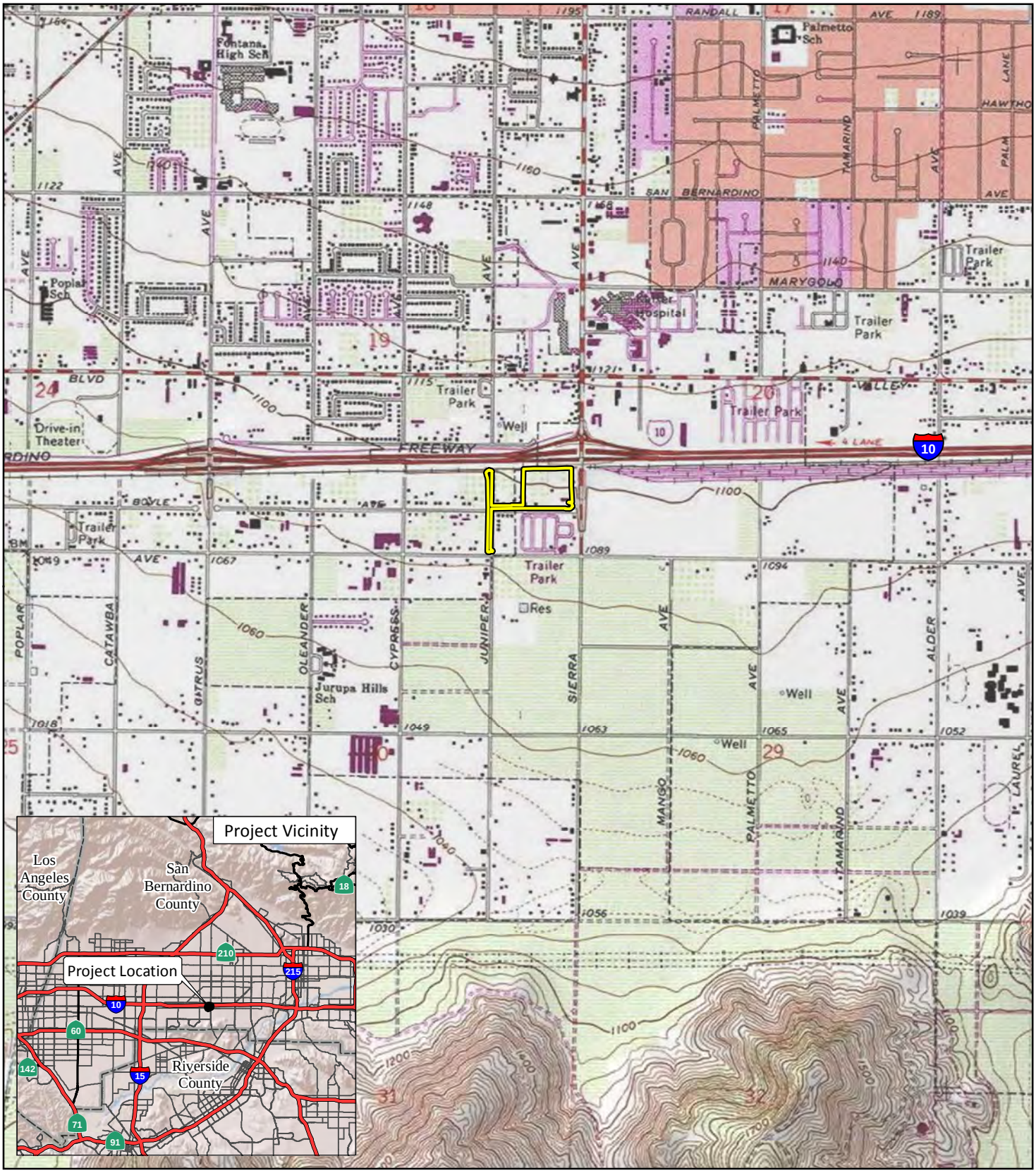
The City of Fontana is the Lead Agency as set forth in *CEQA Guidelines* Section 21067 and is expected to use this IS/MND in consideration of the proposed Transwestern Boyle Avenue Warehouse Building 1 Project and associated actions. These actions may include, but are not limited to, the following:

- Master Case Number (MCN) 19-133;
- Tentative Parcel Map (TPM) 19-021;
- Design Review (DRC) 19-043;
- Demolition Permit;
- Grading Permit; and
- Encroachment Permit.

The Project may require approvals from other regulatory agencies and are listed as follows:

- State Water Resources Control Board: Applicant must submit a Notice of Intent to comply with the General Construction Activity National Pollutant Discharge Elimination (NPDES) Permit;
- Santa Ana Regional Water Quality Control Board: Applicant must submit a Storm Water Pollution Prevention Plan (SWPPP); and
- Utility Providers: Connection permits.

[6] Curb, gutter, streetlights, and landscaping along Juniper Avenue south of Boyle Avenue will be installed by the City under a separate action.




LSA

LEGEND

Project Area

FIGURE 1

N

0 1000 2000
FEET

SOURCE: USGS 7.5' Quad - *Fontana* (1980), CA

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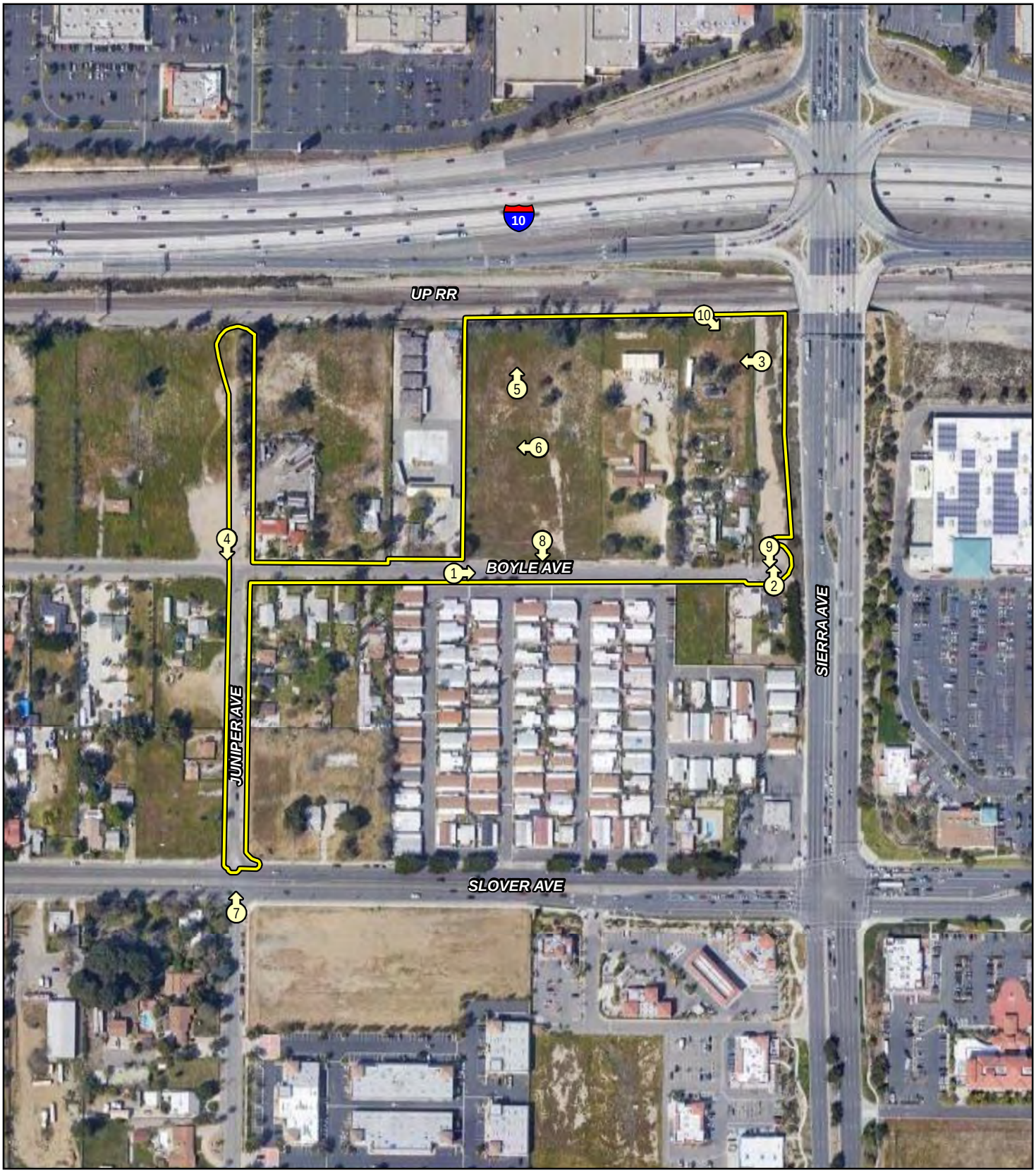
*Transwestern Boyle Avenue Warehouse Building 1 Project*

Regional and Project Location




LSA

LEGEND

Project Area

Photograph Locations

N

0 150 300
FEET

SOURCE: Google (2019)

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FIGURE 2

*Transwestern Boyle Avenue Warehouse Building 1 Project*

Existing Setting

**Photo 1 -** Boyle Avenue Facing East.

**Photo 2 -** Access Road to Railroad Facing North.

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FIGURE 3a

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Site Photographs

**Photo 3 -** Project Site, Railroad, and Interstate 10 Facing West.

**Photo 4 -** Juniper-Boyle Intersection Facing South.

LSA

FIGURE 3b

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Site Photographs

**Photo 5 -** Project Site Facing North.

**Photo 6 -** Project Site Facing West.

LSA

FIGURE 3c

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Site Photographs

**Photo 7 -** Juniper Avenue at Slover Avenue Facing North.

**Photo 8** - Mobile Homes and Jurupa Mountain Facing South.

LSA

FIGURE 3d

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Site Photographs

**Photo 9 -** Single-Family Residence Facing South.

**Photo 10 -** Sierra Avenue Grade Separation Facing Southeast.

LSA

FIGURE 3e

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Site Photographs

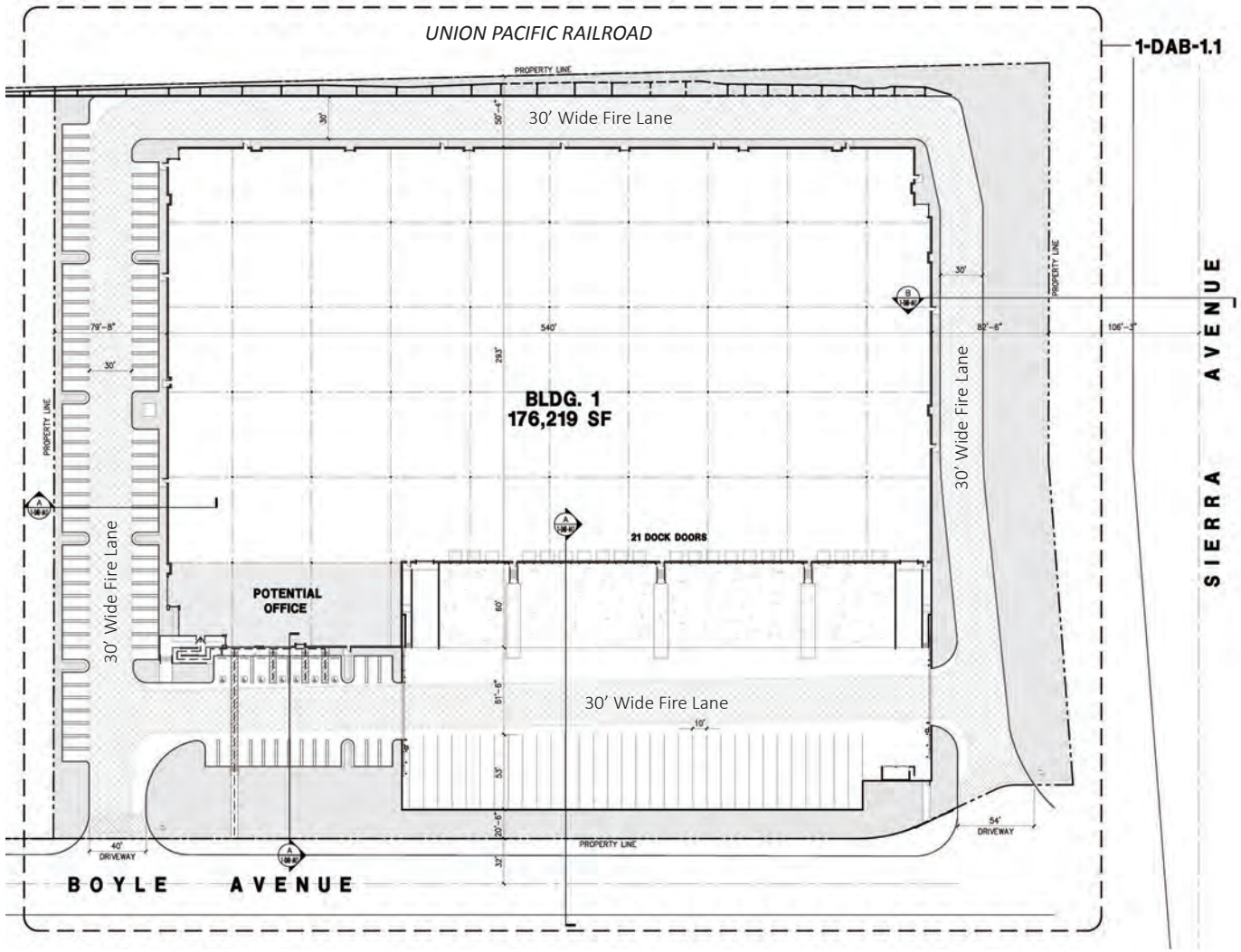


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FIGURE 4

N

0 60 120

FEET

SOURCE: HPA Architecture, March 2020

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*Transwestern Boyle Avenue Warehouse Building 1 Project*

Conceptual Site Plan

LSA

FIGURE 5

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Conceptual Architectural Elevations

SOURCE: HPA Architecture

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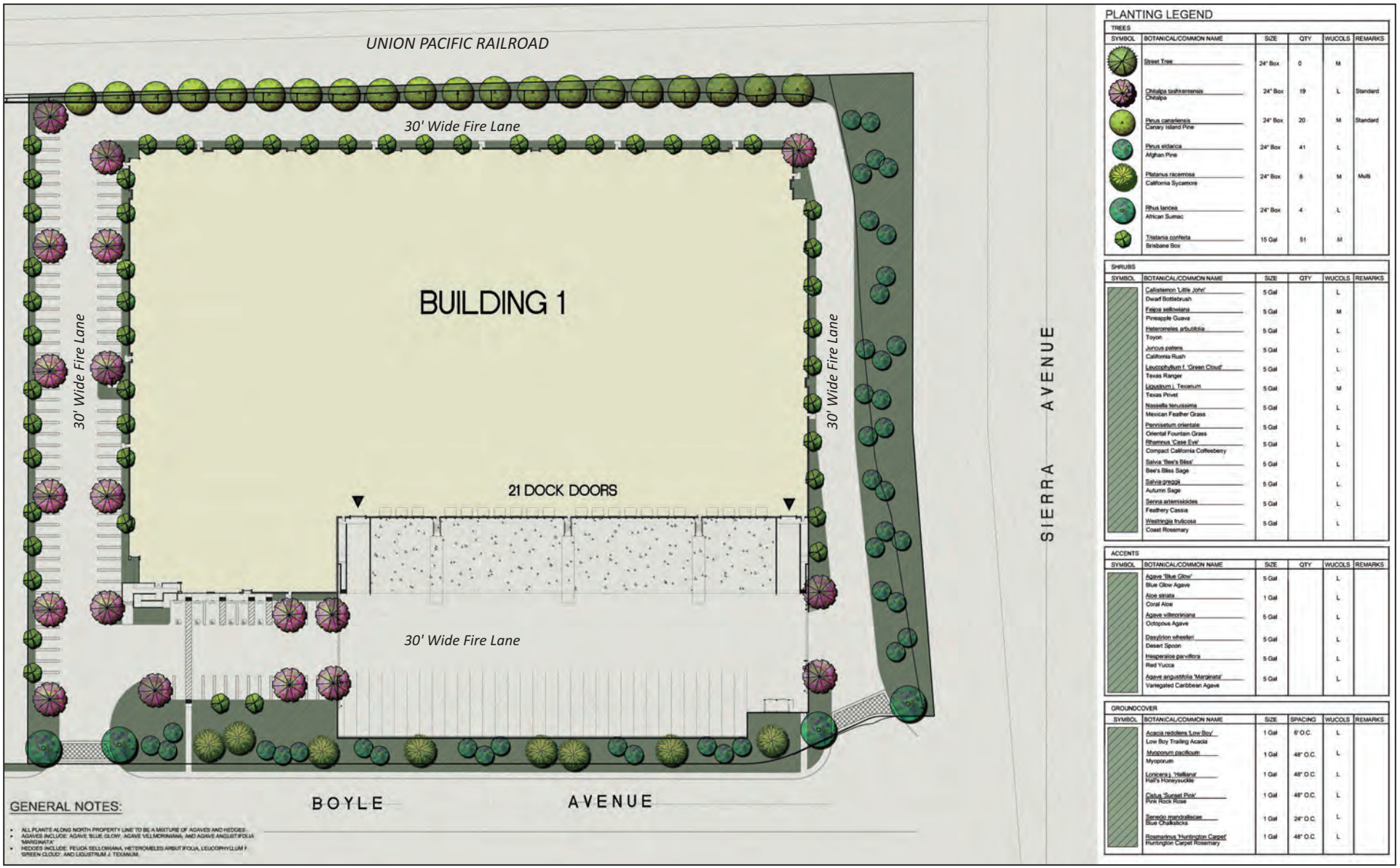



## PLANTING LEGEND

**TREES**

| SYMBOL | BOTANICAL/COMMON NAME | SIZE | QTY | WUCOLS | REMARKS |
|---|---|---|---|---|---|
| | Street Tree | 24" Box | 0 | M | |
| | Chitalpa tashkentensis<br>Chitalpa | 24" Box | 19 | L | Standard |
| | Pinus canariensis<br>Canary Island Pine | 24" Box | 20 | M | Standard |
| | Pinus eldarica<br>Afghan Pine | 24" Box | 41 | L | |
| | Platanus racemosa<br>California Sycamore | 24" Box | 8 | M | Multi |
| | Rhus lancea<br>African Sumac | 24" Box | 4 | L | |
| | Tristania conferta<br>Brisbane Box | 15 Gal | 51 | M | |

**SHRUBS**

| SYMBOL | BOTANICAL/COMMON NAME | SIZE | QTY | WUCOLS | REMARKS |
|---|---|---|---|---|---|
| | Callistemon 'Little John'<br>Dwarf Bottlebrush | 5 Gal | | L | |
| | Feijoa sellowiana<br>Pineapple Guava | 5 Gal | | M | |
| | Heteromeles arbutifolia<br>Toyon | 5 Gal | | L | |
| | Juncus patens<br>California Rush | 5 Gal | | L | |
| | Leucophyllum f. 'Green Cloud'<br>Texas Ranger | 5 Gal | | L | |
| | Ligustrum j. Texanum<br>Texas Privet | 5 Gal | | M | |
| | Nassella tenuissima<br>Mexican Feather Grass | 5 Gal | | L | |
| | Pennisetum orientale<br>Oriental Fountain Grass | 5 Gal | | L | |
| | Rhamnus 'Case Ear'<br>Compact California Coffeeberry | 5 Gal | | L | |
| | Salvia 'Bee's Bliss'<br>Bee's Bliss Sage | 5 Gal | | L | |
| | Salvia greggii<br>Autumn Sage | 5 Gal | | L | |
| | Senna artemisioides<br>Feathery Cassia | 5 Gal | | L | |
| | Westringia fruticosa<br>Coast Rosemary | 5 Gal | | L | |

**ACCENTS**

| SYMBOL | BOTANICAL/COMMON NAME | SIZE | QTY | WUCOLS | REMARKS |
|---|---|---|---|---|---|
| | Agave 'Blue Glow'<br>Blue Glow Agave | 5 Gal | | L | |
| | Aloe striata<br>Coral Aloe | 1 Gal | | L | |
| | Agave villmoriniana<br>Octopous Agave | 5 Gal | | L | |
| | Dasylirion wheeleri<br>Desert Spoon | 5 Gal | | L | |
| | Hesperaloe parviflora<br>Red Yucca | 5 Gal | | L | |
| | Agave angustifolia 'Marginata'<br>Variegated Caribbean Agave | 5 Gal | | L | |

**GROUNDCOVER**

| SYMBOL | BOTANICAL/COMMON NAME | SIZE | SPACING | WUCOLS | REMARKS |
|---|---|---|---|---|---|
| | Acacia redolens 'Low Boy'<br>Low Boy Trailing Acacia | 1 Gal | 6' O.C. | L | |
| | Myoporum pacificum<br>Myoporum | 1 Gal | 48" O.C. | L | |
| | Lonicera j. 'Halliana'<br>Hall's Honeysuckle | 1 Gal | 48" O.C. | L | |
| | Cistus 'Sunset Pink'<br>Pink Rock Rose | 1 Gal | 48" O.C. | L | |
| | Senecio mandraliscae<br>Blue Chalksticks | 1 Gal | 24" O.C. | L | |
| | Rosmarinus 'Huntington Carpet'<br>Huntington Carpet Rosemary | 1 Gal | 48" O.C. | L | |

LSA

FIGURE 6

N

0 60 120

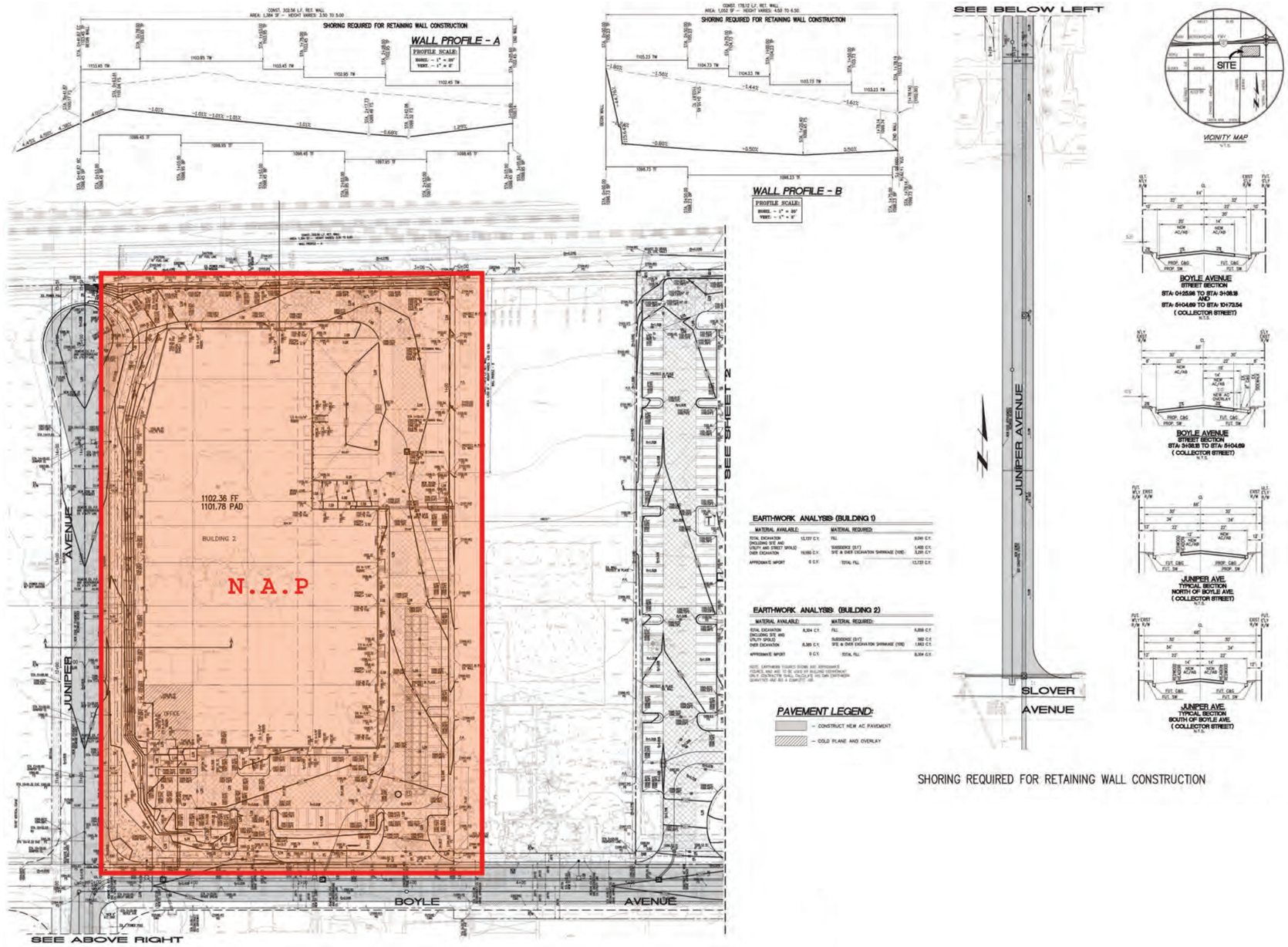
FEET

SOURCE: Hunter Landscape

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Landscape Design

I:\CFN1702.24\G\Initial Study\Landscape_Design.cdr (5/27/2020)




LSA

FIGURE 7a

N

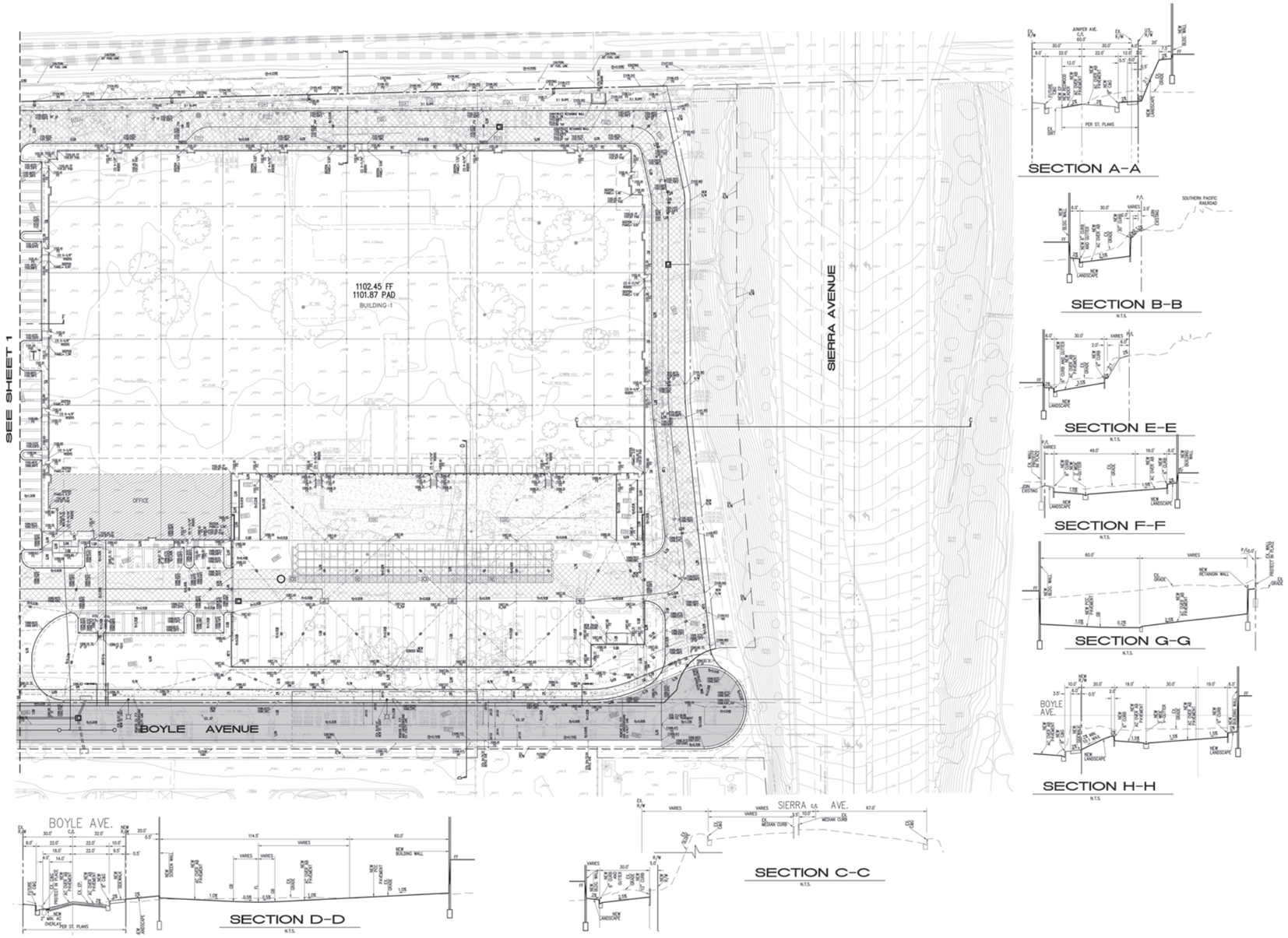
0 55 110
FEET

SOURCE: Thienes Engineering, Inc.

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Infrastructure and Off-site Improvements

I:\CFN1702.24\G\Initial Study\Infrastructure_OS_Improvements.cdr (5/27/2020)




LSA

FIGURE 7b

N

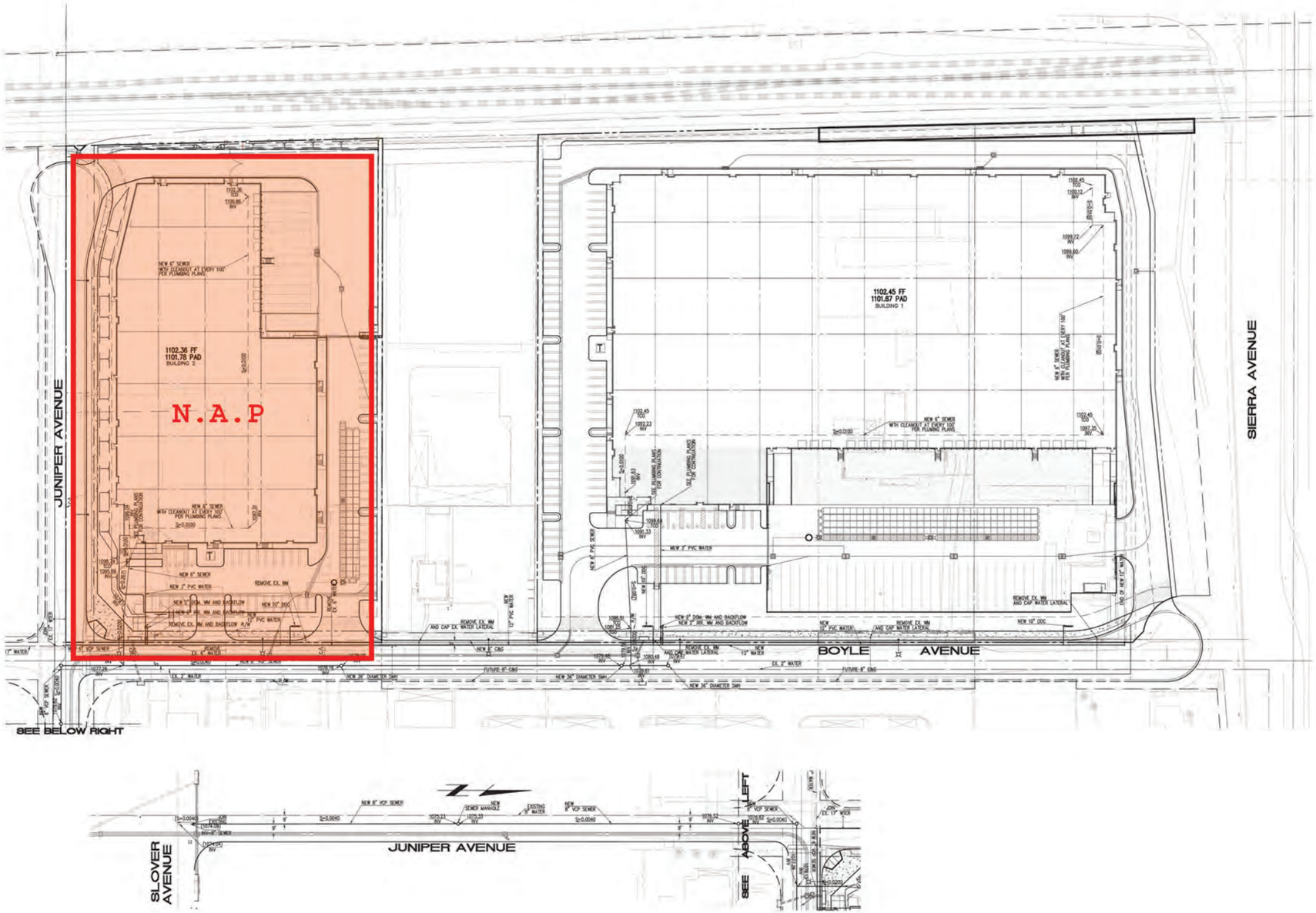
0 55 110
FEET

SOURCE: Thienes Engineering, Inc.

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Infrastructure and Off-site Improvements

I:\CFN1702.24\G\Initial Study\Infrastructure_OS_Improvements.cdr (5/27/2020)




LSA

FIGURE 7c

N

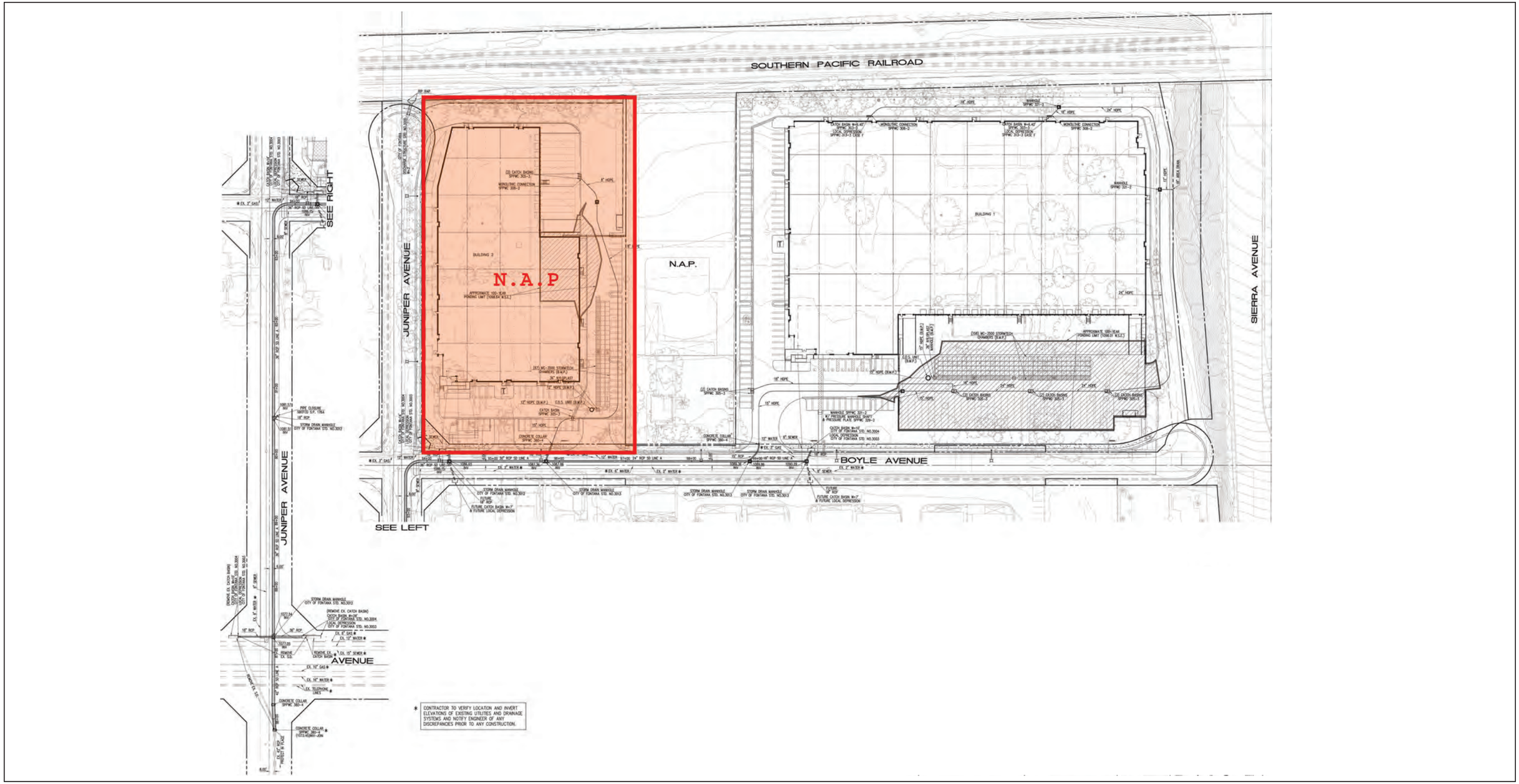
0 60 120
FEET

SOURCE: Thienes Engineering, Inc.

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Infrastructure and Off-site Improvements

I:\CFN1702.24\G\Initial Study\Infrastructure_OS_Improvements.cdr (5/27/2020)




LSA

FIGURE 7d

0 90 180
FEET

SOURCE: Thienes Engineering, Inc.

*Transwestern Boyle Avenue*
*Warehouse Building 1 Project*

Infrastructure and Off-site Improvements

I:\CFN1702.24\G\Initial Study\Infrastructure_OS_Improvements.cdr (5/27/2020)

# 3.0 INITIAL STUDY CHECKLIST

1. **Project Title:**
   Transwestern Boyle Avenue Warehouse Building 1 Project

2. **Lead Agency Name and Address:**
   City of Fontana
   Community Development Department, Planning Division
   8353 Sierra Avenue
   Fontana, California 92335

3. **Contact Person and Phone Number:**
   Cecily Session-Goins, Assistant Planner
   (909) 350-6723
   csgoins@fontana.org

4. **Project Location:**
   The Project is located in the southern portion of the City of Fontana, in southwestern San Bernardino County, California. The Project site is located in Section 19 of Township 1 South, Range 5 West of the San Bernardino Baseline and Meridian, as depicted on the U.S. Geological Survey (USGS) 7.5-minute series *Fontana, California* Quadrangle (1980). Specifically, the center of the Project site is at latitude 34°03'56.69" N and longitude -117°26'13.85" W at an elevation of approximately 1,100 feet above mean sea level and is composed of four parcels (Assessor's Parcel Numbers [APNs] 0251-202-05, -06, -07, and 0193-381-01). The Project site is bounded by Boyle Avenue to the south, Sierra Avenue to the east, the Union Pacific Railroad and Interstate 10 to the north, and an industrial pallet and skids staging yard with office to the west. Figure 1: Regional Location and Figure 2: Existing Setting depict the location of the Project site on a regional and local scale.

5. **Project Sponsor's Name and Address:**
   Transwestern Development Company
   20250 Acacia Street, Suite 260
   Newport Beach, California 92660

6. **General Plan Designation:**
   Existing: (I-G) General Industrial (0.1-0.6 FAR)
   Proposed: (I-G) General Industrial (0.1-0.6 FAR)

7. **Zoning:**
   Existing: (M-2) General Industrial (0.1-0.6 FAR)
   Proposed: (M-2) General Industrial (0.1-0.6 FAR)

8. **Description of Property:**
   The 8.15-acre Project site is currently occupied with two single-family residences with ancillary structures and is used as a storage and staging yard for automobiles, boats, and other mechanical

and construction equipment. Undeveloped portions of the site contain a variety of ornamental trees and ruderal vegetation as a result of seasonal weed abatement activities and other on-site disturbances. Figures 3a through 3e include photographs of the project site and surrounding land uses.

9. **Surrounding Land Uses and Setting:**
The Project site is bounded by Boyle Avenue to the south, Sierra Avenue to the east, the Union Pacific Railroad and Interstate 10 to the north, and an industrial pallet and skids staging yard with office to the west. The nearest sensitive receptors in proximity to the project site are non-conforming single-family and manufactured mobile homes located on property zoned for commercial uses across Boyle Avenue to the south. Commercial retail centers are located to the east and north, beyond Sierra Avenue and Interstate 10, respectively.

10. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, has consultation begun?** Yes. Please refer to Checklist Section 3.18.
*Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code Section 21083.3.2.) Information may also be available from the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code Section 21082.3(c) contains provisions specific to confidentiality.*

## 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.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agricultural Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Energy |
| ☐ Geology/Soils | ☐ Greenhouse Gas Emissions | ☐ Hazards & Hazardous Materials |
| ☐ Hydrology/Water Quality | ☐ Land Use/Planning | ☐ Mineral Resources |
| ☐ Noise | ☐ Population/Housing | ☐ Public Services |
| ☐ Recreation | ☐ Transportation | ☐ Tribal Cultural Resources |
| ☐ Utilities/Service Systems | ☐ Wildfire | ☐ Mandatory Findings of Significance |

## DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of the 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.

☐ 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.

☐ I find that the amended project has previously been analyzed as part of an earlier CEQA document. Minor additions and/or clarifications are needed to make the previous documentation adequate to cover the project which are documented in this ADDENDUM to the earlier CEQA document (CEQA § 15164.)

Signature: Cecily K. Session-Goins Date: 06/25/2020

Cecily Session-Goins, Assistant Planner

## EVALUATION OF ENVIRONMENTAL IMPACTS

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 Environmental Impact Report (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 "Earlier Analyses," as described in (5) below, 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 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 significance.

## 3.1 AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a State scenic highway? | ☐ | ☐ | ☐ | ☒ |
| 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 applicable zoning and other regulations governing scenic quality? | ☐ | ☐ | ☒ | ☐ |
| d) Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project have a substantial adverse effect on a scenic vista?***

**Less than Significant Impact**

Discussion of Effects: The City General Plan indicates Fontana includes a number of scenic resources, which are viewable from scenic vistas, including the La Sierra Hills, the Jurupa Hills, the Pedley Hills, and the San Gabriel and San Bernardino Mountains.

Views of scenic vistas such as the San Gabriel and San Bernardino Mountains from surrounding residential uses to the south and west are already obstructed by mature trees and existing development, such as residential structures, roadway grade separation (e.g., Sierra Avenue), and aboveground utility poles up to 50 feet tall. Eucalyptus trees along the Union Pacific Railroad north of the site obstruct views of the La Sierra Hills, Jurupa Hills, and Pedley Hills for motorists along Interstate 10. Furthermore, mature trees on site and along the Union Pacific Railroad obstruct views of the San Gabriel Mountains for motorists along Sierra Avenue east of the site, and the existing Sierra Avenue grade separation and Sierra Avenue/Interstate 10 interchange raises the observer's point of view, thus minimizing any additional obstruction the proposed warehouse building would create.

The proposed Project is consistent with the General Plan land use designation of (I-G) General Industrial and is designed and would be constructed in accordance with the City's (M-2) General Industrial zoning district. While the (M-2) General Industrial zoning district permits structures up to 75 feet tall, the Project warehouse structure would be constructed up to 42 feet tall at the parapets, with architecturally-enhanced features extending the building up to an additional 6 feet in various

areas, including the building entrance corner that contains the office space. Figure 5 details the on-site building elevations. Furthermore, the Project would incorporate minimum 20-foot setbacks with landscaping along Boyle Avenue and minimum 5-foot parking setbacks along the interior property lines to integrate the proposed development with the surrounding neighborhood (refer to Table Nos. 30-536.B. and 30-536.C. of the City Municipal Code). A perimeter 30-foot-wide emergency fire lane would surround the warehouse structure to the east, north, and west and create additional property line setbacks from the warehouse to improve the horizontal line of site from surrounding properties and reduce visual obstructions in the area. In addition, the Project would reconfigure the electrical utilities on and adjacent to the site by relocating the distribution circuit below ground along Boyle Avenue, which would further reduce visual obstructions from surrounding properties.

Development of the proposed Project in accordance with the (I-G) General Industrial land use designation and (M-2) General Industrial zoning district and at the height and setback distances detailed above would ensure scenic vistas would not be adversely affected. Therefore, the Project would have a **less than significant impact** on scenic vistas and mitigation is not required.

***Threshold B: Would the Project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a State scenic highway?***

**No Impact**

Discussion of Effects: The California Department of Transportation (Caltrans) Scenic Highway Program does not identify any State-designated scenic highways near the Project site.[7] The nearest officially designated Scenic Highway is a western portion of State Route 91, approximately 14 miles southwest of the Project site. Because there are no scenic highways or roadways near the Project site, the Project would not affect scenic resources within a State scenic highway. **No impact** would occur and no mitigation is required.

***Threshold C: In non-urbanized areas, would the Project 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 it conflict with applicable zoning and other regulations governing scenic quality?***

**Less than Significant Impact**

Discussion of Effects: As of July 1, 2018, the United States Census Bureau estimated the City's population to be 213,739 persons and the City's land area to be approximately 42.43 square miles.[8] The Project is located in an area with at least 1,000 persons per square mile and therefore meets the definition of *Urbanized Area* under Section 15387 of the *CEQA Guidelines*.

During construction, the presence of construction vehicles and equipment could temporarily degrade the visual quality of the Project site by removal of vegetation, heavy equipment use, and storage, excavation, and the presence of other visible general construction activity. However, the property is used as a storage and staging yard for automobiles, boats, and other mechanical and construction

[7] City of Fontana. *Fontana Forward General Plan Update 2015-2035 Draft Environmental Impact Report. State Clearinghouse # 2016021099*. City of Fontana. Adopted November 13, 2018.

[8] United States Census Bureau. *QuickFacts, Fontana City, California.* https://www.census.gov/quickfacts/fact/table/fontanacitycalifornia,US/PST045219 (accessed April 6, 2020).

equipment and also contains ornamental trees and ruderal vegetation resulting from seasonal weed abatement activities and other on-site disturbances. Furthermore, the Project site is adjacent to an industrial pallet and skids staging yard with office to the west and the Union Pacific Railroad to the north (Figures 3b and 3c). The presence of construction equipment and vehicles would be temporary and would cease once construction is complete, and they would not appear out of place, nor would they necessarily clash with the existing visual character of the site and its surroundings based on existing activities on and near the Project site. Due to the temporary nature of construction activities and existing visual character of the site and its surroundings, impacts to visual character of the site and its surroundings would be **less than significant** during construction.

Construction of the Project site includes landscape treatments over 17.6 percent of the site, or approximately 35,543 square feet, which exceeds the 15 percent minimum required under the City's (M-2) General Industrial zoning district. Enhanced landscaping would be installed throughout the Project site pursuant to Section No. 30-551(E)(4) (Landscaping), which requires the Applicant to incorporate a three-tiered planning system compatible with the scale of adjacent structures, streets, and public spaces. The Project would incorporate landscaping through a combination of larger hedges and tall street trees along the site perimeter and include additional trees, shrubs, accents, and groundcover throughout the site to balance the landscape design. The perimeter landscape treatments would include the Boyle Avenue frontage and project driveways, as well as the site boundary with the Union Pacific Railroad and adjacent industrial pallet facility to the west and Sierra Avenue to the east. Proposed landscaping shall be drought-tolerant and complement existing natural and manmade features, including the dominant landscaping of surrounding areas (Figure 6 details the Project landscape design).

Entrances and exits to and from parking and loading facilities would be marked with appropriate directional signage. All site access points and driveway aprons are designed and would be constructed to adequate widths for public safety pursuant to City Municipal Code Section No. 30-550(H).

The Project would dedicate and widen Boyle Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install asphalt concrete, curb, gutter, sidewalk, landscaping, and street trees along Boyle Avenue from Juniper Avenue to its eastern terminus at Sierra Avenue. The proposed Project would dedicate and widen Juniper Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install curb, gutter, sidewalk, landscaping, and street trees along Juniper Avenue north of Boyle Avenue to its terminus at the Union Pacific Railroad tracks. South of Boyle Avenue, Juniper Avenue would be repaved with asphalt concrete to a width of 28 feet.[9] Additionally, the eastern terminus of Boyle Avenue and the northern terminus of Juniper Avenue would be improved with cul-de-sacs. The Project also includes installation and expansion of utilities such as sewer, water, electrical, gas, and telecommunications within the Boyle Avenue and Juniper Avenue rights-of-way (ROWs) for interconnection to the Project site. Whereas existing electrical utilities occur via overhead distribution circuit on wood poles, the Project would reconfigure the electrical utilities on and adjacent to the site by relocating the distribution circuit underground along Boyle Avenue, which would reduce visual obstructions from surrounding properties.

[9] Curb, gutter, and landscaping along Juniper Avenue south of Boyle Avenue will be installed by the City under a separate action.

Development of the Project would result in an overall improved, updated site and streetscape through the development of a modern warehouse building of varied massing, 360-degree articulation, and landscaped areas in accordance with Division 7 (Design Guidelines) of Article VII (Industrial Zoning Districts) of the City Municipal Code (Figure 5 details the on-site building elevations). Parapets would shield heating, ventilation, air conditioning (HVAC) and other rooftop equipment from view. Furthermore, the Project would incorporate minimum 20-foot setbacks with landscaping along Boyle Avenue and minimum 5-foot parking setbacks along the interior property lines to integrate the proposed development with the surrounding neighborhood (refer to Table Nos. 30-536.B. and 30-536.C. of the City Municipal Code). A perimeter 30-foot-wide emergency fire lane also would surround the warehouse structure to the east, north, and west and create additional property line setbacks from the warehouse to reduce any potentially imposing features of the building.

The proposed Project would be designed and constructed in conformance with the requirements of the City to ensure a high-quality development compatible with the surrounding community in accordance with the (I-G) General Industrial General Plan land use designation and (M-2) General Industrial zoning district. Therefore, the Project would not conflict with applicable zoning and other regulations governing scenic quality. Impacts would be **less than significant** and mitigation is not required.

***Threshold D: Would the Project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?***

**Less than Significant Impact**

Discussion of Effects: Currently, there are some sources of light and glare in the Project area, but they are scattered on-site residential lighting, in addition to street lighting and vehicle lighting on adjacent roadways. Interstate 10 to the north and Sierra Avenue to the east are heavily lit and well-traveled by vehicles. There are also residential light sources across Boyle Avenue to the south. Light-sensitive uses proximal to the Project site include residential uses to the south.

Development of the Project site would introduce new sources of light into the Project area. Light poles would be installed throughout the surface parking lot and along on-site pedestrian pathways. The warehouse building would have security lighting located on the building façades and functional lighting at the loading docks, which face south toward Boyle Avenue. Freight trucks would include head, tail, and auxiliary lights during nighttime operations.

On-site trucking operations (e.g., driving, loading/unloading, and parking) would be located a minimum of 20-feet from the Project boundary and at least 100 feet from adjacent receptors and would be buffered from adjacent uses by a 14-foot screen wall and minimum 20-foot setback landscaping. Moreover, any street lighting associated with the proposed Project would be consistent with City standards. All lighting on the Project site would comply with Section Nos. 30-544 (Light and Glare) and 30-550(F) (Lighting) of the City Municipal Code, which require light shielding, functional and aesthetic design, and compatibility with surrounding uses. The purpose of these lighting standards is to minimize light pollution, glare, and spillover, conserve energy resources, and curtail the degradation of the nighttime visual environment. Additionally, the City's Design Review process includes consideration of material composition and colors to reduce potential for substantial glare from the proposed warehouse building. Therefore, through compliance with Section Nos. 30-544 and

30-550(F) of the City Municipal Code, Project impacts from light and glare would be **less than significant.** Mitigation is not required.

## 3.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Convert Prime Farmland, Unique Farmland, 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? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? | ☐ | ☐ | ☐ | ☒ |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☐ | ☐ | ☒ |

***Threshold A: Would the Project convert Prime Farmland, Unique Farmland, 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?***

**No Impact**

Discussion of Effects: The Project site has been previously graded and developed. In addition, the Farmland Mapping and Monitoring Program (FMMP)[10] designates the project site as "Urban and Built-Up Land." Neither the site nor adjacent properties are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, **no impact** to farmland would occur and no mitigation is required.

***Threshold B: Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?***

**No Impact**

Discussion of Effects: The City does not maintain any agricultural zones. No Williamson Act contracts are in effect in the City.[11] Therefore, there would be **no impact** in this regard and no mitigation is required.

***Threshold C: Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?***

**No Impact**

Discussion of Effects: As detailed in Table 2.2.A, neither the Project site nor adjacent lands is zoned for forest land or Timberland Production. Therefore, there is no potential for the Project to conflict with existing zoning for forest land or land zoned for Timberland Production. **No impact** would occur and no mitigation is required.

***Threshold D: Would the Project result in the loss of forest land or conversion of forest land to non-forest use?***

**No Impact**

Discussion of Effects: The Project site and adjacent land are not occupied by forest resources. Implementation of the proposed Project would not result in the loss or conversion of forest land to non-forest land. **No impact** would occur to forest land and no mitigation is required.

[10] California Department of Conservation. California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/ (accessed April 7, 2020).

[11] California Department of Conservation. San Bernardino County Williamson Act FY 2015/2016, Sheet 2 of 2. 2016.

***Threshold E: Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?***

**No Impact**

Discussion of Effects: Although the Project site was utilized for agriculture as an orchard from the 1930s, the site was subject to sporadic development for residential uses since the early 1950s, and the last of the remaining orchards was removed in the 1990s.[12] No farmland or forest land occur on site or on adjacent land. Therefore, implementation of the proposed Project would not involve other changes in the existing environment which could result in the conversion of farmland to non-agricultural use, or conversion of forest land to non-forest use. **No impact** would occur and no mitigation is required.

## 3.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☒ | ☐ |
| 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? | ☐ | ☐ | ☒ | ☐ |
| c) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project conflict with or obstruct implementation of the applicable air quality plan?***

**Less than Significant Impact**

Discussion of Effects: The 2016 Air Quality Management Plan (AQMP) incorporates current scientific, technological, and planning assumptions including the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and updated air pollution emission inventory methodologies for various air pollution source categories. The 2016 AQMP addresses new and changing Federal requirements, implements new technology measures to reduce air pollution, and continues the South Coast Air Quality

[12] Avocet Environmental, Inc. *Phase I Environmental Site Assessment, NEC Boyle & Juniper Avenues, Fontana, California 92337.* Pages 11-13. February 3, 2020 (Appendix F).

Management District (SCAQMD) legacy of developing economically sound and flexible regulatory compliance approaches.

The 2016 AQMP incorporates local General Plan land use assumptions and regional growth and population projections developed by SCAG to estimate stationary and mobile source emissions associated with projected population and planned land uses. Consistency[13] with the AQMP is affirmed when a project: (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation; and (2) is consistent with the growth assumptions in the AQMP. If a proposed land use is consistent with the local General Plan and the regional growth projections adopted in the 2016 AQMP, then the added emissions are considered to have been evaluated, are contained in the AQMP, and would not conflict with or obstruct implementation of the regional 2016 AQMP.

As detailed in the discussion of Section 3.3 Threshold B below, the Project would result in short-term construction and long-term operational emissions that are all less than the CEQA significance emissions thresholds established by the SCAQMD. Therefore, the Project does not increase the frequency or severity of an air quality standards violation or cause a new violation. Furthermore, the Project is consistent with the City's General Industrial (I-G) land use designation and General Industrial (M-2) Zoning District through development of a proposed logistics/distribution warehouse building, as indicated in Section 2.2 above. Because the Project is consistent with the City's General Plan, it is also consistent with the regional growth projections adopted in the 2016 AQMP. The Project air quality is considered to have been evaluated in the AQMP, and Project development in accordance with the City's General Plan would not conflict with or obstruct implementation of the regional 2016 AQMP. A **less than significant impact** would occur with the development of the project. Mitigation is not required.

***Threshold B: Would the Project 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?***

**Less than Significant Impact**

Discussion of Effects: The SCAQMD's *CEQA Air Quality Handbook* establishes suggested significance thresholds based on the volume of pollution emitted. According to the *Handbook*, any project in the South Coast Air Basin (Basin) with daily emissions that exceed any of the following thresholds generally is considered as having individually and cumulatively significant air quality impacts:

- 55 lbs. per day of ROC (reactive organic compounds) (75 lbs./day during construction);
- 55 lbs. per day of NOx (oxides of nitrogen) (100 lbs./day during construction);
- 550 lbs. per day of CO (carbon monoxide) (550 lbs./day during construction);
- 150 lbs. per day of $PM_{10}$ (particulate matter with a diameter of 10 microns or smaller) (150 lbs./day during construction)

[13] Pursuant to the methodology provided in Chapter 12 of the 1993 South Coast Air Quality Management District (SCAQMD) *CEQA Air Quality Handbook.*

- 55 lbs. per day of $PM_{2.5}$ (particulate matter with a diameter of 2.5 microns or smaller) (55 lbs./day during construction); and
- 150 lbs. per day of SOx (oxides of sulfur) (150 lbs./day during construction).

The Project would generate short-term and long-term emissions of air pollutants, respectively, during construction and operation of the proposed warehouse use. The impacts associated with these emissions are summarized below based on the California Emissions Estimator Model, Version 2016.3.2 (CalEEMod) runs prepared for the Project (Appendix A). The CalEEMod calculations include both on-site and off-site construction activities as described in Section 2.3.

***Short-term Emissions***: Short-term emissions would result from construction-related activities such as demolition, excavation and grading, machinery and equipment emissions, vehicle emissions from construction employees,[14] etc. Emissions during demolition, grading, and construction activities would vary as construction activity levels change. Air pollutant emission sources during project construction would include:

- Exhaust gas and particulate emissions generated by construction equipment engines;
- Fugitive dust from soil disturbance during demolition, site preparation, grading, and excavation activities; and
- Reactive organic compounds that evaporate during site paving and architectural coating (e.g., painting of new structures).

The construction analysis includes estimating the construction equipment that would be used during each construction phase, the hours of use for that construction equipment, the quantities of earth and debris to be moved, and on-road vehicle trips (worker, soil hauling, and vendor trips).

The duration of construction activity and associated construction equipment was based on the CalEEMod Version 2016.3.2 defaults for phasing. Construction is expected to start in early 2021 and conclude 9 months later. Default construction phase durations from CalEEMod were used for all phases except the demolition and paving phases. The demolition phase was estimated to be five days due to the fact that only two dwelling units and ancillary structures would be demolished. The paving phase was estimated to be 20 days, including the on-site pavement and off-site improvements to Boyle Avenue, Juniper Avenue, and the intersection of Juniper and Slover Avenues (refer to Section 3.0 of Appendix A).

Table 3.3.A identifies the maximum daily emissions associated with construction activities and indicates no criteria pollutant emission thresholds would be exceeded from construction of the proposed Project.

[14] This analysis assumes an average construction worker trip length of 14.7 miles one-way per default values in CalEEMod.

**Table 3.3.A: Short-Term Regional Construction Emissions**

| Construction Phase | Total Regional Pollutant Emissions, lbs/day | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ROC | NOx | CO | SOx | Fugitive $PM_{10}$ | Exhaust $PM_{10}$ | Fugitive $PM_{2.5}$ | Exhaust $PM_{2.5}$ |
| Demolition | 3 | 33 | 22 | <1 | <1 | 2 | <1 | 1 |
| Site Preparation | 4 | 41 | 22 | <1 | 8 | 2 | 5 | 2 |
| Grading | 3 | 64 | 23 | <1 | 6 | 1 | 2 | 1 |
| Building Construction | 3 | 25 | 25 | <1 | <1 | <1 | <1 | <1 |
| Paving | 2 | 13 | 15 | <1 | <1 | <1 | <1 | <1 |
| Architectural Coating | 12 | 2 | 3 | <1 | <1 | <1 | <1 | <1 |
| **Peak Daily** | **17** | **64** | **43** | **1** | **10** | | **7** | |
| **SCAQMD Thresholds** | **75** | **100** | **550** | **150** | **150** | | **55** | |
| **Emissions Exceed Threshold?** | **No** | **No** | **No** | **No** | **No** | | **No** | |

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (Appendix A).
Note: These estimates assume the Building Construction, Paving, and Architectural Coating phases would occur simultaneously and reflect control of fugitive dust required by SCAQMD Rule 403. The values shown are the maximum summer or winter daily emissions results from the California Emissions Estimator Model.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
ROC = reactive organic compounds

The construction calculations prepared for the Project assume that dust control measures would be employed to reduce emissions of fugitive dust during site grading. Adherence to Rule 403, including the implementation of Best Available Control Measures (BACMs), is a standard requirement for any construction activity occurring within the Basin. Among the requirements under this rule, fugitive dust must be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. These measures may include, but are not limited to:

- Water active sites at least three times daily (locations where grading is to occur would be thoroughly watered prior to earthmoving).
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour or less.

SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003 and updated it in July 2008,[15] recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. Localized significance thresholds (LSTs) represent the maximum emissions from a project site of up to 5 acres that are not expected to result in an exceedance of the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) for CO, $NO_2$, $PM_{10}$ and $PM_{2.5}$. LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this Project, the appropriate SRA is the Central San

[15] South Coast Air Quality Management District. *Final Localized Significance Thresholds Methodology*. June 2003, Revised July 2008.

Bernardino Valley area (SRA 34). Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The nearest sensitive receptors are the residences along the south side of Boyle Avenue, within 50 feet to the south of the Project's construction boundary. The SCAQMD LST methodology specifies that, when the receptor distance is less than 25 meters (82 feet) that thresholds for 25 meters should be used.[16]

The LST screening table lookup methodology was created for projects up to 5 acres in size. There would not be any large-scale grading or other mass ground-disturbing activities. Although the Project site is approximately 8.15 acres in size, construction equipment listed in the CalEEMod for the Project is not expected to disturb more than 5 acres per day (Appendix A). Therefore, the 5-acre LSTs are applied for construction emissions.

Table 3.3.B indicates the on-site construction emissions would not exceed the LSTs for the nearby residences. Therefore, the construction of the Project would not result in a locally significant air quality impact.

**Table 3.3.B: Construction Localized Impact Analysis**

| On-site Emissions Sources | Pollutant Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | NOx | CO | $PM_{10}$ | $PM_{2.5}$ |
| Construction Equipment | 40 | 22 | 10 | 6 |
| **LST** | **270** | **1,746** | **14** | **8** |
| **Emissions Exceed Threshold?** | **No** | **No** | **No** | **No** |

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (Appendix A).
Note: Source Receptor Area: Central San Bernardino Valley (SRA 34), 5 acres, 25 meters (82 feet) distance
CO = carbon monoxide
lbs/day = pounds per day
LST = local significance threshold
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$PM_{10}$ = particulate matter less than 10 microns in size

As detailed in Tables 3.3.A and 3.3.B, emissions generated during project construction would not exceed SCAQMD thresholds for regional construction emissions or LSTs for the existing sensitive receptors adjacent to the Project site.

***Long-term Emissions:*** The proposed Project would result in an incremental increase in the generation of regional air pollution during the operation of the proposed warehouse use. Long-term air pollutant emission impacts are those associated with area sources, stationary sources, and mobile sources involving any project-related changes. Area sources include architectural coatings, consumer products, hearths, and landscaping. Stationary sources include natural gas and electricity consumption for heating and lighting. Mobile-sources consist of vehicle trips associated with a Project.

The proposed Project would result in net increases in area-, stationary-, and mobile-source emissions. The area- and stationary-source emissions would come from many sources, including the use of consumer products, landscape equipment, general energy, and solid waste. Calculation of emissions from these sources is based on CalEEMod defaults and assumes compliance with Title 24 and the 2019 California Building Code (CBC). Mobile source emissions assume a 40-mile truck trip length and a fleet mix of 69 percent passenger cars and 31 percent trucks assigned as 6.8 percent for 2-axles, 5.5 percent

[16] *Ibid.* Page 3-3.

3-axles, and 18.7 percent for 4+ axles in accordance with SCAQMD guidelines and the Project-specific Traffic Impact Analysis (Appendix K). Long-term operational emissions associated with the Project were calculated using the CalEEMod (Version 2016.3.2) and are summarized in Table 3.3.C.

**Table 3.3.C: Long Term Regional Operational Emissions**

| Source | Pollutant Emissions, lbs/day | | | | | |
|---|---|---|---|---|---|---|
| | ROC | NOx | CO | SOx | $PM_{10}$ | $PM_{2.5}$ |
| Area | 4 | <1 | <1 | 0 | <1 | <1 |
| Energy | <1 | <1 | <1 | <1 | <1 | <1 |
| Mobile | 1 | 17 | 17 | <1 | 6 | 2 |
| Off-road | <1 | 5 | 5 | <1 | <1 | <1 |
| **Total Project Emissions** | **5** | **22** | **22** | **1** | **6** | **2** |
| **SCAQMD Threshold** | **55** | **55** | **550** | **150** | **150** | **55** |
| **Emissions Exceed Threshold?** | **No** | **No** | **No** | **No** | **No** | **No** |

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (Appendix A).
Note: Off-road sources include equipment such as forklifts.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$PM_{10}$ = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
ROC = Reactive organic compounds

As shown in Table 3.3.C, operation of the proposed warehouse would not exceed the SCAQMD daily emission thresholds for any criteria pollutant.

By design, the localized impacts analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions detailed in Table 3.3.D assume all area source emissions would occur on site, all of the energy source emissions would occur off site at the utility power stations, and 5 percent of the Project-related new mobile sources, which is an estimate of the amount of Project-related on-site vehicle travel, would occur on site. Considering the total trip length included in CalEEMod, the 5 percent assumption is conservative. Table 3.3.D indicates the localized operational emissions would not exceed the LSTs on site and at nearby residences. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

**Table 3.3.D: Long-Term Operational Localized Impacts Analysis**

| Emissions Sources | Pollutant Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | NOx | CO | $PM_{10}$ | $PM_{2.5}$ |
| On-site Emissions | 5.5 | 5.5 | <1 | <1 |
| **LST** | **270** | **1,746** | **4** | **2** |
| **Emissions Exceed Threshold?** | **No** | **No** | **No** | **No** |

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (Appendix A).
Note: Source Receptor Area: Central San Bernardino Valley (SRA 34), 5 acres, 25 meters (82 feet) distance; on site traffic 5 percent of total.

CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$PM_{10}$ = particulate matter less than 10 microns in size

Vehicular trips associated with the proposed Project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts could occur when emissions from vehicular traffic increase as a result of the proposed Project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating with extremely high traffic volumes at unacceptable levels of service. However, the Project-specific TIA (Appendix K) and Section 3.17 of this Initial Study indicate the Project would not result in any significant level of service change or intersection delay with the implementation of the recommended improvements designed to address level of service impacts. The intersections in the Project area therefore would not experience CO "hot spots."

The cumulative impacts analysis is based on projections in the regional AQMP. As detailed in Section 3.3 (Threshold A), the proposed Project is consistent with growth projections of the General Plan and would not conflict with or obstruct implementation of the regional AQMP.

Due to the nonattainment status of the Basin, the primary air pollutants of concern would be NOx and ROCs, which are ozone precursors, and $PM_{10}$ and $PM_{2.5}$. As detailed in Table 3.3.C, long-term emissions were calculated for NOx, ROC, CO, SOx, $PM_{10}$, and $PM_{2.5}$ expected to be generated through operation of the proposed Project, and Project-related emissions would not exceed the established SCAQMD daily emission thresholds for any criteria pollutants.

No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions would contribute to existing cumulatively significant impacts to air quality. The SCAQMD developed the operational thresholds of significance based on the level above which a project's individual emissions would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. Therefore, a project that exceeds the SCAQMD operational thresholds would also have a cumulatively considerable contribution to a significant cumulative impact. Since the proposed Project would not exceed any air quality emissions thresholds, the Project would not result in a cumulatively considerable contribution to significant air quality impacts. Short-term and long-term cumulative air quality impacts would be **less than significant.** Mitigation is not required.

***Threshold C: Would the Project expose sensitive receptors to substantial pollutant concentrations?***

**Less than Significant Impact**

Discussion of Effects: The SCAQMD recommends the evaluation of localized CO, NOx, $PM_{10}$, and $PM_{2.5}$ construction- and operation-related impacts to sensitive receptors[17] in the immediate vicinity of the

[17] According to the SCAQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (May 6, 2005), sensitive receptors (individuals) are those segments of a population such as children, athletes, elderly, and sick that are more susceptible to the effects of air pollution than the population at large. Land uses where sensitive receptors are most likely to spend time include schools and schoolyards, parks and playgrounds, day care centers, nursing homes, hospitals, and residential communities (Pp. G-6).

Project site. The appropriate SRA is the Central San Bernardino Valley are (SRA 34). The nearest sensitive receptors are the residences along the south side of Boyle Avenue, within approximately 50 feet south of the Project's construction boundary. As stated in Section 3.3 (Threshold B) above, SCAQMD LST methodology dictates that, when the receptor distance is less than 25 meters (82 feet), thresholds for 25 meters should be used.

Tables 3.3.B and 3.3.D identify the on-site construction and operational emissions of CO, NOx, $PM_{10}$, and $PM_{2.5}$, respectively, and demonstrate that all concentrations of pollutants would be below the SCAQMD thresholds of significance for construction and operation of the Project. Therefore, both short-term (i.e., construction) and long-term (i.e., operational) LST air quality impacts would be **less than significant**. No mitigation is required.

According to the California Air Resources Board (CARB), air pollution studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California and also have shown an association between both respiratory and other non-cancerous health effects and proximity to high-traffic roadways. Accordingly, the Project is subject to a site-specific Health Risk Assessment (HRA) (Appendix B) to estimate the increased health risk levels for people living and/or working near the site from generation of toxic air contaminants (TACs). The majority of the estimated health risks from TACs are attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel particulate matter [DPM]).

In accordance with SCAQMD guidance, health risk is considered significant under the following conditions:

- Cancer risk at a nearby receptor location (i.e., area where persons reside, work, or attend school—not including streets or sidewalks) is greater than ten (10) cases per one million persons over a period of 30 years for adults and 9 years for children (residential uses) and 25 years for workers.
- The cumulative increase in total chronic Hazard Index[18] or total acute Hazard Index[19] for any target organ system would exceed 1.0 at any receptor location.

The Project site is very close to a similar, albeit independent, [76,562-square foot] warehouse project (Transwestern – Boyle Avenue Building 2) (Building 2) on APNs 0251-202-12 and 15 to the west of this Project site. These two projects do not rely on one another for any infrastructure and thus have independent utility. However, passenger vehicle and freight truck access to and from both sites would occur via the Slover Avenue/Juniper Avenue intersection and along Juniper Avenue, so emissions from the operation of Building 2 are incorporated in this analysis to consider the effect of both Projects on the neighborhood as a worst-case scenario.

Table 3.3.E details the carcinogenic and chronic health risks from the combined operation of Transwestern – Boyle Avenue Building 1 and Building 2. The residential risk incorporates both the risk

[18] Chronic Hazard Index is the ratio of the estimated long-term level of exposure to a TAC for a potential maximum exposed individual to its chronic reference exposure level. The chronic Hazard Index calculations include multipathway consideration, when applicable.

[19] Acute Hazard Index is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential maximum exposed individual to its acute reference exposure level.

for a child living in a nearby residence for 9 years (the standard period of time for child risk) and an adult living in a nearby residence for 30 years (considered a conservative period of time for an individual to live in any one residence).

**Table 3.3.E: Health Risk Levels for Existing Residents and Workers from the Combined Operation of Transwestern Boyle Avenue Building 1 and Building 2**

| Location | Maximum Cancer Risk | Maximum Non-cancer Chronic Risk (Hazard Index) | Maximum Non-cancer Acute Risk (Hazard Index) |
|---|---|---|---|
| Residential Risks | 2.4 in 1 million | 0.0006 | 0.0001 |
| Worker Risks | 0.3 in 1 million | 0.0009 | 0.0001 |
| **SCAQMD Significance Threshold** | **10 in 1 million** | **1.0** | **1.0** |
| **Significant?** | **No** | **No** | **No** |

Source: LSA Associates, Inc. *Health Risk Assessment, Transwestern – Boyle Avenue Building 1 Project, Fontana, California.* Table B. May 2020. (Appendix B).
SCAQMD = South Coast Air Quality Management District

As indicated in Table 3.3.E, the maximum cancer risk for the residential maximum exposed individual (MEI) would be 2.4 in 1 million, less than the threshold of 10 in 1 million. The maximum cancer risk for the worker MEI would be 0.3 in 1 million, also less than the threshold of 10 in 1 million. The chronic and acute health risks from the combined operation of Transwestern – Boyle Avenue Building 1 and Building 2 also are shown in Table 3.3.E and indicate the hazard index for each of these risks is below the threshold of 1.0.

As detailed in the Project-specific HRA (Appendix B), all health risk levels to nearby residents and workers from Project-related emissions of TAC from the concurrent operation of both Building 1 and Building 2 would be below SCAQMD's HRA thresholds. Impacts to sensitive receptors from TACs would be **less than significant** and mitigation is not required.

***Threshold D: Would the Project result in other emissions (such as those leading to odors adversely affecting a substantial number of people?***

**Less than Significant Impact**

Discussion of Effects: Project construction would generate limited odors over the short term, mainly from fumes emanating from gasoline and diesel powered construction equipment and architectural coating, asphalt laying, and paving activities. These odors would be temporary and are expected to be isolated to the immediate vicinity of the construction site.

SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material 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 persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." Pursuant to SCAQMD Rule 403, fugitive dust must be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Additionally, Title 13, Section 2449(d)(D) of the California Code of Regulations requires operators of off-road vehicles (i.e., self-propelled diesel-

fueled vehicles 25 horsepower and up that were not designed to be driven on road) to limit vehicle idling to five minutes or less.

SCAQMD Rules 402 and 403, and Title 13, Section 2449(d)(D) of the California Code of Regulations require the Project Applicant to implement standard control measures to limit fugitive dust and construction equipment emissions. These temporary emissions are expected to be isolated to the immediate vicinity of the construction site. Therefore, operation of fueled equipment during construction would not adversely affect a substantial number of people.

The painting of buildings and structures or the installation of asphalt surfaces may also create odors. SCAQMD Rule 1113 outlines standards for paint applications, while Rule 1108 identifies standards regarding the application of asphalt. Adherence to the standards identified in these SCAQMD rules is required for all construction projects in the City to reduce emissions and objectionable odors impacts.

Land uses generally associated with long-term objectionable odors include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. The Project is a proposed logistics/ distribution warehouse development that does not include uses that would generate long-term objectionable odors. During Project operation, freight trucks entering/exiting and loading/unloading at the site, as well as temporary storage of typical solid waste (refuse) associated with occupation of the site could generate potential odors. As a matter of State policy, medium and heavy-duty freight vehicles accessing the Project site must comply with the SCAQMD's and CARB's regulations pertaining to particulate filter requirements, idle time limits, smoke opacity, greenhouse gas emissions, and NOx emissions standards.[20] Furthermore, Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations.

Compliance with mandated regulatory policies designed to reduce emissions from construction equipment and materials and medium and heavy-duty freight vehicles, in conjunction with removal of solid waste (refuse) at regular intervals, would ensure the Project would not involve short-term or long-term emissions or sources of odors that could affect a substantial number of people. Impacts would be **less than significant**. Mitigation is not required.

## 3.4 BIOLOGICAL RESOURCES

Would the project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | 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 | ☐ | ☐ | ☒ | ☐ |

[20] South Coast Air Quality Management District. *Regulations & Other Commitments.* https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/regs-commitments#Trucks%20-%20Existing%20State (accessed April 9, 2020).

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? | | | | |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☒ | ☐ | ☐ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☒ | ☐ | ☐ |
| 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? | ☐ | ☐ | ☐ | ☒ |

***Threshold A: Would the Project 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 Wildlife or the U.S. Fish and Wildlife Service?***

**Less than Significant Impact**

Discussion of Effects: The natural habitat of the site was cleared in the 1920s and 1930s to establish orchards. By the 1990s, the orchards had been removed[21] and the site remains highly disturbed with two single-family residences and ancillary structures used for storage and staging automobiles, boats, and other mechanical and construction equipment. Undeveloped portions of the site contain a variety of ornamental trees and ruderal vegetation[22] as a result of seasonal weed abatement activities. Additionally, the site is bounded by Boyle Avenue to the south, Sierra Avenue to the east, the Union Pacific Railroad and Interstate 10 to the north, and an industrial pallet and skids staging yard with

[21] Avocet Environmental, Inc. *Phase I Environmental Site Assessment, NEC Boyle & Juniper Avenues, Fontana, California 92337.* Pages 11-13. February 3, 2020 (Appendix F).

[22] Ruderal vegetation consists of species (often invasive) that are first to colonize disturbed lands.

office to the west. Commercial retail centers are located to the east and north, beyond Sierra Avenue and Interstate 10, respectively. Figure 1: Regional Location and Figure 2: Existing Setting depict the location of the Project site on a regional and local scale. Figures 3a through 3e include photographs of the project site and surrounding land uses.

The Biological Resources Assessment of the Project site included a literature review and field survey to determine the existence or potential occurrence of threatened, endangered, or candidate plant and animal species and critical habitats on or in the vicinity of the site (Appendix C). The results of the literature search indicates the project site is not within designated critical habitat of any species, but there is potential for the following 13 threatened, endangered, or candidate plant and animal species to occur in the project vicinity:[23]

- Marsh sandwort (*Arenaria paludicola*);
- Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*);
- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*);
- Gambel's water cress (*Nasturtium gambelii*);
- Crotch bumble bee (*Bombus crotchii*);
- Quino checkerspot butterfly (*Euphydryas editha quino*);
- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*);
- Tricolored blackbird (*Agelaius tricolor*);
- Swainson's hawk (*Buteo swainsoni*);
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*);
- California black rail (*Laterallus jamaicensis coturniculus*);
- Coastal California gnatcatcher (*Polioptila californica californica*); and
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*).

Additionally, the burrowing owl (*Athene cunicularia*), a California Species of Special Concern, occurs in open habitats with low vegetation throughout the region.

To determine the potential for these species to occur on the Project site, a reconnaissance field survey was conducted by a qualified LSA Biologist on May 2, 2020 (refer to Appendix C). The results of the field survey indicate all of these species are absent from the Project site based on lack of suitable habitat, as detailed in Table 3.4.A.

[23] LSA Associates, Inc. *Biological Resources Assessment for the Transwestern Boyle Avenue Warehouse Building 1 Project (Case Numbers MCN 19-133, DRP 19-043, TPM 19-021) and Transwestern Boyle Avenue Warehouse Building 2 Project (Case Numbers MCN 19-135, DRP 19-044, TPM 19-022) in Fontana, San Bernardino County, California.* Page 4. May 14, 2020 (Appendix C).

## Table 3.4.A: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| **PLANTS** | | | |
| *Arenaria paludicola*<br><br>**Marsh sandwort** | US: FE<br>CA: SE/1B | Boggy areas in freshwater marshes and swamps below 170 meters (560 feet) elevation (formerly higher). Known to presently occur only in San Luis Obispo County (at Oso Flaco Lake and Morro Bay). Believed extirpated from Los Angeles, San Francisco, Santa Cruz, Riverside, and San Bernardino Counties, and from the State of Washington. The last known record of this species in Riverside, San Bernardino, or Los Angeles Counties is from 1900. | **Absent.** Site lacks suitable plant communities. |
| *Chloropyron maritimum* spp. *maritimum*<br><br>**Salt marsh bird's-beak** | US: FE<br>CA: SE/1B | Coastal dunes and salt marshes. In California, known from Los Angeles, Orange, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, and Ventura Counties. Historical collections referred to this taxon from alkaline meadow in vicinity of San Bernardino Valley and from interior San Diego County are intermediate to *C. maritimus* ssp. *canescens*. Also occurs in Mexico. | **Absent.** Site lacks dunes and marsh habitat. |
| *Eriastrum densifolium* ssp. *sanctorum*<br><br>**Santa Ana River woollystar** | US: FE<br>CA: SE/1B | Riversidean alluvial fan sage scrub and chaparral in sandy or gravelly soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks) at 90 to 625 meters (300 to 2,100 feet) elevation in San Bernardino and Riverside Counties. | **Absent.** Site lacks suitable plant communities. |
| *Nasturtium (Rorippa) gambelii*<br><br>**Gambel's watercress** | US: FE<br>CA: ST/1B | Marshes from 5 to 330 meters (20 to 1,100 feet) elevation. Currently believed to occur in California only in Santa Barbara and San Luis Obispo Counties. There are historical records from Los Angeles, Orange, and San Bernardino Counties. A historical report from San Diego County likely constitutes a misidentification. Also occurs in Baja California. | **Absent.** Site lacks suitable wet areas. |
| **INVERTEBRATES** | | | |
| *Bombus crotchii*<br><br>**Crotch bumble bee** | US: –<br>CA: SCE | Inhabits open scrub and grassland from coastal California to crest of Sierra-Cascade and in desert edge areas, south into Mexico. Suitable bumble bee habitat requires the availability of flowers on which to forage throughout the duration of the colony (spring through fall), colony nest sites, and overwintering sites for the queens. | **Absent:** Site is regularly subject to intense disturbance, including disking, lacks sufficient variation in flowering vegetation, and is isolated from better habitat. |
| *Euphydryas editha quino*<br><br>**Quino checkerspot butterfly** | US: FE<br>CA: SA | Meadows or openings within coastal sage scrub or chaparral below about 5,000 feet where food plants (*Plantago erecta* and/or *Orthocarpus purpurascens*) are present. Historically known from Santa Monica Mountains to northwest Baja California; currently known only from southwestern Riverside County, southern San Diego County, and northern Baja California. | **Absent.** Site lacks suitable plant communities. |

**Table 3.4.A: Special-Status Species Summary**

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| *Rhaphiomidas terminatus abdominalis*<br><br>**Delhi Sands flower-loving fly** | US: FE<br>CA: SA | Restricted to Delhi series sands in western Riverside and San Bernardino Counties. | **Absent**. Site lacks suitable open soils. |
| **BIRDS** | | | |
| *Agelaius tricolor* (nesting colony)<br><br>**Tricolored blackbird** | US: –<br>CA: ST/SSC | Open country. Forages in grassland and cropland habitats. Nests in large groups near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, or tall herbs. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs. Occurs in western Oregon, California, and northwestern Baja California. | **Absent.** Site lacks suitable wet areas. |
| *Athene cunicularia* (burrow sites)<br><br>**Burrowing owl** | US: –<br>CA: SSC | Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent. | **Absent.** Site is too small, disturbed, and isolated by urban development; without ground squirrel burrows or other suitable nesting locations. |
| *Buteo swainsoni* (nesting)<br><br>**Swainson's hawk** | US: –<br>CA: ST | Open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Breeds and nests in western North America; winters in South America. Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. In Southern California, now mostly limited to spring and fall transient. Formerly abundant in California with wider breeding range. | **Absent.** Site lacks open habitat and is isolated in an urban context. |
| *Coccyzus americanus occidentalis* (nesting)<br><br>**Western yellow-billed cuckoo** | US: FT<br>CA: SE | Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America. | **Absent.** Site lacks riparian habitat. |

## Table 3.4.A: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| *Laterallus jamaicensis coturniculus*<br><br>**California black rail** | US: –<br>CA: ST/CFP | Requires shallow water in salt marshes, freshwater marshes, wet meadows, or flooded grassy vegetation. Prefers areas of moist soil vegetated by fine-stemmed emergent plants, rushes, grasses, or sedges, with scattered small pools. Known from coastal California, northwestern Baja California, the lower Imperial Valley, and the lower Colorado River of Arizona and California. Now extirpated from virtually all of coastal Southern California. | **Absent.** Site lacks suitable wet areas. |
| *Polioptila californica californica*<br><br>**Coastal California gnatcatcher** | US: FT<br>CA: SSC | Inhabits coastal sage scrub in low-lying foothills and valleys up to about 500 meters (1,640 feet) elevation in cismontane southwestern California and Baja California. | **Absent.** Site lacks coastal sage scrub habitat. |
| **MAMMALS** | | | |
| *Dipodomys merriami parvus*<br><br>**San Bernardino kangaroo rat** | US: FE<br>CA: SSC | Gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County). In San Bernardino County, this species occurs primarily in the Santa Ana River and its tributaries north of Interstate 10, with small remnant populations in the Etiwanda alluvial fan, the northern portion of the Jurupa Mountains in the south Bloomington area, and in Reche Canyon. In Riverside County, this species occurs along the San Jacinto River east of approximately Sanderson Avenue, and along Bautista Creek. | **Absent**. No alluvial habitat present on site. |

Source: LSA Associates, Inc. *Biological Resources Assessment for the Transwestern Boyle Avenue Warehouse Building 1 Project (Case Numbers MCN 19-133, DRP 19-043, TPM 19-021) and Transwestern Boyle Avenue Warehouse Building 2 Project (Case Numbers MCN 19-135, DRP 19-044, TPM 19-022) in Fontana, San Bernardino County, California.* Table B: Special-Status Species Summary. May 14, 2020 (Appendix C).

| **US: Federal Classifications** | |
|---|---|
| – | No applicable classification |
| FE | Taxa listed as Endangered. |
| FT | Taxa listed as Threatened. |
| **CA: State Classifications** | |
| SE | Taxa State-listed as Endangered. |
| ST | Taxa State-listed as Threatened. |
| SCE | Taxa Candidate for State listing. |
| SSC | California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations. |
| CFP | California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515. |
| SA | Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or rarity status. |
| 1B | California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere. |

California Rare Plant Ranks are assigned by a committee of government agency and non-governmental botanical experts and are not official State designations of rarity status.

Regionally, the Project site is located within the Jurupa Recovery Unit (Jurupa Hills) of the federally endangered Delhi Sands flower-loving fly (*Rhaphiomidas terminates abdominalis*).[24] However, the *Final Recovery Plan for the Delhi Sands Flower Loving Fly* prepared by the United States Fish and Wildlife Service (USFW), Pacific Region, indicates Delhi Sand Soils of the Jurupa Recovery Unit do not occur on or in the immediate vicinity of the Project site.[25] Additionally, the site-specific pedestrian survey revealed the Project site lacks suitable open soils required to support this species.[26] Therefore, the Delhi Sands flower-loving fly is considered absent from the Project site.[29]

The Project site does not provide suitable habitat for burrowing owl (*Athene cunicularia*) due to the site's previous disturbances, relatively small size, and isolation from open space with suitable habitat to support this species. Furthermore, the lack of ground squirrel burrows renders the site unlikely to facilitate nesting habitat for this species.[30] As detailed in Table 3.4.A, all special-status species with potential to occur on site have a low probability of inhabiting the site due to lack of suitable habitat from the substantial disturbances (former and current) on site and the site's isolated position relative to open space areas where suitable habitat may occur. Impacts to species identified as a candidate, sensitive, or special status species and their habitats would be **less than significant.** Mitigation is not required.

***Threshold B: Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

**No Impact**

Discussion of Effects: The site has been previously developed. No riparian or sensitive natural community is located on site.[31] Therefore, **no impact to** riparian habitat or other sensitive natural community would occur and mitigation is not required.

***Threshold C: Would the Project 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?***

**No Impact**

Discussion of Effects: The Project site does not include any federally protected wetlands or any drainage features, ponded areas, wetlands, or riparian habitat subject to jurisdiction by the California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers (USACE), and/or Regional Water Quality Control Board (RWQCB).[32] Therefore, neither Clean Water Act (CWA) Sections 404 and

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24 United States Fish and Wildlife Service, Pacific Region. *Final Recovery Plan for the Delhi Sands Flower Loving Fly.* Figure 5: Jurupa Recovery Unit. 1997.

25 *Ibid.*

26 LSA Associates, Inc. *Biological Resources Assessment for the Transwestern Boyle Avenue Warehouse Building 1 Project (Case Numbers MCN 19-133, DRP 19-043, TPM 19-021) and Transwestern Boyle Avenue Warehouse Building 2 Project (Case Numbers MCN 19-135, DRP 19-044, TPM 19-022) in Fontana, San Bernardino County, California.* Table B: Special-Status Species Summary and Pages 4 and B-3. May 14, 2020 (Appendix C).

29 *Ibid.* Page 4.

30 *Ibid.*

31 *Ibid. Pages 3 and 5.*

32 *Ibid.* Page 3.

401 permits nor a CDFW streambed alteration agreement are required for the Project. **No impact** on federally protected wetlands would occur and no mitigation is required.

***Threshold D: Would the Project 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?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: The Project would not affect wildlife movement or nursery sites because the site is located within an urbanized area, separated from native habitat by development and roadways/ railroad accompanied by substantial human activity. Any wildlife species occupying the Project site and vicinity are accustomed to urban development.

Ornamental trees that provide suitable nesting habitat for common bird species are located on site. As identified in Section 3.4 (Threshold A), the Project site has been previously developed; therefore, there is low potential for burrowing owls to occur within the project limits. However, because the Project site may contain nesting birds in nearby trees, **Mitigation Measure BIO-1** is prescribed to ensure a qualified biologist conducts a pre-construction survey for nesting birds if construction activities occur during nesting bird season in accordance with Sections 3503–3801 of the California Fish and Game Code.

**Mitigation Measure BIO-1:** If tree removal or ground disturbance is proposed during nesting bird season (February 15 to August 31), a pre-construction nesting survey shall be conducted by a qualified biologist (Project Biologist) within 72 hours prior to start of work pursuant to Sections 3503–3801 of the California Fish and Game Code. If the survey indicates nesting birds are present, an appropriate buffer to be established by the Project Biologist shall be marked off around the nest, and no construction activity shall occur in that area during nesting activities. Grading and/or construction may resume within the established buffer when the Project Biologist determines the nest is no longer occupied and all juveniles have left the nest. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee.

With implementation of **Mitigation Measure BIO-1,** impacts to native resident or migratory fish or wildlife species, established native resident or migratory wildlife corridors, and native wildlife nursery sites would be reduced to **less than significant with mitigation incorporated.**

***Threshold E: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: Development of the Project would involve the removal of eucalyptus trees which could meet the definition of *windrows*, be considered *Heritage Trees*, and therefore be designated *Protected Trees* pursuant to Article III, Section 28-63 of the City Municipal Code. Additionally, a deodar

cedar (*Cedrus deodora*) overhanging Juniper Avenue within the Project off-site study area for biological resources is considered a *significant tree* under the Municipal Code. Accordingly, the Project site was subject to a Biological Resources Assessment that included an inventory of all trees that featured a diameter breast height of three inches or greater (Appendix C).

Article III, Section 28-63 of the City Municipal Code indicates *heritage trees* include windrows defined as "a series of trees (minimum of four), usually a variety of eucalyptus, planted in a closely spaced line no more than ten feet apart to provide a windbreak for the protection of property and/or agricultural crops." The Project site contains remnants of windrows associated with prior agricultural activities that no longer occur on the site. As detailed in Appendix C, a certified arborist conducted a tree inventory of the site and concluded most of the trees planted in the windrows have since been removed or are now dead.[33] As detailed in Section 3.5 (Threshold A), the windrow remnants no longer function as windrows due to the loss of most of the trees and are devoid of historic context. The remaining trees are also in generally poor health except for a few young trees that probably came up on their own rather than being planted as part of the windrow. The site-specific tree inventory indicates only one series of four trees, trees 34–37 (refer to Figure 3: Photograph 5 and Figure 4 of Appendix C), meets the City's definition of *windrow.* Additionally, the deodar cedar along Juniper Avenue (refer to Photograph 2 in Figure 3; Tree 177 in Figure 4 of Appendix C) is a *significant tree* pursuant to Section 28-63 of the City Municipal Code.

Pursuant to Section 28-64 of the City Municipal Code, a certified arborist shall evaluate eucalyptus trees 34–37 to determine if a tree removal permit would be required for these specimens. The same condition would apply if the deodar cedar along Juniper Avenue is outside of the City right-of-way and would require removal for the proposed improvements to Juniper Avenue. This condition would be required to comply with City regulations to remove *heritage trees* or *significant trees*. The Project would be conditioned to comply with Article III: Preservation of Heritage, Significant, and Specimen Trees of the City Municipal Code as specified in **Mitigation Measure BIO-2.**

**Mitigation Measure BIO-2:** Prior to removal of eucalyptus trees 34–37 (refer to Figure 3: Photograph 5 and Figure 4 of Appendix C) and, if applicable, the deodar cedar along Juniper Avenue (refer to Photograph 2 in Figure 3; Tree 177 in Figure 4 of Appendix C), a certified arborist shall be retained to evaluate these specimens to determine if a tree removal permit would be required for their removal (City Municipal Code Section 28-64). If the arborist determines the trees are diseased or dead and staff approves (via an arborist report submitted to the City), no tree removal permit would be required and no further action would be necessary (City Municipal Code Section 28-65(4)).

If the arborist determines all or some of trees are not diseased or dead, or if City staff do not concur with the arborist's assertion that all or some of the trees are diseased or dead, the Applicant shall apply for a tree removal permit (City Municipal Code Section 28-68), and the arborist shall rate the "healthy" trees (scale of 10 to 100 percent)

[33] *Ibid.* Page 5.

on their condition that would determine the level of replacement or relocation pursuant to Table No. 1 for trees less than 7 inches diameter or pursuant to Table No. 2 for trees 7 inches or greater diameter (City Municipal Code Section 28-67). Replacement trees for *Heritage* and *Significant Trees* shall be exclusive of the trees required as part of the standard landscape requirements (City Municipal Code Section 28-67(d)) and shall be guaranteed for one year via cash bond filing with the City in the amount determined by staff to ensure performance of the guarantee (City Municipal Code Section 28-67(e)). In lieu of replacement trees, a cash equivalent as determined by staff may be deposited with the City in a tree account established to purchase, plant or relocate trees in public areas, conduct surveys of trees in public areas, design master landscape plans to include trees in public areas, and maintain existing heritage, significant and/or specimen trees (City Municipal Code Section 28-67(g)). This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee.

Through implementation of **Mitigation Measure BIO-2**, the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Impacts would be **less than significant with mitigation incorporated.**

***Threshold F: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?***

**No Impact**

Discussion of Effects: The Project site does not lie within an area covered by any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.[34] **No impact** would occur and no mitigation is required.

## 3.5 CULTURAL RESOURCES

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? | ☐ | ☐ | ☒ | ☐ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ☐ | ☒ | ☐ | ☐ |

[34] *Ibid.* Page 6.

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| c) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?***

**Less than Significant Impact**

Discussion of Effects: The Project site was subject to a cultural resources investigation comprising archival research, cultural resources records search conducted at the South Central Coastal Information Center (SCCIC),[35] review of supplementary records search data collected for a nearby project approximately 0.65 mile to the south, [36] and an intensive pedestrian survey of the Project site (Appendix D).

Archival research conducted in April 2020 revealed one on-site residence, located at 16868 Boyle Avenue (APN 0251-202-07), was built in 1925 and was surrounded by groves until at least 1967. Sometime after 1967, the groves were removed and the residence sustained additions. The records search indicated a portion of the Project site was previously surveyed for cultural resources, and two archaeological sites (prehistoric site 36-005421, an artifact scatter/possible habitation, and historic period site 36-011567, building foundations and associated features), along with 19 historic-period built environment properties, are documented within one mile of the Project site. An intensive pedestrian survey of the Project site identified one historic-period archaeological resource on site (LSA-CFN1702-S-2) and confirmed the presence of the residence constructed in 1925 located at 16868 Boyle Avenue.

LSA-CFN1702-S-2 is an agricultural shed slab and remnant landscaping (eucalyptus windrow) associated with a residence (16832 Boyle Avenue, APN 0251-202-12) and former orchard that was established on the site during the late 1930s. The residence was removed sometime between 1967 and 1986, and a new, modern residence was constructed in its place in 1986. Finally, the 1925 residence located at 16868 Boyle Avenue (APN 0251-202-07) sustained alterations and no longer conveys a strong association with the past or the property's individual periods of significance.

Windrows typically made up of eucalyptus trees were planted by local citrus ranchers beginning in the 1890s until the mid-1940s to protect the orchards from wind, control movement of topsoil, prevent dust storms, and prevent soil abrasion for seedlings.[37] Removal of the windrows in Fontana began in the early 1940s, coinciding with the opening of the Kaiser Steel Mill (approximately 3 miles

[35] Due to the COVID-19 emergency, the SCCIC is able to provide only the data that has been digitized as of March 1, 2020. To facilitate a comprehensive records search for the proposed Project, this analysis includes supplementary data from a records search conducted in 2017 of a nearby Project to gather additional information on resources in the Project vicinity.

[36] LSA Associates, Inc. *Cultural Resources Assessment, Southwest Fontana Logistics Center, Assessor's Parcel Numbers 0255-081-03, 04, 06, 07, 10-18, 21, 25, 28-32, 39, and 53, and 0255-091-06, 38, 40, 43, and 58-60. City of Fontana, San Bernardino County, California.* Pages 10-12. March 2017 (Appendix D).

[37] City of Fontana. *General Plan Chapter 3: Land Use Element.* Page 3-19. 2003.

west of the site) and associated development throughout the City.[38] Windrows continued to be removed from the 1950s until the 1980s due to redevelopment and revegetation activities undertaken by private landowners.[39]

Select rows of eucalyptus trees on the Project site technically meet the City's definition of a *windrow* (at least four trees planted within 10 feet of each other) and have the potential to be "Heritage Trees" pursuant to Article III, Section 28-63(2) of the City Municipal Code. However, the eucalyptus trees on site are in poor health or dead, making the remnant windrows sparse and disconnected. Furthermore, the eucalyptus trees are no longer associated with the historic-era homesteads and orchards that collectively would convey the agricultural land use pattern representative of the City's significant period of community development between 1890 and 1940 because the homestead structures were demolished and orchards removed from the site. Therefore, the windrows are no longer a representative example of the City's agricultural past and do not meet the criteria for *Historical Resources* as defined in *CEQA Guidelines* Section 15064.5(a) (refer to Appendix D). Although the shed slab of LSA-CFN1702-S-2 features materials and construction methods (locally-mixed mortar and local vernacular-style) consistent with the era of the residences' construction (1920s and 30s), it is a typical example of a common resource type in a marginal secondary context lacking its primary resources (agricultural residences or groves) and associated refuse. Therefore, this feature likewise does not meet any of the CEQA criteria of a *Historical Resource*. Accordingly, the cultural resource value of LSA-CFN1702-S-2 has been realized by its recordation (refer to Appendix D) and impacts to this resource would be **less than significant**.

The 1925 residence located at 16868 Boyle Avenue (APN 0251-202-07) was evaluated against the CEQA criteria for historical significance pursuant to 15064.5(a) and was determined not to meet any of the criteria to be considered a *Historical Resource* as defined in *CEQA Guidelines* Section 15064.5. Although the residence was originally associated with the area's agricultural heritage, none of the agriculture remains today. Even the eucalyptus windrows that once separated the property from the railroad tracks to the north have disappeared from the property. Without the agricultural uses or the windrows, the residence no longer conveys association with its agricultural past. Research did not identify any historically significant person(s) associated with this residence. This residence is a common property type utilizing common construction methods and materials and does not embody the distinctive characteristics of any particular architectural style; furthermore, it has been extensively altered (additions and modern windows) and therefore does not retain a high level of integrity from its period of significance. For these reasons, the property does not have the potential to yield additional information important to the history or prehistory of the local area, California, or the nation beyond its recording on California Department of Parks and Recreation Form 523 (Appendix D), and impacts to this resource would be **less than significant**.

Impacts to *Historical Resources* as defined in *CEQA Guidelines* Section 15064.5 would be **less than significant**. Mitigation is not required.

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38 *Ibid.*

39 Avocet Environmental, Inc. *Phase I Environmental Site Assessment, NEC Boyle & Juniper Avenues, Fontana, California 92337.* Page 13. *February 3, 2020* (Appendix F).

***Threshold B: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: As stated in Section 3.5 (Threshold A) above, the Project site was subject to a cultural resources investigation comprising archival research, a cultural resources records search at the SCCIC, a review of supplementary records search data collected for a nearby project approximately 0.65 mile to the south,[40] and an intensive pedestrian survey of the Project site (Appendix D).

Archival research did not identify the presence of archaeological resources on the Project site. The records search indicated a portion of the Project site was previously surveyed for cultural resources and two archaeological sites (prehistoric site 36-005421, an artifact scatter/possible habitation, and historic period site 36-011567, building foundations and associated features), along with 19 historic-period built environment properties, are documented within one mile of the Project site. An intensive pedestrian survey of the Project site identified one historic-period archaeological resource on site (LSA-CFN1702-S-2) but did not reveal evidence of a possible subsurface component of any archaeological resources.

In accordance with State law, the Project would be required to comply with Title 14, California Code of Regulations (CCR) § 15064.5 and [California] Public Resources Code (PRC) § 21083.2 *California Environmental Quality Act-Archeological Resources,* which enable the City to require the Project Applicant to make reasonable effort to preserve or mitigate impacts to any affected significant or unique archaeological resource. Penal Code § 622 *Destruction of Sites,* establishes as a misdemeanor the willful injury, disfiguration, defacement, or destruction of any object or thing of archaeological or historical interest or value, whether situated on private or public lands. California Administrative Code, Title 14, Section 4307 states that no person shall remove, injure, deface or destroy any object of paleontological, archaeological, or historical interest or value. Furthermore, California Code of Regulations Section 1427 recognizes that California's archaeological resources need to be preserved and that every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor.

As discussed in Section 3.5 (Threshold A) above, none of the archaeological resources identified on the Project site meet the criteria for *Historical Resources* as defined in *CEQA Guidelines* Section 15064.5(a). Therefore, the cultural resource value of LSA-CFN1702-S-2 has been realized by its recordation (refer to Appendix D) and impacts to this resource would be **less than significant**. Nevertheless, the proposed Project must comply with all applicable regulations protecting archaeological resources and would be conditioned to cease excavation or construction activities if archaeological resources are identified during execution through **Mitigation Measures CUL-1** and **CUL-2**.

[40] LSA Associates, Inc. *Cultural Resources Assessment, Southwest Fontana Logistics Center, Assessor's Parcel Numbers 0255-081-03, 04, 06, 07, 10-18, 21, 25, 28-32, 39, and 53, and 0255-091-06, 38, 40, 43, and 58-60. City of Fontana, San Bernardino County, California.* Pages 10-12. March 2017 (Appendix D).

**Mitigation Measure CUL-1:** Prior to issuance of grading permits, the City of Fontana (City) shall verify that the following note is included on all grading plans:

> "If archaeological resources are discovered during ground-disturbing activities, all activity within 60 feet of the discovery shall be halted and the City shall be notified. Notification shall be made within 24 hours of any such discovery. If the resources are determined to be of pre-contact (i.e., Native American) origin, all Native American tribes who have expressed an interest in the Project through the Assembly Bill 52 process pursuant to California Public Resources Code §21080.3.2 (interested Native American Tribes) shall be contacted for input. The Lead Agency and/or Applicant shall, in good faith, consult with interested Native American Tribes throughout the life of the Project.
>
> Construction personnel shall not collect or move any suspected archaeological materials or further disturb any soils within the 60-foot exclusionary buffer, but construction activity may continue unimpeded on other portions of the Project site. As deemed necessary by the City, a qualified archaeologist shall be retained to assess the nature and significance of the discovery. As determined by the qualified archaeologist and interested Native American Tribes should the discovery be determined not to be significant, the resource shall be recorded on a California Department of Parks and Recreation Form 523, and no further recovery effort shall be required. However, all subsequent ground-disturbing activities shall be monitored by an archaeologist and, if requested, by interested Native American Tribes at the discretion of the City. Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Project Applicant and Lead Agency for dissemination to interested Native American Tribes, as requested. In the event the discovery is determined to be significant pursuant to *CEQA Guidelines* Section 15064.5, **Mitigation Measure CUL-2** shall apply."

This measure shall be implemented to the satisfaction of the City of Fontana's Community Development Director or designee.

**Mitigation Measure CUL-2:** If a qualified archaeologist determines cultural resources identified on the project site are historical or unique archaeological resources pursuant to *CEQA Guidelines* Section 15064.5, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation must be provided. The archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to Native American tribal

representatives (i.e., those who have expressed an interest in the project through the Assembly Bill 52 process pursuant to California Public Resources Code §21080.3.2) for review and comment. Ground-disturbing work may continue on other parts of the project site while historical [or unique archaeological] resource mitigation occurs.

The project archaeologist, the project Applicant, the City of Fontana's Community Development Director or designee, and interested Native American tribal representatives shall confer regarding the appropriate disposition of the discovered resource(s). Disposition may include curation with a certified scientific or educational repository in accordance with current professional repository standards. However, if an agreement on the disposition of cultural resources cannot be reached, the resource(s) shall be reburied on the project site in an area not subject to further ground disturbance, with appropriate recordation on the California Department of Parks and Recreation 523 Forms. Work shall not resume within the 60-foot exclusionary buffer without City authorization, and all subsequent ground-disturbing activities shall be monitored at the discretion of the archaeologist.

All cultural resources, including the locations from which they are recovered and to which they may be reburied, shall remain confidential pursuant to the California Code of Regulations Section 15120(d). A final report containing the significance and treatment of findings shall be prepared by the project archaeologist and submitted to the City of Fontana's Community Development Director or designee and the appropriate Native American Tribe(s). This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee.

Upon implementation of **Mitigation Measures CUL-1** and **CUL-2**, the proposed Project would be conditioned to cease excavation or construction activities if archaeological resources are identified during execution pursuant to applicable regulatory policies designed to protect archaeological resources. Therefore, impacts to archaeological resources pursuant to §15064.5 would be reduced to **less than significant with mitigation incorporated**.

***Threshold C: Would the Project disturb any human remains, including those interred outside of formal cemeteries?***

**Less than Significant Impact**

Discussion of Effects: Considering the extensive ground disturbances that have occurred on the Project site (refer to Section 2.1), the likelihood of encountering human remains is minimal. In the event that human remains (or remains that may be human) are discovered at the Project site, no further disturbance shall occur within 100 feet of the find until the Project Applicant has notified the San Bernardino County Coroner and the City of Fontana Community Development Director or

designee, and the County Coroner has made a determination of origin and disposition.[41] Section 7050.5 of the California Health and Safety Code requires that excavation be stopped in the vicinity of the discovered human remains until the coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the Project Applicant shall comply with the State relating to the disposition of Native American burials that fall within the jurisdiction of the Native American Heritage Commission (NAHC) (PRC Section 5097). The coroner shall contact the NAHC to determine the most likely descendant(s) (MLDs). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The MLD shall oversee disposition of the remains to determine the most appropriate means of treating the human remains and any associated grave artifacts.

The specific locations of Native American burials and reburials shall be proprietary and not disclosed to the general public. The County Coroner shall notify the NAHC in accordance with California Public Resources Code 5097.98. Additionally, Section 7052 of the California Health and Safety Code states that disturbance of Native American cemeteries is a felony. As adherence to State regulations is required for all development, impacts associated with the inadvertent discovery of human remains would be **less than significant**. Mitigation is not required.

## 3.6 ENERGY

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | 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? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | ☐ | ☐ | ☒ | ☐ |

[41] California Health and Safety Code. *Division 7, Dead Bodies;* Chapter 2, *General Provisions*, § 7050.5.

***Threshold A: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

***Threshold B: Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?***

**Less than Significant Impact**

Discussion of Effects: The Project's consumption of energy during construction and operation is calculated via CalEEMod (version 2016.3.2), as detailed in Appendix A.

***Construction.*** The anticipated construction schedule assumes that the Project would be built in approximately nine months. Construction would require energy for the manufacture and transport of building materials, preparation of the site for demolition and grading activities, utility installation, paving, and building construction and architectural coating. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. However, energy usage on the Project site during construction would be temporary.

The CalEEMod output for energy consumption incorporates project compliance with SCAQMD Rule 431.2, Title 13-Section 2449 of the CCR, and California Department of Resources Recycling and Recovery (CalRecycle) Sustainable (Green) Building Program regulations, which include implementation of standard control measures for equipment emissions and materials recycling. Adherence to these regulations, including the implementation of Best Available Control Measures (BACM), is a standard requirement for any construction or ground disturbance activity occurring within the Basin.

BACMs include, but are not limited to, requirements that the project proponent utilize only low-sulfur fuel having a sulfur content of 15 parts per million by weight or less; ensure off-road vehicles (i.e., self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on road) limit vehicle idling to five minutes or less; register and label vehicles in accordance with the California Air Resources Board (CARB) Diesel Off-Road Online Reporting System; restrict the inclusion of older vehicles into fleets; and retire, replace, or repower older engines or install Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). Additionally, the construction contractor would recycle/reuse at least 65 percent of the construction material and use "Green Building Materials," such as those materials that are rapidly renewable or resource efficient and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the Project in accordance with CalRecycle regulations. Through compliance with SCAQMD Rule 431.2, Title 13-Section 2449 of the CCR, and the CalRecycle Green Building Program as a matter of regulatory policy, construction of the Project would demand only the energy required, and impacts from wasteful, inefficient, or unnecessary energy consumption would be **less than significant**. Mitigation is not required.

***Operation.*** During Project operation, electricity would be the main form of energy consumed on the site. Electricity would be used for building heating and cooling, lighting, and water heating. Table 3.6.A presents the energy use of the proposed Project.

**Table 3.6.A: Estimated Annual Energy Use of Proposed Project**

| Land Use | Electricity Use (kWh/year) | Natural Gas (Btu/year) | On-road Motor Vehicle Fuel (gallons/year)[1,2,3] |
|---|---|---|---|
| 176,219-square foot logistics/ distribution warehouse | 313,672 | 267,854 | 321,093 |
| Parking Lot | 49,854 | — | — |
| **Total** | **363,526** | **267,854** | **321,093** |

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (Appendix A).

1 CalEEMod estimates annual vehicle miles travelled for Project operation to be 2,750,985 based on default values for truck trips at 59 percent and passenger vehicles at 41 percent of the miles traveled. Average daily trips generated include 95 freight trucks and 212 passenger vehicles per Appendix K.

2 Based on average 6 mpg for freight trucks and 22.3 miles per gallon (mpg) for passenger vehicles. See references in text below.

3 1,623,081.15 miles by freight truck ÷ 6 mpg = 270,514 gallons of fuel for freight trucks. 1,127,903.85 miles by passenger vehicle ÷ 22.3 mpg = 50,579 gallons of fuel for passenger vehicles.

kWh = kilowatt hours

Btu = British thermal units

As identified in Table 3.6.A, proposed uses on the site would demand a total of 363,526 kilowatt hours (kWh) of electricity and 267,854 British thermal units (Btu) of natural gas on an annual basis. In addition, the Project would result in energy usage associated with consumption of motor vehicle gasoline and diesel fuel for project-related trips. Based on the Focused Traffic Impact Analysis (Appendix K), the proposed warehouse use would generate 95 freight truck trips and 212 passenger vehicle trips (total 307 average daily trips) per day. CalEEMod estimates annual vehicle miles traveled for Project operation to be 2,750,985 based on default values for truck trips at 59 percent and passenger vehicles at 41 percent of the miles traveled, which assumes the less fuel-efficient freight trucks would make the majority of the Project-generated trips. However, this estimation is conservative because SCAQMD guidance recommends the fleet mix for southern California warehouses to assume 31 percent of trips to be via freight truck and 69 percent of trips to be via passenger vehicle.[42] Using the 2016 fuel economy average of 6 miles per gallon (mpg) for freight trucks[43] and the 2017 fuel economy estimate of 22.3 mpg for passenger vehicles,[44] the proposed Project would result in the consumption of approximately 321,093 gallons of fuel per year.[45]

The State of California provides a minimum standard for building design and construction standards through Title 24 of the CCR, known as the California Building Code (CBC). The CBC is updated every three years, and the current 2019 CBC went into effect in January 2020. Compliance with Title 24 is mandatory at the time new building permits are issued by local governments. The California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards (also referred to as the California Green Building Standards Code, or CALGreen) in 2010 as part of the State's efforts to reduce GHG emissions and energy consumption from residential and nonresidential buildings. CALGreen code covers the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency,

42 South Coast Air Quality Management District. *Warehouse Truck Trip Study Data Results and Usage.* December 2014.

43 United States Environmental Protection Agency and the National Highway Traffic Safety Administration. *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2.* Page 2-27. August 2016.

44 United States Department of Transportation, Bureau of Transportation Statistics. *Average Fuel Efficiency of U.S. Light Duty Vehicles.* https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles. Table 4-23 (accessed May 26, 2020).

45 1,623,081.15 miles by freight truck ÷ 6 mpg = 270,514 gallons of fuel per year for freight trucks. 1,127,903.85 miles by passenger vehicle ÷ 22.3 mpg = 50,579 gallons of fuel per year for passenger vehicles. 270,514 gallons + 50,579 gallons = 321,093 total gallons of fuel per year.

and (5) indoor environmental quality. The City has adopted both the CBC and CALGreen Code as part of Article XVIII (California Green Building Standards Code) of the City Municipal Code pertaining to energy conservation standards in effect at the time of construction. The projected energy use of the Project is representative of a worst-case, overestimated scenario because the estimates are based on CalEEMod default rates that assume compliance with the 2012 edition of Title 24/CBC and also assume 59 percent of all vehicle trips would be via less efficient freight trucks despite SCAQMD guidance assuming only 31 percent of trips to be via freight truck. The Project would comply with the current 2019 CALGreen Code requirements and Title 24 efficiency standards, which would further improve energy efficiency during operation.

Electricity is provided in the State through a complex grid of power plants and transmission lines. In 2018, California's in-state electric generation totaled 194,842 gigawatt-hours (GWh); the State's total system electric generation, which includes imported electricity, totaled 285,488 GWh.[46] Population growth is the primary source of increased energy consumption in the State; population projections show annual electricity use is anticipated to increase by approximately 1 percent per year through 2027.[47] The Project's net electricity usage would total approximately 0.00018 percent[48] of electricity generated in the State in 2018, which would not represent a substantial demand on available electricity resources.

California's receipt capacity of natural gas per day totals approximately 9.8 billion cubic feet (Bcf), and the State's average consumption is approximately 5.8 Bcf per day.[49] With a surplus receipt capacity of approximately 4 Bcf of natural gas per day, the proposed Project would demand approximately 0.0000067 percent of the State's natural gas surplus receipt capacity,[50] which would not represent a substantial demand on available natural gas resources.

The United States Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHTSA) indicate the average fuel economy for tractors (freight trucks) is between 5.5 and 6.5 mpg.[51] The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 mpg in 1980 to 22.3 mpg in 2017.[52] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007, which originally mandated a national fuel economy standard of 35 mpg by the year 2020, and would be applicable to cars and light trucks of Model Years 2011 through 2020.[53] The EPA and the NHTSA amended the Corporate Average Fuel Economy (CAFE) standard. The new vehicle rules under the Safe Affordable Fuel-Efficient (SAFE) rule would hold the emissions standards at 2020

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46 California Energy Commission. *Total System Electric Generation*. https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html (accessed May 26, 2020).

47 California Energy Commission. *California Energy Demand 2018–2030 Revised Forecast.* Table ES-1. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2017-integrated-energy-policy-report (accessed May 26, 2020).

48 0.36 GWh (proposed Project) ÷ 194,842 GWh (generated in State in 2018) = < 0.00018 percent.

49 California Energy Commission. *Final 2017 Integrated Energy Policy Report*. Page 228. April 2018.

50 267,854 Btu = 0.000000268 Bcf ÷ 4 Bcf = 0.0000067 percent of surplus receipt capacity.

51 United States Environmental Protection Agency and the National Highway Traffic Safety Administration. *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2.* Page 2-27. August 2016.

52 United States Department of Transportation, Bureau of Transportation Statistics. *Average Fuel Efficiency of U.S. Light Duty Vehicles.* https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles. Table 4-23 (accessed May 26, 2020).

53 United States Department of Energy. *Energy Independence & Security Act of 2007*. https://www.afdc.energy.gov/laws/eisa (accessed May 26, 2020).

standards for both CAFE and SAFE until 2026. This new rules applies to the emissions of light duty cars and trucks from model years 2021 to 2026.[54]

As stated previously, implementation of the proposed Project would increase the project-related annual fuel demand by 321,093 gallons. However, progressive improvements to freight trucks (e.g., more efficient engines and improvements to aerodynamic features) and new automobiles purchased and operated by patrons and employees driving to and from the Project site would be subject to fuel economy and efficiency standards applied throughout the State. As such, the fuel efficiency of vehicles associated with Project operation would increase throughout the life of the Project as fuel efficiency of vehicles continues to improve in order to meet the State's 2030 GHG emission reduction goals pursuant to Senate Bill 32 and beyond. In addition, purchase and use of electric passenger vehicles is expected to increase as the price and efficiency of electric passenger vehicles improve, reducing the number and use of fossil fuel-dependent vehicles on the road. Employees of the proposed Project would also benefit from improved transportation to the site, as the improvements to public transportation would result in an expanded network of municipal buses, bicycle infrastructure, and rideshare programs. The long-term operation of the Project would see a decrease in fuel consumption per mile due to continuous improvements to vehicles and transportation infrastructure, which would demand less energy consumption through the life of the Project.

Increasingly stringent electricity, natural gas, and fuel efficiency standards combined with compliance with the CBC and CALGreen Code as part of Article XVIII (California Green Building Standards Code) of the City Municipal Code and improved alternative transportation infrastructure throughout the region would ensure operation of the Project would demand only the energy required, and impacts from wasteful, inefficient, or unnecessary energy consumption would be **less than significant.**

Construction and operation of the proposed Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be **less than significant** and mitigation is not required.

## 3.7 GEOLOGY AND SOILS

Would the project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:<br>i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the | ☐ | ☒ | ☐ | ☐ |

[54] United States Environmental Protection Agency and United States Department of Transportation. *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks.* August 24, 2018. https://www.govinfo.gov/content/pkg/FR-2018-08-24/pdf/2018-18418.pdf (accessed May 26, 2020).

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| State Geologist for the area or based on other substantial evidence of a known fault?<br>ii. Strong seismic ground shaking?<br>iii. Seismic-related ground failure, including liquefaction?<br>iv. Landslides? | | | | |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |
| c) Be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | ☐ | ☒ | ☐ | ☐ |
| d) Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property? | ☐ | ☐ | ☒ | ☐ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | ☐ | ☐ | ☐ | ☒ |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☒ | ☐ | ☐ |

***Threshold A: Would the Project 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?***
- ***ii. Strong seismic ground shaking?***
- ***iii. Seismic-related ground failure, including liquefaction?***
- ***iv. Landslides?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects:

i. The Project site is not located within an Earthquake Fault Zone as defined by the State of California in the Alquist-Priolo Earthquake Fault Zone Act of 1972 or as defined by the City's Local Hazard Mitigation Plan.[55] In addition, there is no evidence of any faults or faulting

[55] City of Fontana. *Local Hazard Mitigation Plan*. Figure 4-9: Active Fault Map. June 2017; Approved and Adopted August 14, 2018.

activity on the Project site. The risk of ground rupture due to fault displacement beneath the site is low. Impacts would be **less than significant.** Mitigation is not required.

ii. The Project site is located within a seismically active region, with a number of faults traversing or in proximity to the City, including the Red Hill, Cucamonga, San Jacinto, and San Andreas Faults. The nearest active faults in proximity to the Project site are the Red Hill and Cucamonga Faults approximately 7.5 miles to the north, and the San Jacinto Fault Zone approximately 8 miles to the east.[56]

Due to the presence of active and inferred faults in proximity to the Project site, the Project site is expected to experience occasionally moderate to severe ground-shaking, as well as some background shaking from other seismically active areas of the Southern California region. The extent of ground-shaking associated with an earthquake is dependent upon the size of the earthquake and the geologic material of the underlying area. Construction and development of the Project would be required to comply with applicable provisions of the California Building Code (CBC). State law requires the design and construction of new structures comply with current CBC requirements, which address general geologic, seismic (including ground shaking), and soil constraints for new buildings. Accordingly, design and construction of the proposed Project would be required to adhere to 2019 CBC requirements to reduce any potential impacts from seismic related activity.

Chapter 5, Article III (California Building Code) of the City Municipal Code incorporates, by reference, the design and construction standards of the 2019 edition of the CBC. Prior to the issuance of a grading permit, the Project Applicant would be required to prepare and submit detailed grading plans of the Project. The plans must be prepared in conformance the current CBC and applicable City standards (**Mitigation Measure GEO-1**).

**Mitigation Measure GEO-1:** Prior to issuance of grading and/or building permits, the Project Applicant shall provide evidence to the City of Fontana (City) for review and approval that proposed structures, features, and facilities have been designed and would be constructed in conformance with applicable provisions of the 2019 edition of the California Building Code (CBC) or the most current edition of the CBC in effect at the time the Applicant's development application is deemed complete by the City.

Additionally, the Project Applicant shall provide evidence to the City that the recommendations cited in the Project-specific Geotechnical Investigation are incorporated into Project plans and/or implemented as deemed appropriate by the City. Geotechnical recommendations include, but are not limited to, removal of existing vegetation, structural foundations, floor slabs, utilities, septic systems, and any other surface and subsurface improvements that would not remain in place for use with the new development.

[56] California Institute of Technology, Southern California Earthquake Data Center. *Historical Earthquakes and Significant Faults in Southern California*. October 16, 2012. https://scedc.caltech.edu/significant/index.html (accessed April 9, 2020).

Remedial earthwork, overexcavation, and ground improvement shall occur to depths specified in the Geotechnical Investigation to provide a sufficient layer of engineered fill or densified soil beneath the structural footings/foundations, as well as proper surface drainage devices and erosion control. Retaining wall parameters shall be in accordance with the Geotechnical Investigation to protect against lateral spreading and landslides. Additionally, Portland cement shall be utilized for the construction of concrete structures in contact with subgrade soils determined to be corrosive to protect concrete, steel, and other metals. Verification testing must be performed upon completion of ground improvements to confirm that the compressible soils have been sufficiently densified. The structural engineer must determine the ultimate thickness and reinforcement of the building floor slabs based on the imposed slab loading.

As necessary, the City may require additional studies and/or engineering protocols to meet its requirements. This measure shall be implemented to the satisfaction of the City Director of Building and Safety or designee.

Upon implementation of **Mitigation Measure GEO-1**, post-construction differential movements of shallow foundations designed and constructed in accordance with applicable provisions of the 2019 edition of the CBC and measures identified in the Project-specific Geotechnical Investigation (Appendix E) are expected to occur over a 50-foot span, thereby resulting in an angular distortion of less than 0.002 inch per inch.[57] These movements are within the tolerable limits of post-construction static and differential settlements of 1.0 and 0.5 inches, respectively, so impacts from seismic ground-shaking would be reduced to **less than significant with mitigation incorporated.**

iii. Liquefaction occurs when loose, unconsolidated, water-laden soils are subject to shaking, causing the soils to lose cohesion. A relatively shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions in conjunction with a source of ground shaking, such as an earthquake, may facilitate soil mass distortion such as liquefaction. The Geotechnical Investigation (Appendix E) indicates groundwater levels are approximately 260 feet below the ground surface at monitoring wells within 0.5 mile of the site. Based on the substantial groundwater depth near the project site, the site is not located in an area susceptible to liquefaction. Compliance with **Mitigation Measure GEO-1** would reduce potential impacts from seismic-related ground failure due to seasonal saturation of the near-surface sediments to **less than significant with mitigation incorporated.**

iv. Factors that contribute to slope failure include slope height and steepness, shear strength and orientation of weak layers in the underlying geologic units, and pore water pressures. The on-site soils are expected to possess a friction angle of at least 30 degrees. The vast majority of

[57] Southern California Geotechnical. *Geotechnical Investigation, Two Proposed Warehouses, NEC Juniper Avenue and Boyle Avenue, Fontana, California.* Page 18. November 5, 2019 (Appendix E).

the Project site is flat with no potential for landslides, but the eastern boundary of the site is adjacent to the Sierra Avenue grade separation, which separates the ground surface of the site from Sierra Avenue by 20 to 30 feet. However, this slope is vegetated and professionally engineered to City standards for stability and therefore is reasonably expected to maintain integrity.

All retaining walls proposed on site shall be designed and constructed pursuant to the recommendations of the Project-specific Geotechnical Investigation (refer to **Mitigation Measure GEO-1**), including the use of select backfill to achieve an adequate soil-footing coefficient of friction of 0.30 and an equivalent passive pressure of 300 pounds per cubic foot.[58] Additionally, any retaining walls greater than 6 feet tall shall be designed for seismic lateral earth pressures pursuant to applicable provisions of the CBC, as specified in **Mitigation Measure GEO-1**. Accordingly, **Mitigation Measure GEO-1** in conjunction with the relatively flat-lying topography of the Project site would reduce the likelihood of landslides or lateral spreading to **less than significant with mitigation incorporated.**

***Threshold B: Would the Project result in substantial soil erosion or the loss of topsoil?***

**Less than Significant Impact**

Discussion of Effects: Development on the Project site would convert a majority of existing permeable surfaces to paved surfaces, which would generally reduce the potential for soil erosion from the site. However, earthwork activities as part of the construction process would expose soils to the potential for soil erosion or loss of topsoil. Short-term erosion effects during the construction phase would be prevented through required grading permits and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and incorporation of best management practices (BMPs) intended to reduce soil erosion.[59] Refer to Section 3.10(a) for additional information.

Compliance with storm water regulations include minimizing storm water contact with potential pollutants by providing covers and secondary containment for construction materials, designating areas away from storm drain systems for storing equipment and materials, and implementing good housekeeping practices at the construction site. Prior to the issuance of a grading permit, the Project Applicant would be required to prepare and submit site-specific, detailed grading plans to the City in accordance with Section 28-102 (Grading and design plan) of the City Municipal Code to minimize soil erosion, runoff, and water waste.

Operation of the Project would be subject to a Water Quality Management Plan (WQMP), which incorporates measures to capture excess stormwater runoff and prevent soil erosion to downstream water courses from the conversion of permeable surfaces to impermeable surfaces pursuant to Section 23-519 of the City Municipal Code.

The SWPPP and WQMP would identify BMP measures to treat and/or limit the entry of contaminants into the storm drain system. The WQMP is required to be incorporated by reference or attached to a project's SWPPP as the Post-Construction Management Plan. Adherence to the BMPs contained in

[58] *Ibid.* Page 20.

[59] Pursuant to the National Pollutant Discharge Elimination System (NPDES) program and Chapter 23, Article IX, Section 23-519 (Regulation of construction and industrial discharges) of the City Municipal Code.

the SWPPP and WQMP would ensure that impacts related to soil erosion would remain **less than significant.** No mitigation is required.

***Threshold C: Would the Project be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: The Project site is mostly flat and surrounded by urban development. There is no evidence of landslides and/or slope instabilities on the Project site. As detailed in Section 3.7(Threshold A)(iii) and (iv) above, the Project site is not located in an area considered susceptible to liquefaction or landslides. Due to the property's deep groundwater table and flat topography, and the planned site development in accordance with **Mitigation Measure GEO-1**, potential impacts from landslides, slope instabilities, lateral spreading, and/or liquefaction at the Project site would be reduced to **less than significant with mitigation incorporated.**

The upper 3 to 4 feet of soils underlying the project site may be susceptible to collapse, consolidation, and/or hydrocollapse when additional loads are imposed on those soils by construction equipment and future on-site structures.[60] Shrinkage, bulking, and subsidence are primarily dependent upon the degree of soil compaction achieved during construction. Variations in the in-situ density of existing soils and the degree to which fill soils are compacted would influence earth volume changes. An average shrinkage factor of between 4 and 12 percent should be expected as soil is removed and replaced as compacted fill, and the subsidence factor is approximately 0.1 to 0.15 foot.[61]

**Mitigation Measure GEO-1** would ensure overexcavation and establishment of a sufficient layer of engineered fill or densified soil is prepared beneath any proposed structural footings/foundations. Upon implementation of **Mitigation Measure GEO-1**, post-construction differential movements of shallow foundations designed and constructed in accordance with applicable provisions of the 2019 edition of the CBC and measures identified in the project-specific Geotechnical Investigation (Appendix E) are expected to occur over a 50-foot span, thereby resulting in an angular distortion of less than 0.002 inch per inch.[62] These movements are within the tolerable limits of post-construction static and differential settlements of 1.0 and 0.5 inches, respectively. Therefore, impacts from subsidence and/or collapse would be reduced to **less than significant with mitigation incorporated.**

***Threshold D: Would the Project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?***

**Less than Significant Impact**

Discussion of Effects: Expansive soils generally have a substantial amount of clay particles, which can give up water (shrink) or absorb water (swell). The change in the volume exerts stress on buildings and other loads placed on these soils. The amount and types of clay present in the soil influence the extent or range of the shrink/swell. The occurrence of clayey soils is often associated with geologic

[60] Southern California Geotechnical. *Geotechnical Investigation, Two Proposed Warehouses, NEC Juniper Avenue and Boyle Avenue, Fontana, California.* Pages 12 and 13. November 5, 2019 (Appendix E).
[61] *Ibid*.
[62] *Ibid.*

units having marginal stability. Expansive soils can be widely dispersed, and they can occur along hillside areas as well as low-lying alluvial basins.

Soils on site generally consist of sands, sandy silts, and silty sands with no appreciable clay content and therefore are classified as non-expansive.[63] Therefore, the Project site is not located on expansive soil that would create substantial direct or indirect risks to life or property. Impacts would be **less than significant.** Mitigation is not required.

***Threshold E: Would the Project Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?***

**No Impact**

Discussion of Effects: The Project would connect to the municipal wastewater collection system along Juniper and Boyle Avenues, and no septic systems are proposed. Conversely, grading for the Project may include removal of existing septic systems that were installed during prior residential occupation of the Project site. The Project would not use septic systems, so there would be **no impact** relative to septic system or alternative wastewater disposal systems. Mitigation is not required.

***Threshold F: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: The Project-specific Geotechnical Investigation (Appendix E) indicates native alluvium occurs at the ground surface throughout the Project site. According to the United States Geological Survey (USGS), the Project site is underlain by young alluvial-fan deposits of Lytle Creek (Qyfl) ranging in age from Holocene (less than 12,000 years) to late Pleistocene (126,000 years ago).[64] Generally, Holocene sediments are too young to yield paleontological resources, but they are likely underlain by Pleistocene sediments, which have yielded significant paleontological resources elsewhere in San Bernardino, Riverside, Los Angeles, and Orange Counties.

In accordance with State law, the Project would be required to comply with Penal Code § 622 *Destruction of Sites,* which establishes as a misdemeanor the willful injury, disfiguration, defacement, or destruction of any object or thing of archaeological or historical interest or value, whether situated on private or public lands. California Administrative Code, Title 14, Section 4307 states that no person shall remove, injure, deface or destroy any object of paleontological, archaeological, or historical interest or value. Furthermore, California Code of Regulations Section 1427 recognizes that California's archaeological resources need to be preserved and that every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor.

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63 *Ibid.*

64 United States Geological Survey. *Preliminary Geologic Map of the Fontana 7.5' Quadrangle, San Bernardino and Riverside Counties, California.* Version 1.0 by D.M. Morton. 1973.

No fossils were observed during the archaeological survey of the property. However, disturbance of subsurface sediments from past agricultural and residential activities on the Project site does not preclude the potential for paleontological resources to be encountered if excavation activities reach Pleistocene-age sediments below the ground surface. The proposed Project must comply with all applicable regulations protecting paleontological resources and would be conditioned to cease excavation or construction activities if paleontological resources are identified during execution through **Mitigation Measures GEO-2** and **GEO-3**.

**Mitigation Measure GEO-2:** Prior to issuance of grading permits, the City of Fontana (City) shall verify that the following note is included on all grading plans:

> **"**If paleontological resources are encountered during the course of ground disturbance, work within 60 feet of the find shall be halted, and an exclusionary buffer shall be established. A qualified paleontologist (defined as an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least one year) shall be contacted to assess the find for scientific significance. Construction personnel shall not collect or move any suspected paleontological materials or further disturb any soils within the exclusionary buffer without the consent of the paleontologist and the City Community Development Director, but construction activity may continue unimpeded on other portions of the project site. If the paleontologist determines the find is not a paleontological resource, no further evaluation shall be required within the exclusionary buffer, and construction activity shall be allowed to resume therein. However, if the paleontologist determines the find is a paleontological resource, construction activity shall not resume within the exclusionary buffer, and **Mitigation Measure GEO-3** shall apply."

This measure shall be implemented to the satisfaction of the City Community Development Director or designee.

**Mitigation Measure GEO-3:** If the qualified paleontologist determines paleontological resources are encountered on the Project site, the paleontologist shall prepare a Paleontological Resource Impact Mitigation Plan (PRIMP) to be implemented during the balance of ground-disturbing activities. Implementation of the PRIMP shall include (but not be limited to) the following:

- Review of Project-specific geotechnical report data, with particular regard to location and depth of earthmoving and the rock unit(s) encountered;

- Development of a formal agreement between the Project Applicant and the San Bernardino County Museum, Natural History Museum of Los Angeles County, Western Science Center, San Diego Natural History Museum, Riverside Municipal Museum, or other accredited museum repository for the final disposition, permanent storage, and maintenance of any fossil collections and associated data;
- The construction schedule, term/schedule of on-site paleontological monitor(s) and the extent of areas and activities to be monitored;
- Authority of paleontological monitor(s) to temporarily redirect construction activity in the vicinity of any paleontological discovery;
- Procedures for the evaluation and option to recover large fossil specimens and for the evaluation, recovery, and processing of small fossil specimens;
- Fossil specimen preparation, identification to the lowest taxonomic level possible, curation, and cataloging; and
- A report of findings.

The paleontologist shall monitor remaining ground-disturbing activities in native soils at the Project site and shall be equipped to record and salvage fossil resources that may be unearthed during construction. The paleontologist shall temporarily halt or divert construction equipment to allow recording and removal of the unearthed resources. Significant fossils shall be offered for curation at an accredited museum repository in accordance with the PRIMP. A report of findings, including, when appropriate, an itemized inventory of recovered specimens and a discussion of their significance, shall be prepared upon completion of the steps outlined above. The report and inventory, when submitted to and approved by the City of Fontana (City), would signify completion of the program. This measure shall be implemented to the satisfaction of the City Community Development Director or designee.

With implementation of **Mitigation Measures GEO-2** and **GEO-3,** impacts to paleontological resources would be reduced to **less than significant with mitigation incorporated.**

## 3.8 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

**Less than Significant Impact**

Discussion of Effects: The City of Fontana adheres to the greenhouse gas (GHG) emissions thresholds of significance developed by the SCAQMD. For mixed-use projects, under which the proposed Project most closely identifies for the purposes of GHG emissions thresholds, the City adheres to the SCAQMD Tier 3 threshold of 3,000 metric tons (MT) of carbon dioxide equivalent ($CO_2e$) emissions per year.[65] Therefore, the Project would be considered to have a significant impact on the environment if it would generate 3,000 or more $MTCO_2e$ per year.

The Project would generate GHG emissions during on-site construction activities (e.g., site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew). Additionally, long-term operation of the Project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with on-site facilities and customers/ visitors to the Project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Energy sources include natural gas consumption for space heating. The Project would include indoor low-flow water appliances and outdoor water-efficient irrigation systems in accordance with the 2019 CBC. Table 3.8.A summarizes the proposed Project's GHG emissions from construction and operation.

**Table 3.8.A: Project Greenhouse Gas Emissions**

| Emission Source | Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
| Construction (30-year amortized) | 21 | <1 | 0 | 21 |
| **Operational Emissions** | | | | |

[65] City of Fontana. *Fontana Forward General Plan Update 2015-2035. Draft Environmental Impact Report. SCH #2016021099.* Page 5.6-13. June 8, 2018.

**Table 3.8.A: Project Greenhouse Gas Emissions**

| Emission Source | Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
| Area Sources | <1 | <1 | 0 | <1 |
| Energy Sources | 113 | <1 | <1 | 114 |
| Mobile Sources | 1,413 | <1 | 0 | 1,414 |
| Off-road Sources | 70 | <1 | 0 | 70 |
| Waste Sources | 25 | 1 | 0 | 62 |
| Water Usage | 118 | 1 | <1 | 151 |
| **Total Annual Emissions** | **1,726** | **2** | **<1** | **1,833** |
| **SCAQMD GHG Threshold** | **—** | **—** | **—** | **3,000** |
| **Significant Emissions?** | **—** | **—** | **—** | **No** |

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (Appendix A).
Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two decimal places.
$CH_4$ = methane $CO_2e$ = carbon dioxide equivalent
$CO_2$ = carbon dioxide $N_2O$ = nitrous oxide

As indicated in Table 3.8.A, the Project would result in a net increase of 1,833 $MTCO_2e$ per year, which is less than the SCAQMD Tier 3 threshold of 3,000 $MTCO_2e$ per year for warehouse projects (Refer to Appendix A). Therefore, project-level and cumulative GHG emissions would be **less than significant** and mitigation is not required.

***Threshold B: Would the Project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?***

**Less than Significant Impact**

Discussion of Effects: Chapter 12, *Sustainability and Resilience* of the City General Plan Update includes several goals designed help the City meet the State's 2030 GHG reduction goal of 40 percent below 1990 levels pursuant to Senate Bill 32.[66] The majority of these goals are designed to be implemented citywide by the City, but select goals are applicable to site- and project-specific developments such as the proposed Project:

***Goal #5*** Green building techniques are used in new development and retrofits.

***Policy 1.*** Promote green building through guidelines, awards, and nonfinancial incentives.

***Goal #6*** Fontana is a leader energy-efficient development and retrofits.

***Policy 1.*** Promote energy-efficient development in Fontana.

***Policy 2.*** Meet or exceed State goals for energy-efficient new construction.

***Goal #7*** Conservation of water resources with best practices such as drought-tolerant plant species, recycled water, greywater systems, has become a way of life in Fontana.

***Policy 1.*** Continue to promote and implement best practices to conserve water.

[66] City of Fontana General Plan 2015-2035. *Chapter 12, Sustainability and Resilience.* Page 12.5. Adopted November 13, 2018.

The underlying General Plan Land Use designation on the site is General Industrial (I-G) while the zoning designation is General Industrial (M-2). The project proposes the construction of a 176,219-square foot logistics/distribution warehouse on 8.15 acres consistent with the City's General Plan Land Use designation and zoning ordinance. The programmatic GHG reduction goals designed for City-wide implementation inherently reduce the GHG contribution of the proposed Project because it is consistent with the City General Plan, zoning ordinance, and City growth projections and shall be developed in accordance with the latest edition of Title 24/CBC and CALGreen Code pursuant to Article XVIII (California Green Building Standards Code) of the City Municipal Code.

As detailed in Section 3.6 (Threshold B), compliance with the latest edition of Title 24/CBC and CALGreen Code for energy and water conservation is required for all development projects as a matter of City and State policy. Through implementation of Title 24/CBC and CALGreen Code, the Project would not conflict with site- and project-specific GHG reduction goals administered by the State and City. Therefore, impacts would be **less than significant** and mitigation is not required.

## 3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | 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? | ☐ | ☒ | ☐ | ☐ |
| 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? | ☐ | ☒ | ☐ | ☐ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school? | ☐ | ☐ | ☒ | ☐ |
| d) Be located on a site which is included on a list of hazardous material 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? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☒ | ☐ | ☐ |
| f) Impair implementation of or physically interfere with an adopted emergency | ☐ | ☐ | ☒ | ☐ |

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| response plan or emergency evacuation plan? | | | | |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: Construction of the Project has the potential to create a hazard to the public or environment through the routine transportation, use, and disposal of construction-related hazardous materials such as fuels, oils, solvents, and other materials. Additionally, demolition of existing residential structures would involve disposal of lead-based materials (LBM) and asbestos-containing materials (ACM), as indicated in Appendix F, which must be disposed of in accordance with the federal, State, and local (San Bernardino County Department of Public Health and SCAQMD) regulations.

***Demolition/Construction.*** Potential hazardous materials such as fuel, paint products, lubricants, solvents, and cleaning products may be used and/or stored on site during construction of the proposed Project. These materials are typical of materials delivered to construction sites. Due to the relatively small scale of proposed development (176,219-square foot logistics/distribution warehouse on 8.15 acres), only limited quantities of these materials are expected to be used during construction, so they are not considered hazardous to the public at large.

The transport, use, and disposal of hazardous materials during construction would be regulated by the San Bernardino County Fire Department, the Fontana Fire Protection District, and the California Occupational Safety and Health Administration. The Code Enforcement Division of the Fontana Police Department is responsible for weed and rubbish abatement in coordination with other City and County departments. Additionally, the United States Department of Transportation Office of Hazardous Materials Safety prescribes strict regulations for the safe transportation of hazardous materials by truck and rail on State highways and rail lines, as described in Title 49 of the *Code of Federal Regulations*, and implemented by Title 13 of the CCR.

The Project site may contain subsurface septic systems from past residential occupation. It is unknown if the septic systems have been abandoned and/or removed pursuant to proper regulatory permitting, so they may be encountered during rough grading and other ground-disturbing activities. The discovery of septic tanks or similar sewage disposal facilities and subsequent abandonment requires a permit from the San Bernardino County Building and Safety Division pursuant to California Plumbing Code Section 722, which stipulates specific conditions for the safe removal of remnant sewage and componentry, backfilling, and inspection from the San Bernardino County Building & Safety Division. Through compliance with California Plumbing Code Section 722, which is required for all development

projects that encounter septic systems to be abandoned and removed as a matter of regulatory policy, removal of septic systems would not create a significant hazard to the public or the environment.

One residential structure (16868 Boyle Avenue; APN 025-120-207) proposed for demolition was constructed prior to 1978.[67] Structures constructed prior to 1978 may contain LBM as well as ACM incorporated into various construction components including paint, roof tiles, and thermal insulation. The San Bernardino County Department of Public Health requires that all workers be properly protected when working with materials containing lead levels at or above 0.6 milligram per square centimeter ($mg/cm^2$) or 600 parts per million (ppm) in accordance with Title 8, CCR Section 1532.1 (Cal/OSHA Construction Safety Orders, Lead). The Federal Environmental Protection Agency defines ACM as a material containing more than one percent asbestos as determined by polarized light microscopy, while Title 8, CCR Section 1529 (Asbestos) defines asbestos-containing materials as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight. The SCAQMD and San Bernardino County Department of Public Works-Solid Waste Management Division require Asbestos Notification for proposed abatement activities and disposal tickets from an SCAQMD-approved disposal facility prior to demolition.

According to the Project-specific Phase I Environmental Impact Assessment (ESA) (Appendix F), the existing structure that predates restrictions on using LBM and ACM is expected to contain LBM and ACM at levels that may require abatement. Therefore, Cal/OSHA and the San Bernardino County Department of Public Health require LBM and ACM surveys in accordance with Title 8, CCR Section 1532.1 and Title 8, CCR Section 1529, as codified in **Mitigation Measures HAZ-1** through **HAZ-3.**

**Mitigation Measure HAZ-1:** An asbestos-containing materials (ACM) survey and lead-based materials (LBM) survey shall be completed for demolition of all structures constructed prior to 1978. A qualified California Occupational Safety and Health Administration (Cal/OSHA) Certified Site Surveillance Technician shall conduct the ACM survey. A qualified California Department of Public Health Lead Inspector Assessor shall conduct the LBM survey. If the ACM survey reveals no detectable asbestos levels pursuant to Title 8, CCR Section 1529, no further ACM survey or remedial work is required. If the LBM survey reveals no detectable lead levels pursuant to Code of Federal Regulations Chapter 29, Section 1926.62 and Title 8, California Code of Regulations Section 1532.1, no further LBM survey or remedial work is required. However, if a detectable level of asbestos is identified within structures proposed for demolition, **Mitigation Measure HAZ-2** shall apply. Furthermore, if a detectable level of lead is identified within structures proposed for demolition, **Mitigation Measure HAZ-3** shall apply. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee.

[67] LSA Associates, Inc. *Cultural Resources Assessment, Southwest Fontana Logistics Center, Assessor's Parcel Numbers 0255-081-03, 04, 06, 07, 10-18, 21, 25, 28-32, 39, and 53, and 0255-091-06, 38, 40, 43, and 58-60. City of Fontana, San Bernardino County, California.* March 2017 (Appendix D).

**Mitigation Measure HAZ-2:** Prior to the demolition of any structure identified to contain asbestos-containing materials (ACM), the Project Applicant shall retain a Certified Asbestos Consultant to abate ACM from the demolition site. An Asbestos Notification shall be prepared and submitted to the South Coast Air Quality Management District (SCAQMD) for approval before any asbestos abatement may commence. The Certified Asbestos Consultant shall provide a construction and demolition plan with disposal tickets from a San Bernardino County Department of Public Works-Solid Waste Management Division-approved disposal facility and SCAQMD air clearances prior to final inspection, and an asbestos report shall be provided to the City prior to the issuance of a demolition permit. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee.

**Mitigation Measure HAZ-3:** Prior to the demolition of any structure identified to contain lead-based materials (LBM), the Project Applicant shall retain a California Department of Public Health Lead Inspector Assessor to abate LBM from the demolition site. The Lead Inspector Assessor shall provide a construction and demolition plan with disposal tickets from a San Bernardino County Department of Public Works-Solid Waste Management Division-approved disposal facility and South Coast Air Quality Management District air clearances prior to final inspection, and a lead report shall be provided to the City prior to the issuance of a demolition permit. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee.

With implementation of **Mitigation Measures HAZ-1** through **HAZ-3,** impacts to the public related to the disposal of ACM and LBM during Project demolition activities would be reduced to **less than significant with mitigation incorporated**.

The Project site was utilized for agriculture as an orchard from the 1930s and was subject to sporadic development for residential uses since the early 1950s. The last of the remnant orchards was removed in the 1990s.[68] Properties subject to agriculture have the potential to contain potentially hazardous pesticide chemical residues. The Phase I ESA[69] indicates there is no evidence of on-site storage tanks that might have been used to store or mix pesticide chemicals, and vegetation on and surrounding the property shows no signs of distress that could occur from pesticide overuse. If pesticides were used on site and applied pursuant to the manufacturer's recommendations, significant impacts to near-surface soils are not expected. However, details of past agricultural practices on the Project site are not known and there is some potential that pesticide residues could occur in near-surface soils. Therefore, **Mitigation Measure HAZ-4** is prescribed to require a soil investigation on the site to assess

[68] Avocet Environmental, Inc. *Phase I Environmental Site Assessment, NEC Boyle & Juniper Avenues, Fontana, California 92337.* Pages 11–13. February 3, 2020.

[69] *Ibid.* Page ES-4 and Page 23.

the potential presence of agricultural pesticide chemicals pursuant to 15 U.S.C. §2601 et seq. (1976) (Toxic Substances Control Act), Cal/OSHA, Department of Toxic Substances Control (DTSC), and California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control).

**Mitigation Measure HAZ-4:** Prior to issuance of demolition and grading permits, a soil investigation on APNs 0251-202-05, 06, 07, and 0193-381-01 is required to assess the potential presence of agricultural pesticide chemicals on site. Construction may not proceed until the extent and nature of the suspect material is determined by qualified personnel and in consultation with appropriate City staff. The removal and/or disposal of any such contaminants shall be in accordance with all applicable local, State, and Federal standards to the degree that adequate public health and safety standards are maintained, to the satisfaction of the City. If appropriate, the City may enter into a Voluntary Cleanup Plan (VCP) with the California Department of Toxic Substances Control (DTSC) to coordinate remediation of the site. Further evaluation of soils throughout the site shall be made by a California Division of Occupational Safety and Health (Cal/OSHA) licensed Hazardous Materials Substances Removal contractor during demolition and clearing activities. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee.

In addition, the Project site may contain a subsurface network of irrigation pipes from past agricultural activities. The irrigation pipes may underlie substantial portions of the site and be encountered during rough grading and other ground-disturbing activities. Since the age and lateral extent of potential subsurface irrigation pipes is unknown, there is potential this these features may contain asbestos. Therefore, **Mitigation Measure HAZ-5** is prescribed to require temporarily halting excavation if subsurface irrigation pipes or other unanticipated features are encountered to evaluate the composition of those features pursuant to Cal/OSHA and Title 8, CCR Section 1529.

**Mitigation Measure HAZ-5:** In the event subsurface irrigation pipes or other unanticipated features suspected to contain asbestos are encountered during ground-disturbing activities, excavation within 60 feet of the material shall be halted, and the Project Applicant shall retain a qualified California Division of Occupational Safety and Health (Cal/OSHA) Certified Site Surveillance Technician to evaluate whether the feature or material warrants further assessment or remediation pursuant to Title 8, CCR Section 1529. In the event the material is determined not to be hazardous, no further remedial action is required, and the material shall be disposed of in accordance with the Code Enforcement Division of the Fontana Police Department.

In the event the material is deemed to contain asbestos, the Project Applicant shall retain a Certified Asbestos Consultant to prepare and

submit an Asbestos Notification to the South Coast Air Quality Management District (SCAQMD) for approval before any asbestos abatement may commence. The Certified Asbestos Consultant shall provide a construction and demolition plan with disposal tickets from a San Bernardino County Department of Public Works-Solid Waste Management Division-approved disposal facility and SCAQMD air clearances, and an asbestos disposal report shall be provided to the City, prior to final disposal. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee.

With implementation of **Mitigation Measures HAZ-4** and **HAZ-5,** impacts to the public from past use of the Project site for agriculture would be reduced to **less than significant with mitigation incorporated**.

A physical inspection of the Project site conducted on October 15, 2019 (Appendix F) identified an automotive workshop and associated materials storage yard on APN 0251-202-07 featuring numerous potentially hazardous and/or flammable substances related to automotive equipment. Due to the presence of on-site hazardous materials, **Mitigation Measure HAZ-6** is prescribed ensure the disposal of all known hazardous materials pursuant to 15 U.S.C. §2601 et seq. (1976) (Toxic Substances Control Act), Cal/OSHA, and California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control).

**Mitigation Measure HAZ-6:** Prior to issuance of demolition permits, the numerous equipment and chemicals stored on the Project site shall be consolidated in similar hazard classes and transported off site for proper disposal by a California Division of Occupational Safety and Health Administration (Cal/OSHA) licensed Hazardous Materials Substances Removal contractor. All disposal of materials deemed to be hazardous shall occur in accordance with the 2017 City of Fontana Local Hazard Mitigation Plan and California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control). This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee.

Only Cal/OSHA licensed Hazardous Materials Substances Removal contractors, and/or California State Registered Asbestos Abatement Contractors registered by the Division of Occupational Health and Safety in accordance with the California Administrative Code, Title 8, and article 2.5 and the SCAQMD Asbestos Hazard Emergency Response Act pursuant to Code of Federal Regulations Chapter 40, Part 763, subpart E would transport hazardous materials off-site. Implementation of **Mitigation Measures HAZ-1** through **HAZ-6** require the Project to comply with applicable regulations for the treatment and disposal of hazardous materials to ensure impacts from the routine transport, use, or disposal of hazardous materials during construction are reduced to **less than significant with implementation of mitigation**.

***Operation.*** Similar to Project construction, the transport, use, and disposal of hazardous materials during Project operation would be regulated by the San Bernardino County Fire Department, the Fontana Fire Protection District, and the California Occupational Safety and Health Administration. The Code Enforcement Division of the Fontana Police Department is responsible for weed and rubbish abatement in coordination with other City and County departments. Additionally, transport of hazardous materials by truck and rail on State highways and rail lines would be regulated by the United States Department of Transportation Office of Hazardous Materials Safety as described above.

These regulations inherently safeguard life and property from the hazards of fire/explosion arising from the storage, handling, and disposal of hazardous substances, materials, and devices, as well as hazardous conditions due to the use or occupancy of buildings. Implementation of **Mitigation Measures HAZ-1** through **HAZ-6** require the Project to comply with applicable regulations for the treatment and disposal of hazardous materials to ensure impacts from the routine transport, use, or disposal of hazardous materials are reduced to **less than significant with implementation of mitigation**.

***Threshold B: Would the Project 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?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: A Project-specific Phase I Environmental Site Assessment (ESA) was prepared in accordance with the American Society for Testing and Materials (ASTM) International Standard E1527-13 for the purposes of identifying recognized environmental conditions (REC), controlled recognized environmental conditions (CREC), and historical recognized environmental conditions (HREC) on the Project site (Appendix F). At the request of the City, the Phase I ESA was peer reviewed by an independent consultant qualified to perform such reviews pursuant to the provisions of American Society for Testing and Materials (ASTM) Practice E 1527-13 and the Environmental Protection Agency (EPA) Standards and Practices for All Appropriate Inquiries (AAI) (40 CFR Part 312) (Appendix G).

An REC means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any 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. The term is not intended to include *de minimis* conditions that generally do 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. Conditions determined to be *de minimis* are not RECs. A CREC is defined as a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. An HREC means an environmental condition that in the past would have been considered an REC, but which may or may not be considered an REC currently. If a past release of any hazardous substances or petroleum products has occurred in connection with the property, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a case closed letter or equivalent), this condition shall be considered an HREC. In addition to these environmental conditions, the Phase I ESA considered "other

environmental features," defined as conditions that do not meet the ASTM definition of an REC, CREC, or HREC but that warrant consideration for disclosure in the context of acquiring and/or redeveloping the site.

The Phase I ESA includes federal, State, and local records reviews (up to a one-mile radius), interviews with persons occupying [and adjacent to] the Project site, a vapor intrusion/vapor encroachment analysis, and an on-site inspection of the properties comprising the Project site. According to the Phase I ESA, no RECs, CRECs, or HRECs occur on the project site, nor do any such environmental conditions within one mile of the Project site pose a substantial environmental hazard to the Project site or its occupants. The Phase I Peer Review is in general agreement with these findings.[70]

The Phase I ESA identified six "other environmental features" on the Project site, as described in Table 3.9.A:

**Table 3.9.A: Other Environmental Features Related to Hazardous Materials**

| Other Environmental Features (OEF) | Action |
|---|---|
| **OEF 1:** Past agricultural activities on the Project site included the use of pesticides which potentially could remain at residual levels on site. However, there is no indication storage tanks potentially used to store or mix pesticides occurred on site, and historical photographs of the site do not show evidence of distressed vegetation indicative of pesticide overuse. | As detailed in Section 3.9(a), **Mitigation Measure HAZ-4** is prescribed to require a soil investigation on the site pursuant to applicable regulatory policy to assess the potential presence of agricultural pesticide chemicals. Pesticide use for large-scale agricultural activities ceased by the early 1990s when the last of the orchards were removed from the site. According to the Phase I ESA (refer to Appendix F), there is no evidence of pesticide overuse or that pesticides were applied in conflict with manufacturers' recommendations. However, details of past agricultural practices on the Project site are not known, so **Mitigation Measure HAZ-4** will ensure soils on which the Project will be developed would not be significantly affected by ongoing presence of residual pesticides and/or related degradation byproducts. |
| **OEF 2:** The Project site may contain a subsurface network of irrigation pipes from past agricultural activities. The irrigation pipes may underlie substantial portions of the site and be encountered during rough grading and other ground-disturbing activities. Since the age and lateral extent of potential subsurface irrigation pipes is unknown, there is potential this these features may contain asbestos. | As detailed in Section 3.9(a), **Mitigation Measure HAZ-5** is prescribed to ensure any subsurface irrigation pipes or other unanticipated features suspected to contain asbestos are treated and disposed in accordance with applicable regulatory standards. |
| **OEF 3:** There are structures on the Project site that were constructed prior to 1978 and therefore may have LBM and ACM incorporated into various construction components including paint, roof tiles, and thermal insulation. | As detailed in Section 3.9(a), **Mitigation Measures HAZ-1** through **HAZ-3** are prescribed to ensure pre-demolition surveys of the structures at the site for ACM and LBM. Suitably licensed and experienced contractors shall abate confirmed ACM and LBM prior to structure demolition in accordance with applicable regulatory standards. |

[70] Group Delta Consultants, Inc. *Environmental Due Diligence Review, Transwestern-Boyle Avenue Building 1, 16796 Boyle Avenue (APNs: 0251-202-05, -06, & -07), Fontana, California.* Page 2. April 30, 2020 (Appendix G).

**Table 3.9.A: Other Environmental Features Related to Hazardous Materials**

| Other Environmental Features (OEF) | Action |
|---|---|
| **OEF 4:** Near surface soils adjacent to and along Interstate 10 and the Union Pacific Railroad may contain traces of aerially-deposited lead (ADL) related to the historic use of leaded gasoline and possibly other fuel hydrocarbons. However, soil sampling on the property adjacent to the west of the Project site, which is similarly situated with respect to the railroad tracks and Interstate 10, did not indicate lead concentrations at levels requiring further action. | No further action required. The Phase I ESA (refer to Appendix F) indicates soil sampling on the property adjacent to the west of the Project site, which is similarly situated with respect to the railroad tracks and Interstate 10, did not indicate lead concentrations at levels requiring further action. Accordingly, on-site soils are not expected to be significantly affected by ongoing operations of the railroad and Interstate 10. |
| **OEF 5:** An automotive workshop and associated materials storage yard on APN 0251-202-07 contain numerous potentially hazardous and/or flammable substances related to automotive equipment. | As detailed in Section 3.9(a), **Mitigation Measure HAZ-6** is prescribed to ensure the equipment and chemicals stored on the Project site would be consolidated in similar hazard classes and transported off site for proper disposal in accordance with applicable regulatory standards. |
| **OEF 6:** The Project site in general is used as a storage and staging yard for automobiles, boats, and other mechanical and construction equipment. Some of the items in storage, particularly the vehicles on APN 0251-202-07, may contain fuel, lubricating oil, and other potentially hazardous and/or flammable substances. | As detailed in Section 3.9(a), **Mitigation Measure HAZ-6** is prescribed to ensure the equipment and chemicals stored on the Project site would be consolidated in similar hazard classes and transported offsite for proper disposal in accordance with applicable regulatory standards. |

Source: Avocet Environmental, Inc., *Phase I Environmental Site Assessment, NEC Boyle & Juniper Avenues, Fontana, California 92337.* Pages 23 and 24. *February 3, 2020* (Appendix F).

Finally, the Project site was evaluated the potential presence of vapor intrusion conditions (VICs) and/or vapor encroachment conditions (VECs). A VIC can occur if volatile organic compounds (VOCs) are present in the vadose zone or in groundwater beneath a property at concentrations such that vapor could intrude into, and accumulate in, an overlying structure at concentrations hazardous to human health. A VEC can occur if VOCs from an off-site source migrate beneath a property. Based on the absence of documentation indicating solvent use at or around the Project site, a VIC and/or a VEC at the site appears unlikely.

Pursuant to California Health and Safety Code Section 25507, a business shall establish and implement a Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material in accordance with the standards prescribed in the regulations adopted pursuant to Section 25503 if the business handles a hazardous material or a mixture containing a hazardous material that has a quantity at any one time above the thresholds described in Section 25507(a) (1) through (8).

As stated above, the project-specific Phase I ESA (Appendix F) did not identify any RECs, CRECs, or HRECs on the Project site, but demolition and construction activities as part of the proposed Project could release hazardous materials into the environment (refer to Table 3.9.A). **Mitigation Measures HAZ-1** through **HAZ-6** would ensure the proper removal of on-site hazardous materials used during previous occupation of the Project site and abatement of ACM and LBM prior to demolition of the on-site structures in accordance with applicable regulatory standards. Health and Safety Code Section 25507 and **Mitigation Measures HAZ-1** through **HAZ-6** require the Project to comply with applicable regulations for the treatment and disposal of hazardous materials to ensure impacts from reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment are reduced to **less than significant with mitigation incorporated**.

***Threshold C: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?***

**Less than Significant Impact**

Discussion of Effects: There are no existing schools within a 0.25-mile radius of the Project site and there is no evidence to suggest any schools are proposed within 0.25 mile of the Project site.[71] According to the School Boundary Maps of the Fontana Unified School District, the nearest school in proximity to the Project site is Citrus High School at 10760 Cypress Avenue, approximately 0.35 mile southwest of the project site.[72] Furthermore, any transport of hazardous materials associated with construction of the proposed project would be in accordance with the United States Department of Transportation (USDOT), which regulates the transport of hazardous materials and waste and requires carriers to register with the DTSC. Only CalOSHA licensed Hazardous Materials Substances Removal contractors, and/or California State Registered Asbestos Abatement Contractors registered by the Division of Occupational Health and Safety in accordance with the California Administrative Code, Title 8, and article 2.5 and the SCAQMD Asbestos Hazard Emergency Response Act pursuant to Code of Federal Regulations Chapter 40, Part 763, subpart E would transport hazardous materials off site, as detailed in Section 3.9(a).

Since no schools are located or proposed within 0.25 mile of the Project site, and any transport of hazardous materials associated with construction of the proposed Project would be in accordance with applicable regulatory policy, impacts related to an accidental release of hazardous materials or emissions of hazardous substances within one-quarter mile of an existing or proposed school would be **less than significant.** No mitigation is required.

***Threshold D: Would the Project be located on a site which is included on a list of hazardous material 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?***

**No Impact**

Discussion of Effects: Hazardous materials sites compiled pursuant to Government Code Section 65962.5 are listed on the "Cortese List" (named after the Legislator who authored the legislation that enacted it), which is maintained by the California DTSC.[73] The Project site is not on any list of hazardous material sites compiled pursuant to Government Code Section 65962.5. Therefore, **no impact** would occur. Mitigation is not required.

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71 Fontana Unified School District. *School Boundary Maps and Maps to Schools*. 2019/20. https://www.fusd.net/Page/321 (accessed April 15, 2020).

72 *Ibid.*

73 California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* 2020. https://www.envirostor.dtsc.ca.gov/public/search.asp?page=3&cmd=search&business_name=&main_street_name=&city=&zip=&county=&status=ACT%2CBKLG%2CCOM&branch=&site_type=CSITES%2CFUDS&npl=&funding=&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29&reporttype=CORTESE&federal_superfund=&state_response=&voluntary_cleanup=&school_cleanup=&operating=&post_closure=&non_operating=&corrective_action=&tiered_permit=&evaluation=&spec_prog=&national_priority_list=&senate=&congress=&assembly=&critical_pol=&business_type=&case_type=&searchtype=&hwmp_site_type=&cleanup_type=&ocieerp=&hwmp=False&permitted=&pc_permitted=&inspections=&complaints=&censustract=&cesdecile=&school_district=&orderby=city (accessed April 15, 2020).

***Threshold 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?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: The Project site is located approximately 8.2 miles east of the Ontario International Airport (ONT) within the ONT Airport Influence Area of the Ontario International Airport Land Use Compatibility Plan (ONTLUCP).[74] Although the Project site is not within an ONTLUCP Safety Zone or Noise Impact Zone,[75] the Project site is located within the ONTLUCP Overflight Notification Zone for Real Estate Transaction Disclosures and within the ONT Airspace Protection Zone for structural heights greater than 200 feet above grade.[76] Notification is a regulatory requirement for all projects within the ONTLUCP Overflight Notification Zone for Real Estate Transaction Disclosures and generally is the responsibility of real estate agents or brokers. Therefore, the City prescribes **Mitigation Measure HAZ-7** to require the Project Applicant as a condition of Project entitlement to notify prospective Project occupants of the site's proximity to the ONT and airport overflight in accordance with the ONTLUCP.

**Mitigation Measure HAZ-7:** Prior to issuance of occupancy permits, the Project Applicant shall provide evidence to the City of Fontana (City) that appropriate real estate disclosures identifying the impacts of airport overflight are provided to all tenants upon lease, transfer, or sale of any industrial unit on site. This measure shall be implemented to the satisfaction of the City's Building & Safety Department.

Through implementation of **Mitigation Measure HAZ-7,** requiring the Project Applicant to notify prospective Project occupants of the site's proximity to the ONT and airport overflight in accordance with ONTLUCP's Real Estate Transaction Disclosures, impacts related to airport hazards for people residing or working on the Project site would be reduced to **less than significant with mitigation incorporated**.

***Threshold F: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

**Less than Significant Impact**

Discussion of Effects:

***Construction.*** Construction activities that may temporarily restrict vehicular traffic would be required to implement appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Typical City requirements include prior notification of any lane or road closures with sufficient signage before and during any closures, flag crews with radio communication when necessary to coordinate traffic flow, etc. The warehouse developer would be required to comply with these requirements, which would maintain emergency access and allow for evacuation if needed

[74] Ontario International Airport Land Use Compatibility Plan. *Chapter 2: Procedural and Compatibility Policies.* Map 2-1: Airport Influence Area. April 19, 2011.
[75] *Ibid.* Map 2-2: Safety Zones, and Map 2-3: Noise Impact Zones.
[76] *Ibid.* Map 2-4: Airspace Protection Zones, and Map 2-5: Overflight Notification Zones.

during construction activities. Compliance with these requirements would ensure that short-term impacts related to this issue are **less than significant.** Mitigation is not required.

***Operation.*** Access to and from the Project site is available via Boyle Avenue and Juniper Avenue from Slover Avenue. Implementation of the proposed Project would increase the number of trucks operating near the site and would generate an increase in the amount and volume of traffic on local and regional roadway networks. In accordance with the California Fire Code, the Project Applicant is required to design, construct, and maintain structures, roadways, and facilities to maintain appropriate emergency/evacuation access to and from the Project site as codified in Section Nos. 30-529 (Public Safety), 30-541(D)(7)(a) and (b) (Fences and Walls), and 30-550 (H) (Site Plan Design) of the City Municipal Code.

Entrances and exits to and from parking and loading facilities would be marked with appropriate directional signage. All site access points and driveway aprons are designed and would be constructed to adequate widths for public safety pursuant to City Municipal Code Section No. 30-550(H). Off site, the Project would dedicate and widen Boyle Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install asphalt concrete, curb, gutter, sidewalk, landscaping, streetlights, and trees along Boyle Avenue from Juniper Avenue to its eastern terminus at Sierra Avenue. The proposed Project would dedicate and widen Juniper Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install curb, gutter, sidewalk, landscaping, and street trees along Juniper Avenue north of Boyle Avenue to its terminus at the Union Pacific Railroad tracks. South of Boyle Avenue, Juniper Avenue would be repaved with asphalt concrete to a half-width of 28 feet.[77] Additionally, the eastern terminus of Boyle Avenue and the northern terminus of Juniper Avenue would be improved with cul-de-sacs. (Figures 7a through 7d detail the infrastructure and off-site improvements).

Ultimate [full-width] buildout of Boyle Avenue, Juniper Avenue, and the intersection of Juniper and Slover Avenues would be a cooperative effort between the Project Applicant, the City, and other developers proposing separate projects anticipated to utilize these roadways to ensure that buildout of these improvements will be completed. These improvements would be subject to compliance with the City Municipal Code sections specified above and would be reviewed by the Fontana Fire Protection District and Police Department through the City's general development review process. Proper site design and compliance with standard and emergency City access requirements would allow for evacuation if necessary during ongoing warehouse operations. This would ensure that long-term impacts related to this issue are **less than significant.** Mitigation is not required.

***Threshold G: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?***

**Less than Significant Impact**

Discussion of Effects: The Project is not within a Very High Fire Hazard Severity Zone (VHFHSZ) in the Local Responsibility Areas (LRAs).[78] Additionally, the Project site and vicinity are not located in areas

[77] Curb, gutter, and landscaping along Juniper Avenue south of Boyle Avenue will be installed by the City under a separate action.

[78] California Department of Forestry and Fire Protection (CALFIRE). *Fontana Very High Fire Hazard Severity Zones in LRA as Recommended by CalFire.* October 29, 2008.

identified by the City to be areas at risk of a wildfire event.[79] The Project is surrounded by developed land and would be required to comply with 2019 requirements for ignition-resistant construction and with the Safety Element of the City's General Plan. In consideration of the Project site's location in a developed area of the City away from wildland areas susceptible to fires and compliance with wildland fire safety policies, it is not expected that the Project would expose people or structures to significant loss or injury from wildland fires. Impacts are **less than significant** and mitigation is not required.

## 3.10 HYDROLOGY AND WATER QUALITY

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | 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? | ☐ | ☒ | ☐ | ☐ |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | ☐ | ☒ | ☐ | ☐ |
| 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:<br>i. Result in substantial erosion or siltation on- or off-site;<br>ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;<br>iii. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or<br>iv. Impede or redirect flood flows? | ☐ | ☒ | ☐ | ☐ |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | ☐ | ☐ | ☒ | ☐ |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | ☐ | ☒ | ☐ | ☐ |

[79] City of Fontana. *Local Hazard Mitigation Plan*. Figure 4-5: Fire Perimeter City of Fontana. June 2017; Approved and Adopted August 14, 2018.

***Threshold A: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects:

***Construction.*** The City is a co-permittee under the Santa Ana Regional Water Quality Control Board Order number R8-2010-0036, NPDES Permit No. CAS618036, also known as the MS4 permit. The San Bernardino County Water Quality Management Plan was developed to implement compliance with the MS4 permit. The Project site clearing and grading phases would disturb vegetation and surface soils, potentially resulting in erosion and sedimentation. If left exposed and with no vegetative cover, the Project site's bare soil could be subject to additional wind and water erosion. Since the proposed Project involves over one acre of ground disturbance, it is subject to NPDES requirements. Coverage under an NPDES permit includes the submittal of a Notice of Intent (NOI) application to the State Water Resources Control Board (SWRCB), the receipt of a Waste Discharge Identification Number (WDIN) from SWRCB, and the preparation of an SWPPP for construction discharges.

An SWPPP is a written document that describes the construction operator's activities to comply with the requirements in the NPDES permit. The SWPPP is intended to facilitate a process whereby the operator evaluates potential pollutant sources at the site and selects and implements BMPs designed to prevent or control the discharge of pollutants in storm water runoff. During the demolition and construction phases, the Project would incorporate a series of BMPs to reduce erosion and sedimentation. These measures may include the use of gravel bags, silt fences, hay bales, check dams, hydroseed, and soil binders. The demolition and construction contractor(s) would be required to operate and maintain these controls throughout the duration of construction activities. In addition, the construction contractor(s) would be required to maintain an inspection log and have the log on site to be reviewed by the City and representatives of the SWRCB.

An NPDES permit would generally specify an acceptable level of a pollutant or pollutant parameter in a discharge (for example, a certain level of bacteria). The permittee may choose which technologies to use to achieve that level. Some permits, however, do contain certain generic BMPs. Table 3.10.A lists BMPs for runoff control, sediment control, erosion control, and housekeeping that may be used during the construction of the proposed Project.

**Table 3.10.A: General Best Management Practices**

| Runoff Control | Sediment Control | Erosion Control | Good Housekeeping |
|---|---|---|---|
| • Minimize clearing<br>• Preserve natural vegetation<br>• Stabilize drainage ways | • Install perimeter controls<br>• Install sediment trapping devices<br>• Inlet protection | • Stabilize exposed soils<br>• Protect steep slopes<br>• Complete construction in phases | • Create waste collection area<br>• Put lids on containers<br>• Clean up spills immediately |

Source: United States Environmental Protection Agency. *National Menu of Stormwater Best Management Practices*. https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#constr (accessed April 16, 2020). More detailed Best Management Practices are available at this web site.

***Operation.*** Under existing conditions, the majority of the Project site consists of pervious surface area. Storm water generally sheet flows from north to south and drains onto Boyle Avenue before flowing

west along Boyle and then south along Juniper Avenue to existing storm drains at the northeast and northwest corners of Slover Avenue and Juniper Avenue. Development of the Project site is expected to increase the amount of impervious surface area substantially due to the proposed warehouse building, surface parking lot, and drive aisles. However, the proposed Project is expected to generally maintain the existing drainage pattern, and all runoff would be infiltrated via a subterranean chamber system located on the south side of the proposed warehouse building prior to discharge onto Boyle Avenue at volumes that do not exceed the existing, pre-developed condition.

Runoff from the Project site drains from Boyle Avenue to Juniper Avenue south into the Municipal storm drain system at the intersection of Juniper and Slover Avenues. From there, runoff drains to the Declez Channel, which drains to San Sevaine Channel, then to Santa Ana River Reach 3 before entering the Prado Dam. From Prado Dam, flows enter Santa Ana River Reach 2, then Santa Ana River Reach 1 before finally entering the Pacific Ocean. To address potential water contaminants, the Project is required to comply with applicable federal, State, and local water quality regulations. All development projects that would disturb more than one acre of land in the City are required to prepare a Water Quality Management Plan (WQMP) to reduce water pollution impacts from construction and operation of the developments. According to the Project-specific WQMP, the EPA-approved Section 303(d) listed impairments for the Project's receiving waters (Declez Channel, San Sevaine Channel, Santa Ana River Reach 3, Prado Dam, Santa Ana River Reach 2, Santa Ana River Reach 1, and the Pacific Ocean) include copper, lead, indicator bacteria, and pH (Appendix H). These are the Project's priority pollutants of concern.

The Project is exempt from hydrologic conditions of concern because all downstream conveyance drain to an adequate sump (Prado Dam), and the runoff flow rate, volume, and velocity for the post-development condition of the Project would not exceed the pre-development (i.e., naturally occurring condition) for the 2-year, 24-hour rainfall event utilizing latest San Bernardino County Hydrology Manual,[80] as described below.

The Project would include a single Drainage Management Area (DMA A) to manage storm water runoff. DMA A would manage runoff from 7.6 acres of the Project site, including the proposed building rooftop, parking lot, and sidewalks, and direct flows into the proposed subterranean infiltration chamber system (BMP) south of the proposed warehouse building and freight truck loading docks prior to discharge onto Boyle Avenue and the City's municipal storm drain system.[81] Approximately 0.45 acre of landscape, which is permeable and considered self-treating, and 0.1 acre of driveway along public right-of-way would drain off site without being routed to the infiltration BMP. According to the WQMP, the 0.1 acre of driveway area would be accounted for by the on-site infiltration chamber BMP even though it would not physically drain there. Additionally, runoff from 0.9 acre of off-site vegetated property comprising the engineered western slope of the Sierra Avenue grade separation would drain onto the Project site and be included in the design capture volume (DCV) sizing for the proposed infiltration BMP.

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[80] San Bernardino County Department of Public Works. *San Bernardino County Water Quality Management Plan.* Appendix F, Figure F-1. http://cms.sbcounty.gov/Portals/50/Land/AppendixF-HCOCExemptionCriteriaandMap.pdf?ver=2013-02-28-193056-000 (accessed April 17, 2020).

[81] Thienes Engineering, Inc. *Preliminary Storm Water Quality Management Plan for Boyle Ave. and Juniper Ave. – Building 1*. Form 1-1, Form 4.3-3, and Attachment C (WQMP Site Map). December 18, 2019 (Appendix H).

According to the Project-specific WQMP (Appendix H), the proposed infiltration chamber BMP must be sized with a DCV of at least 28,920 cubic feet of runoff in order to adequately manage the 7.6 acres of DMA A and 0.9 acre of the off-site run-on flows pursuant to the NPDES MS4 Permit.[82] In order to treat identified pollutants of concern,[83] the proposed infiltration chamber BMP would be designed and constructed to capture approximately 29,093 cubic feet of runoff and include a hydrodynamic separator to remove silt, clay, and other deleterious material prior to entering the infiltration chamber system in order to maintain effective infiltration rates. With adequate DCV and pretreatment, the infiltration chamber BMP would treat "first-flush" runoff[84] from the Project site and adjacent property to the east and ensure post-development storm water runoff volume or time of concentration would not exceed pre-development conditions by more than five percent of the 2-year peak flow pursuant to the NPDES MS4 Permit.

**Mitigation Measures HYD-1** through **HYD-3** are prescribed to ensure proper engineering design and construction in conformance with the requirements of the City, the intent of the NPDES Permit for San Bernardino County and the incorporated cities of San Bernardino County within the Santa Ana Region (MS4 permit), and Project-specific recommendations outlined in an SWPPP and WQMP are implemented to reduce impacts related to water quality standards or waste discharge requirements to **less than significant with mitigation incorporated.**

**Mitigation Measure HYD-1:** Prior to the issuance of a grading permit, the Project Applicant shall file and obtain a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) in order to be in compliance with the State National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit for discharge of surface runoff associated with construction activities. Evidence that this has been obtained (i.e., a copy of the Waste Discharger's Identification Number) shall be submitted to the City of Fontana (City) for coverage under the NPDES General Construction Permit. This measure shall be implemented to the satisfaction of the City Public Works Department.

**Mitigation Measure HYD-2:** Prior to the issuance of a grading permit, the Project Applicant shall submit a Storm Water Pollution Prevention Plan (SWPPP) to the City of Fontana (City). The SWPPP shall include a surface water control plan and erosion control plan citing specific measures to control on-site and off-site erosion during the entire demolition, grading, and construction period. In addition, the SWPPP shall emphasize structural and nonstructural Best Management Practices (BMPs) to

[82] Pursuant to the Santa Ana Regional Water Quality Control Board Order Number R8-2010-0033, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS618033, as amended by Order No. R8-2013-0024, also known as the Municipal Separate Storm Sewer System (MS4) permit, the hydrologic performance standard for the proposed bioretention basin is a flow duration curve of the post-development DMA not to exceed that of the pre-development, naturally occurring, DMA by more than five percent of the 2-year peak flow.

[83] The project-specific priority pollutants of concern are copper, lead, indicator bacteria, and pH pursuant to Section 3.3(d) of the Clean Water Act and the United States Environmental Protection Agency. Refer to Appendix H for additional information.

[84] "First-flush" runoff is the initial surface runoff of storm water along impervious surfaces, such as parking lots, and is typically more concentrated with pollutants compared to the remainder of a storm event.

control sediment and non-visible discharges from the site. The SWPPP shall include inspection forms for routine monitoring of the site during the demolition, grading, and construction phases to ensure National Pollutant Discharge Elimination System (NPDES) compliance and that additional BMPs and erosion control measures would be documented in the SWPPP and utilized if necessary. The SWPPP shall be kept on site for the entire duration of Project construction and shall be available to the local Regional Water Quality Control Board (RWQCB) for inspection at any time. BMPs to be implemented may include the following:

- Sediment discharges from the site may be controlled by the following: sandbags, silt fences, straw wattles and temporary basins (if deemed necessary), and other discharge control devices. The construction and condition of the BMPs shall be periodically inspected during construction, and repairs shall be made when necessary as required by the SWPPP.
- Materials that have the potential to contribute to non-visible pollutants to storm water must not be placed in drainage ways and must be contained, elevated, and placed in temporary storage containment areas.
- All loose piles of soil, silt, clay, sand, debris, and other earthen material shall be protected in a reasonable manner to eliminate any discharge from the site. Stockpiles shall be surrounded by silt fences and covered with plastic tarps.
- The construction contractor shall be responsible for performing and documenting the application of BMPs identified in the SWPPP. Weekly inspections shall be performed on sandbag barriers and other sediment control measures called for in the SWPPP. Monthly reports and inspection logs shall be maintained by the contractor and reviewed by the City and representatives of the RWQCB. In the event that it is not feasible to implement specific BMPs, the City can make a determination that other BMPs would provide equivalent or superior treatment either on or off site.

This measure shall be implemented to the satisfaction of the City Public Works Department.

**Mitigation Measure HYD-3:** Prior to the issuance of a grading permit, the Project Applicant shall submit a Final Water Quality Management Plan (Final WQMP) to the City of Fontana (City) for review and approval. The Project shall implement Project design features identified in the Final WQMP. The Final WQMP shall demonstrate that any proposed on-site development plan includes best management practices (BMPs) for

source control, pollution prevention, site design, low impact development (LID) implementation, and structural treatment control. BMPs shall be designed and implemented to address Section 303(d) listed pollutants and retain the Project site's minimum design capture volume and, if applicable, hydromodification volume to ensure post-development storm water runoff volume or time of concentration does not exceed pre-development storm water runoff by more than five percent of the two-year peak flow in accordance with the *Technical Guidance Document for Water Quality Management Plans* prepared for the County of San Bernardino Areawide Stormwater Program, National Pollutant Discharge Elimination System Permit Number CAS618036, Order Number R8-2010-0036. The proposed LID BMPs specified in the Final WQMP shall be incorporated into the grading and development plans submitted to the City for review and approval. Periodic maintenance of any required BMPs and landscaped areas during Project occupancy and operation shall be in accordance with the schedule outlined in the Final WQMP. This measure shall be implemented to the satisfaction of the City Public Works Department.

The Project is located within the Chino North (Chino 3 Antidegradation) Groundwater Management Zone, which lists municipal supply, agricultural supply, and industrial service supply and industrial process supply[85] as beneficial uses.[86] High levels of total dissolved solids (TDS) affect groundwater in this area, which migrates into the Prado Basin Management Zone. To treat the TDS within the Chino North (Chino 3 Antidegradation) Groundwater Management Zone, the Chino Desalter Authority (CDA) operates two desalination[87] facilities, the Chino I Deslater and Chino II Desalter. The Chino I Desalter maintains a desalination capacity of 14.2 million gallons per day (mgd), and the Chino II Desalter maintains a desalination capacity of 10.0 mgd.[88] The Fontana Water Company (FWC), which would supply water to the Project site via groundwater supplies from three adjudicated basins, including the Chino Basin, Rialto-Colton Basin and the Lytle Basin and one unadjudicated basin called No Man's Land Basin, is looking for new sources of water supply and is receptive in coordinating with agencies such as the CDA that have ocean water desalination programs to negotiate an agreement for potential transfers of CDA water and/or water rights to increase its desalinated water opportunities.[89] Nonetheless, as discussed below, additional desalinated water opportunities are not needed to satisfy the Project's water demand.

As detained in the FWC Urban Water Management Plan (UWMP),[90] perchlorate and nitrite have been detected at or above the Maximum Contaminant Level (MCL) in select wells within the Chino Basin.

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85 Industrial service supply is industrial uses that do not depend on water quality (e.g., mining, hydraulic conveyance, gravel washing, and fire protection), while industrial process supply is industrial uses dependent on water quality, including food processing.

86 Santa Ana Regional Water Quality Control Board. *Santa Ana Region Basin Plan*. Region 8 Basin Plan Map – Chino Area Groundwater Management Zones. September 2013.

87 Desalination is a process that removes dissolved minerals from seawater, brackish water, or treated wastewater.

88 San Gabriel Water Company, Fontana Water Company Division. *2015 Urban Water Management Plan.* Page 6-19. June 2016, Amended December 2017.

89 *Ibid*.

90 *Ibid*. Pages 6-6 through 6-8.

Wells that receive treatment at FWC's Plant F17, which removes perchlorate to non-detectable levels and reduces nitrate to levels below the MCL, continue to operate, while wells that exceed the MCL for nitrate and do not receive treatment are currently not used or are blended with water from wells with low nitrate concentrations. Tetrachloroethylene (PCE) has previously been detected above the MCL in select wells within the Rialto-Colton Basin and No Man's Land Basin. Prior to entry into the distribution system, groundwater from contaminated wells is treated with liquid phase granular activated carbon at FWC's Plant F10 and blended with water from non-contaminated wells. The California Department of Public Health (CDPH) requires frequent monitoring at the source and at the effluent of the treated water. Groundwater from FWC wells within the Lytle Basin meets all CDPH standards for drinking water.

The Project site has been previously developed and is located in a developed and urbanized area of the City. Groundwater was not encountered during the geotechnical investigation, which included exploration borings to a depth of 30 feet, and historic high groundwater in the vicinity has been recorded approximately 260 feet below the ground surface at monitoring wells within 0.5 mile of the site.[91] Maximum depths during site development are expected to occur during construction of the subterranean infiltration chamber system, which would extend approximately 13 feet below existing site grades[92] and therefore would not reach depths that would impair or alter the direction or rate of flow of groundwater or introduce TDS or other contaminants into the groundwater table (Appendix I). Additionally, no groundwater extraction would occur as part of the Project.

FWC plans to install treatment or drill replacement wells in order to maintain the health and adequate capacity of the basins supplying groundwater to its customers. Project implementation of the NPDES permit ensures that the State's mandatory standards for the maintenance of clean water and the federal minimums are met. The Santa Ana RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's groundwater and surface waters. The Project-specific SWPPP and Final WQMP would be reviewed and approved as routine actions during the processing of the Project by the City; therefore, the required measures and features detailed in the SWPPP and WQMP to safeguard surface and groundwater quality would be incorporated into the proposed Project. Water and groundwater quality and waste discharge impacts would be reduced to **less than significant with mitigation incorporated** through implementation of **Mitigation Measures HYD-1** through **HYD-3**.

***Threshold B: Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: As discussed in Section 3.10 (Threshold A), above, the FWC would supply water to the Project site via groundwater supplies from three adjudicated basins, including the Chino Basin, Rialto-Colton Basin, and the Lytle Basin, and one unadjudicated basin called No Man's Land Basin. Local and regional authorities in medium and high priority groundwater basins have formed

[91] Southern California Geotechnical. *Geotechnical Investigation, Two Proposed Warehouses, NEC Juniper Avenue and Boyle Avenue, Fontana, California.* Pages 6 and 7. November 5, 2019 (Appendix E).

[92] *Ibid.* Page 2.

Groundwater Sustainability Agencies (GSAs) that oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP). Per the Sustainable Groundwater Management Act (SGMA), adjudicated basins[93] are not required to form GSAs or prepare GSPs. These basins are required to submit an annual report to the Department of Water Resources (DWR), which provide much of the same information required by Courts during the adjudication process. As detailed below, three of the four basins from which the FWC (and ultimately the project itself) may obtain water have previously been adjudicated, and the No Man's Land Basin is not in critical condition of overdraft; therefore, the Project does not conflict with the stated purpose or provisions of the SGMA.

The Chino Basin is the main source of water for the FWC. Adjudicated in 1975 under the Chino Basin Judgment, the Chino Basin is managed by the Chino Basin Optimum Management Plan. This basin lies in the southwest corner of San Bernardino County, bordered on the east by the Rialto-Colton Fault and on impermeable rock of the San Gabriel Mountains, Jurupa Mountains, and Puente Hills. This area is drained by San Antonio Creek and Cucamonga Creek southerly to the Santa Ana River. The basin has a safe operating yield of 145,000 acre-feet per year (AFY). FWC's groundwater production from the Chino Basin from 2011 to 2015 averaged approximately 11,100 AFY. FWC's production from the Chino Basin in 2015 was 14,504 acre-feet.[94]

The Rialto Basin is adjudicated pursuant to the 1961 Rialto Basin Degree. The surface area of the Rialto-Colton Basin is approximately 30,100 acres. The principal recharge areas within the Rialto-Colton groundwater basin are Lytle Creek, Reche Canyon in the southeastern part of the subbasin, and the Santa Ana River in the south-central part of the subbasin. A lesser amount of recharge is provided by percolation of precipitation to the valley floor, underflow, and irrigation and septic returns. Underflow occurs from fractured basement rock and through the San Jacinto Fault in younger river deposits at the south end of the subbasin in the northern reaches of the San Jacinto Fault system and artificial recharge. FWC's groundwater production from the Rialto-Colton Basin from 2011 to 2015 averaged approximately 6,000 AFY. FWC's production from the Rialto-Colton Basin in 2015 was 2,728 AF. A preliminary injunction granted in 2015 by a San Bernardino County Superior Court judge allows the FWC to pump up to 2,520 AFY from the Rialto-Colton Basin, which is the amount projected to be available to FWC from this basin in future normal and single dry or multiple dry years.[95]

Lytle Basin is adjudicated pursuant to the McKinley Decree of 1897. The surface area of the Lytle Basin is approximately 22.3 square miles. FWC's average groundwater production from the Lytle Basin is approximately 9,400 AFY in normal rainfall years. This amount is estimated to be available for pumping and diversion by FWC during normal rainfall years in 2025 through 2040. However, due to recent drought conditions, FWC conservatively projects to receive 5,000 AFY of groundwater from the Lytle Basin during normal years in 2020. Additionally, the Lytle Basin is subject to significant changes

[93] Through adjudication, the courts can assign specific water rights to water users and can compel the cooperation of those who might otherwise refuse to limit their pumping of groundwater. Watermasters are typically appointed by the court to ensure that pumping conforms to the limits defined by the adjudication.

[94] San Gabriel Water Company, Fontana Water Company Division. *2015 Urban Water Management Plan.* Page 6-6. June 2016, Amended December 2017.

[95] *Ibid.* Pages 6-6 and 6-7.

in groundwater elevation due to highly permeable sediments and a high specific yield of the aquifer, which would result in a 20 percent reduction of water production during multiple dry years.[96]

The No Man's Land Basin is an unadjudicated subbasin of the Upper Santa Ana Valley Basin. FWC's groundwater production from the No Man's Land Basin from 2011 to 2015 averaged approximately 4,000 AFY. FWC's production from the No Man's Land Basin in 2015 was 4,523 AF.[97]

According to the FWC UWMP, none of the basins supplying groundwater to the FWC are in "critical condition of overdraft."[98] FWC's current available pumping capacity totals approximately 39,300 gallons per minute (gpm), with individual well production ranging from approximately 165 gpm to 2,700 gpm. Current pumping capacity (as of March 2016) from each basin is as follows:[99]

- Chino Basin: 31,007 gpm.
- Lytle Basin: 3,700 gpm.
- Rialto-Colton Basin: 1,650 gpm (pursuant to Court-ordered Groundwater Production Injunction).
- No-Man's Land: 3,314 gpm.

Based on regional employment/square footage averages detailed in Section 3.14 (Threshold A), up to 61 persons could be employed at the proposed warehouse. The FWC UWMP indicates FWC's Normal Year demand projection is 156 gallons per capita per day (GPCD) for 2020, and 176 GPCD for 2025 and subsequent years through 2040.[100] Based on a rate of 176 GPCD, the projected employees of the Project would consume approximately 10,736 gallons per day[101] or 3.92 million gallons or 12.03 AFY, which would be a worst-case scenario assuming the employees would occupy the site 24 hours per day.

The Project is anticipated to create a water demand of up to 12.03 AFY, which is 0.03 percent of available FWC supplies in 2020.[102] The FWC production capacity for 2040 is 56,562 AFY. The amount of water available for the Project is sufficient for normal, single-dry, and multiple-dry years for the next 23 years. Since planned supplies are sufficient, the Project would not substantially decrease groundwater supplies. Furthermore, implementation of **Mitigation Measure HYD-3** would ensure the Project would include an infiltration chamber system designed to capture and infiltrate storm water runoff at rates in accordance with the NPDES MS4 Permit, which would not interfere substantially with groundwater recharge or impede sustainable groundwater management of the basins supplying groundwater to the Project. Impacts to groundwater supply and sustainability of groundwater management are reduced to **less than significant with mitigation incorporated**.

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96 *Ibid.* Pages 6-7 and 6-8.
97 *Ibid.* Pages 6-7 and 6-8.
98 *Ibid.* Page 6-19.
99 *Ibid.* Page 6-5.
100 *Ibid.* Page 7-5.
101 176 gal/person/day × 61 persons = 10,736 gallons per day
102 San Gabriel Water Company, Fontana Water Company Division. *2015 Urban Water Management Plan.* Table 6-12. June 2016, Amended December 2017. (12.03 acre-feet Project demand ÷ 40,140 acre-feet FWC supply = 0.0299 percent)

***Threshold C: Would the Project 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;***
- ***ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;***
- ***iii. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or***
- ***iv. Impede or redirect flood flows?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: Currently, storm water generally sheet flows from north to south and drains onto Boyle Avenue before flowing west along Boyle and then south along Juniper Avenue to existing storm drains at the northeast and northwest corners of Slover Avenue and Juniper Avenue. The proposed Project is expected to generally maintain the existing drainage pattern. Upon development of the site, all on-site storm water would be captured on site in accordance with Santa Ana Regional Water Quality Control Board Order Number R8-2010-0036, National Pollutant Discharge Elimination System Permit No. CAS618036, also known as the Municipal Separate Storm Sewer System or MS4 permit. The runoff would be infiltrated via a subterranean chamber system and a pretreatment hydrodynamic separator located on the south side of the proposed warehouse building prior to discharge onto Boyle Avenue at volumes that do not exceed the existing, pre-developed condition.

i. The majority of the Project site consists of pervious surface area. Construction activities for the proposed Project would remove the remaining structures and pervious driveways, as well as the on-site vegetation, consisting primarily of non-native grasses and trees. These activities would expose surface soils to the potential for wind and water erosion. Pursuant to **Mitigation Measure HYD-2**, the Project Applicant would submit to the City an SWPPP that shall include a surface water control plan and erosion control plan citing specific measures to control on-site and off-site erosion during the entire demolition, grading, and construction period. In addition, the SWPPP shall emphasize structural and nonstructural BMPs to control sediment and non-visible discharges from the site. The SWPPP would include inspection forms for routine monitoring of the site during construction phases to ensure NPDES compliance and that additional BMPs and erosion control measures would be documented in the SWPPP and utilized if necessary. Upon completion of construction and during operation, the Project site would be paved and vegetated, which would prevent erosion and siltation of sediments. Through implementation of **Mitigation Measure HYD-2,** impacts from substantial erosion or siltation on or off site would be reduced to **less than significant with mitigation incorporated**.

ii. On-site conversion of permeable surfaces to impermeable surfaces could increase storm water runoff rates and/or volume. NPDES regulations require development projects to retain storm water runoff on site at levels that generally do not exceed the existing condition. Pursuant to **Mitigation Measure HYD-3,** the Project Applicant shall prepare a Final WQMP that details incorporation of self-treating or self-retaining areas such as landscaped areas of permeable

surfaces to the greatest extent practicable and streets/sidewalks/parking lots designed to minimum permitted widths to increase permeable areas. The Final WQMP shall verify the site's minimum DCV of runoff and specify appropriate LID BMPs to ensure post-development storm water runoff volume or time of concentration does not exceed pre-development storm water runoff by more than five percent of the 2-year peak flow in accordance with the NPDES MS4 Permit. Periodic maintenance of any required BMPs during Project occupancy and operation would be in accordance with the schedule outlined in the Final WQMP.

The Project-specific SWPPP and WQMP would be reviewed and approved as routine actions during the processing of the Project by the City; therefore, the required measures and features detailed in the SWPPP and WQMP to maintain drainage patterns and control the rate and volume of runoff would be incorporated into the proposed Project. Risks from flooding due to increases in storm water runoff would be reduced to **less than significant with mitigation incorporated** through implementation of **Mitigation Measures HYD-2** and **HYD-3**.

iii. The Clean Water Act (CWA) delegates authority to the states to issue NPDES permits for discharges of storm water from construction, industrial, and municipal entities to Waters of the United States. The purpose of the MS4 permit is to meet the SWRCB's requirements to mitigate for the negative impact of increases in storm water runoff caused by new development and redevelopment. The Project storm water discharge rates cannot exceed the pre-development runoff condition for 2-year 24-hour storm total or the 85$^{th}$ percentile 24-hour storm runoff event by more than five percent to be in compliance with the MS4 post-construction and site design requirements.

The Project is over one acre in size and is required to have coverage under the State's General Permit for Construction Activities SWPPP. Pursuant to **Mitigation Measure HYD-2,** an SWPPP would be prepared and detail BMPs to be implemented during construction to reduce/eliminate adverse water quality impacts resulting from development. All impacts related to runoff during demolition, site preparation, and construction would be addressed through implementation of the SWPPP.

Pursuant to **Mitigation Measure HYD-3,** the Applicant shall prepare a WQMP to address Section 303(d) listed pollutants and retain the project site's minimum DCV. Through implementation of **Mitigation Measure HYD-3,** BMPs shall be designed and implemented to ensure post-development storm water runoff volume or time of concentration does not exceed pre-development storm water runoff by more than five percent of the 2-year peak flow in accordance with the NPDES MS4 Permit. Additional Project design features, such as roof downspouts draining into pervious, landscaped areas, and maintenance of existing surface flows across the Project site into a subterranean infiltration chamber system, would further maintain the site's existing drainage pattern and prevent additional sources of polluted runoff. Periodic maintenance of the infiltration chamber system and landscaped areas during Project occupancy and operation shall be in accordance with the schedule outlined in the Final WQMP.

Proposed storm drain infrastructure along Boyle Avenue includes curb and gutter along the north side of Boyle Avenue, reinforced concrete pipe between 18 inches and 36 inches in diameter beneath Boyle Avenue, and a series of storm drain manholes from Juniper Avenue to its eastern

terminus at Sierra Avenue as part of the proposed off-site improvements to infrastructure in the immediate area. Future catch basins would be installed along the south site of Boyle Avenue in this area under a separate action by the City. Additional curb and gutter would be constructed along the east side of Juniper Avenue north of Boyle Avenue to its terminus at the Union Pacific Railroad tracks and include a riprap discharge structure from the railroad right-of-way onto Juniper Avenue, as well as a catch basin near the northeast corner of Boyle and Juniper Avenues. South of Boyle Avenue, Juniper Avenue would be repaved with asphalt concrete to a half-width of 28 feet to Slover Avenue and include reinforced concrete pipe between 36 inches and 42 inches in diameter with manholes beneath Juniper Avenue.[103] Additionally, the existing storm drains and catch basins at the intersection of Boyle Avenue and Juniper Avenue would be reconfigured in anticipation of the proposed upslope storm drain improvements along Boyle and Juniper Avenues. All storm drain infrastructure would be constructed to specifications detailed in Section 3000 (Storm Drain) of the City construction standards and Chapters 23 (Sewers and Sewage Disposal), Article V of Chapter 26 (Storm Drainage Benefit Area Fees), and Section 30-526(D) (Infrastructure, Storm Drains) of the City Municipal Code. The City Public Works Department would review these proposed storm drain improvements as part of the routine plan check process required by the City to ensure adequate capacity. Figures 7a through 7d detail the infrastructure and off-site improvements.

BMPs to mitigate the pollutants of concern would treat the flow prior to discharge to the Municipal storm drain system. The storm water from Project site would be conveyed to an on-site infiltration chamber system south of the proposed warehouse building in accordance with **Mitigation Measures HYD-3**. Any sources of storm water pollution would be addressed through adherence to NPDES permit requirements. Implementation of **Mitigation Measures HYD-2** and **HYD-3** would ensure polluted runoff during demolition, site preparation, and construction would be addressed by the SWPPP, and post-development storm water runoff volume or time of concentration would not exceed pre-development conditions by more than five percent of the 2-year peak flow. Therefore, impacts related to the creation or contribution of runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff would be reduced to **less than significant with mitigation incorporated**.

iv. According to the Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) Nos. 06071C8658H and 06071C8654H the Project site is located in Zone X, which is defined as an area determined to be outside the 0.2 percent annual chance floodplain.[104] Currently, storm water sheet flows generally in a south direction across the site toward Boyle Avenue. Upon development of the Project, on-site storm water and off-site storm water from the slope to the east would flow toward the subterranean infiltration chamber south of the proposed warehouse building. The site's DCV would be captured so that storm water runoff volume and time of concentration would not exceed pre-development conditions by more than five percent of the 2-year peak flow in accordance with the NPDES MS4 Permit prior to discharge to the improved drainage

[103] Curb, gutter, streetlights, and landscaping along Juniper Avenue south of Boyle Avenue will be installed by the City under a separate action.

[104] Federal Emergency Management Agency. *Flood Insurance Rate Map Nos. 06071C8658H and 06071C8654H*. https://msc.fema.gov/portal/search?AddressQuery=highland%2C%20california?AddressQuery=highland%2C%20california#searchresultsanchor (exported April 20, 2020).

infrastructure proposed along Boyle Avenue (refer to the discussion in Section 3.10(c)(iii) above). Additionally, a riprap discharge structure would be installed at the proposed Juniper Avenue cul-de-sac to facilitate continued storm water flows to be conveyed from the railroad right-of-way south along Juniper Avenue without obstruction from the proposed warehouse building. Impacts would be **less than significant** and mitigation is not required.

***Threshold D: In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to project inundation?***

**Less than Significant Impact**

Discussion of Effects: According to the City's Local Hazard Mitigation Plan, the Project site is not located in flood hazard or inundation zones,[105] and the site is not located near bodies of water or enclosed water storage features that could result in tsunamis or seiches. Impacts would be **less than significant** and mitigation is not required.

***Threshold E: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: Please refer to the discussion presented in Sections 3.10 (Threshold A) and 3.10 (Threshold B). **Mitigation Measures HYD-1** through **HYD-3** would ensure the Project would not substantially degrade surface or groundwater quality, inhibit groundwater recharge potential, or substantially deplete groundwater supplies, and the Project would not conflict with any applicable water quality control plan or sustainable groundwater management plan. Impacts would be reduced to **less than significant with mitigation incorporated**.

## 3.11 LAND USE AND PLANNING

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☐ | ☒ | ☐ |

[105] City of Fontana. *Local Hazard Mitigation Plan*. Figure 4-1: Flood Hazard Map and Figure 4-2: Dam Inundation areas in Fontana. June 2017; Approved and Adopted August 14, 2018.

***Threshold A: Would the Project physically divide an established community?***

**No Impact**

Discussion of Effects: The Project site is situated adjacent to the Union Pacific Railroad and Interstate 10 to the north, an engineered slope from the Sierra Avenue grade separation to the east, and an industrial pallet materials and staging yard to the west. Under existing conditions, the railroad, roadways, and staging yard already create a physical barrier between the residential uses to the south and any other community facilities or residential land uses on the opposite side of the Project site (Figure 2). Therefore, **no impact** would occur to an established community in the Project site vicinity from implementation of the proposed Project. Mitigation is not required.

***Threshold B: Would the Project 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?***

**Less than Significant Impact**

Discussion of Effects: The Project is proposed in an area of the City with a General Industrial (I-G) land use designation and General Industrial (M-2) Zoning District. The City General Plan indicates the General Industrial (I-G) land use designation allows uses such as manufacturing, warehousing, fabrication, assembly, processing, trucking, equipment, and automobile and truck sales and services with a floor-to-area ration (FAR) of 0.1 to 0.6.[106] Section No. 30-522(2) of the City Zoning and Development Code indicates the General Industrial (M-2) Zoning District is a general industrial zoning district that accommodates the manufacture and treatment of goods from raw materials, high cube/ warehousing and logistics, and permits other types of industrial uses not suitable for location in the M-1 District.

The Project includes development of a 176,219-square foot speculative logistics/distribution warehouse building, of which approximately 12,000 square feet would be office space, with an FAR of approximately 0.47. Therefore, the proposed Project is consistent with the types of land uses anticipated in the City's General Plan and Zoning and Development Code. As detailed throughout this Initial Study, the Project is consistent with the 2016 AQMP, and impacts to the environment resulting from the proposed Project are subject to applicable mitigation and local, State, and/or federal regulations, which would render the Project consistent with the ONTLUCP and Santa Ana RWQCB Basin Plan. Therefore, impacts related to conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect are **less than significant**. No additional mitigation is required.

[106] City of Fontana, State of California. *General Plan Update 2015-2035. Chapter 15 – Land Use, Zoning, and Urban Development.* Page 15.26. Approved and Adopted November 13, 2018.

## 3.12 MINERAL RESOURCES

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | 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? | ☐ | ☐ | ☒ | ☐ |
| 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 plans? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project 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?***

***And***

***Threshold B: Would the Project 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 plans?***

**Less than Significant Impact**

Discussion of Effects: The project site is located within Mineral Resource Zone 2 (MRZ-2),[107] which is defined as an area where adequate information indicates that significant mineral resources are present, or where it is judged that a high likelihood for their presence exists. Land included in MRZ-2 is of prime importance because it contains known economic mineral deposits.[108]

The project site comprises 8.15 acres of underutilized land surrounded by residential development to the south, industrial development to the west, and commercial development to the north and east across the Union Pacific Railroad/Interstate 10 and Sierra Avenue, respectively. The General Plan land use designation for the project site is General Industrial (I-G), and the zoning designation is General Industrial (M-2). These land use designations are designed to facilitate manufacturing, warehousing, fabrication, assembly, processing, trucking, equipment, and automobile and truck sales and services. Mineral resources mining is not a use compatible with the surrounding land uses, and the Project site has minimal potential to be mined in the future because of its small size and location surrounded by urban development. Additionally, the Project site and vicinity are not considered a State-designated mineral resource extraction zone. Mineral resources extraction would conflict with the purpose and scope of the General Plan and Zoning District in this part of the City. Therefore, impacts from the loss of available mineral resources would be **less than significant**. Mitigation is not required.

[107] California Department of Conservation. *Mineral Land Classification Map, San Bernardino P-C Region.* Fontana Quadrangle, Special Report 143, Plate 7.6. 1975.

[108] California Department of Conservation State Mining and Geology Board. *Guidelines for Classification and Designation of Mineral Lands.* http://www.conservation.ca.gov/smgb/guidelines/documents/classdesig.pdf (accessed April 21, 2020).

## 3.13 NOISE

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Result in generation of 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? | ☐ | ☒ | ☐ | ☐ |
| b) Result in generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |
| 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? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project result in generation of 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?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: Section 30-543(a) of the City's Municipal Code establishes daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) exterior noise standards of 70 and 65 a-weighted decibels (dBA), respectively for residential-zoned property from industrial-zoned uses. This standard is used as a conservative approach because, although the adjacent properties to the south are zoned (C-2) General Commercial (refer to Table 2.2.A), they consist of non-conforming residential uses, which are considered noise-sensitive land uses where people reside or where the presence of unwanted sound could adversely affect the use of the land.[109] Section 18-63(b)(7) of the City's Municipal Code establishes exemption criteria for construction activities, specifically exempting noise generated from construction between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays. Finally, the General Plan identifies three main categories (audible, potentially audible, and inaudible) associated with noise impacts; only an audible change in noise level, which is a change of 3 dBA or more, is considered potentially significant.[110]

The following analysis is based on a Project-specific Noise and Vibration Impact Analysis prepared for the Transwestern – Boyle Avenue Warehouse Building 1 Project (Appendix J). In order to establish

[109] Occupants of residences, hospitals, schools, guest lodging, libraries, churches, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds and parks are considered noise-sensitive receptors.

[110] City of Fontana. *Fontana Forward General Plan Update 2015–2035. Draft Environmental Impact Report. SCH #2016021099.* Page 5.10-4. June 8, 2018.

baseline conditions, three short-term (20-minute) and two long-term (24-hour) ambient noise level measurements were conducted between May 12 and May 13, 2020,[111] as detailed in Tables 3.13.A and 3.13.B.

**Table 3.13.A: Short-Term Ambient Noise Level Measurements**

| Monitor No. | Location[1] | Date | Start Time | Noise Level (dBA)[2] | | | Noise Source(s) |
|---|---|---|---|---|---|---|---|
| | | | | $L_{eq}$ | $L_{max}$ | $L_{min}$ | |
| ST-1 | 16883 Boyle Avenue. On the south side of Boyle Avenue in front of the home. | 5/12/20 | 12:42 p.m. | 58.8 | 78.9 | 52.0 | Traffic on I-10, Sierra Avenue, and Boyle Avenue. Aircraft noise and industrial activity west of the Project site. Other noise include birds and dogs barking. |
| ST-2 | West side of Project approximately 25 feet north of Boyle Avenue and 10 feet from the adjacent pallet facility wall. | 5/12/20 | 12:46 p.m. | 58.5 | 69.9 | 51.2 | Traffic on I-10, Sierra Avenue, and Boyle Avenue. Aircraft and train noise. Industrial activity west of the Project site. Other noise include birds and pedestrians. |
| ST-3 | West side of Project approximately 170 feet north of Boyle Avenue and 10 feet from the adjacent pallet facility wall. | 5/12/20 | 3:01 p.m. | 57.9 | 72.0 | 50.1 | Traffic on I-10, Sierra Avenue, and Boyle Avenue. Aircraft and train noise. Industrial activity west of the Project site. Other noise include birds and pedestrians. |

Source: LSA. *Noise and Vibration Assessment for the Transwestern – Boyle Avenue Building 1 Project.* Table F. June 2020 (Appendix J).
[1] Monitoring locations are depicted in Figure 3 of Appendix J.
[2] Noise measurements were conducted during the stay at home order due to COVID-19 and the results of measured noise levels may be lower than typical conditions.

dBA = A-weighted decibel
I-10 = Interstate 10
$L_{eq}$ = equivalent continuous sound level
$L_{max}$ = maximum measured sound level
$L_{min}$ = minimum measured sound level

**Table 3.13.B: Long-Term Ambient Noise Monitoring Results**

| Monitoring No. | Location[1] | Start Date | Start Time | Duration (hours) | Noise Level (dBA)[2] | | Noise Source(s) |
|---|---|---|---|---|---|---|---|
| | | | | | $L_{eq}$ | CNEL | |
| LT-1 | South side of Boyle Avenue | 5/12/20 | 12:00 p.m. | 24 | 60.0 | 65.5 | Traffic on I-10 freeway, Sierra Avenue, and Boyle Avenue. |
| LT-2 | East side of Juniper Avenue south of Boyle Avenue. | 11/18/19 | 12:00 p.m. | 24 | 59.1 | 64.5 | Traffic on I-10 freeway, Juniper Avenue, Boyle Avenue, and Sierra Avenue. |

Source: LSA. *Noise and Vibration Assessment for the Transwestern – Boyle Avenue Building 1 Project.* Table I. June 2020 (Appendix J).
[1] Monitoring locations are depicted in Figure 3 of Appendix J.
[2] Noise measurements were conducted during the stay at home order due to COVID-19 and the results of measured noise levels may be lower than typical conditions.

dBA = A-weighted decibels
$L_{eq}$ = Equivalent Continuous Sound Level
CNEL = Community Noise Equivalent Level
I-10 = Interstate 10

[111] The ambient noise level measurements were conducted during the stay-at-home order due to COVID-19, and the results of measured noise levels may be lower than typical conditions.

***Temporary (Construction) Noise.*** Noise increases from the proposed Project would be generated on a short-term basis during temporary construction activities. Noise impacts associated with construction activity are a function of the noise generated by the type of equipment used, the location and sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. Two types of short-term construction noise would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the Project site and would incrementally raise noise levels on roadways leading to the site.

Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 feet would generate up to a maximum of 84 dBA) during equipment and material delivery to and from the site for construction preparation, the effect on longer-term ambient noise levels would be negligible because the daily construction-related vehicle trips are few when compared to existing daily traffic volume on Juniper Avenue and Boyle Avenue. The building construction phase would generate the most trips out of all of the construction phases, at 498 trips per day based on the CalEEMod, Version 2016.3.2. Boyle Avenue and Juniper Avenue have estimated existing daily traffic volumes of 190 and 465, respectively, near the Project site. Construction-related traffic could increase ambient noise by 5.6 dBA along Boyle Avenue and 3.2 dBA along Juniper Avenue. However, long-term ambient noise measurements conducted at the Project site indicate ambient noise levels along Boyle Avenue are 65.5 dBA Community Noise Equivalent Level (CNEL) and along Juniper Avenue are 64.5 dBA CNEL. When factoring in ambient noise levels, construction-related traffic would increase noise by 0.4 dBA along Boyle Avenue and 0.5 dBA along Juniper Avenue, which is not an audible increase in ambient noise levels in an outdoor environment. Therefore, no short-term, construction-related impacts associated with worker commute and transport of construction equipment and material to and from the Project site would occur.

The second type of short-term construction noise is related noise generated from heavy equipment used during construction activities. The Project includes demolition, site preparation, grading, building construction, architectural coating, and paving phases of construction. These various sequential phases change the character of the noise generated on a project site. Typical noise levels range up to 88 dBA maximum measured sound level ($L_{max}$) at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Noise associated with the use of earthmoving equipment is estimated to be between 55 dBA $L_{max}$ and 85 dBA $L_{max}$ at a distance of 50 feet from the active construction area. The maximum noise level generated by each grader is assumed to be approximately 85 dBA $L_{max}$ at 50 feet. Each bulldozer would generate approximately 85 dBA $L_{max}$ at 50 feet. The maximum noise level generated by water trucks/ pickup trucks is approximately 55 dBA $L_{max}$ at 50 feet from these vehicles.

Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 88 dBA $L_{max}$ at a distance of 50 feet from the active construction area. Based on a usage factor of 40 percent, the worst-case

combined noise level during this phase of construction would be 84 dBA[112] equivalent continuous sound level ($L_{eq}$)[113] at a distance of 50 feet from the active construction area.

The receptors sensitive to noise that are closest to the Project construction boundary are residences located within 50 feet to the south (south side of Boyle Avenue) and may be subject to short-term construction noise reaching 88 dBA $L_{max}$ (84 dBA $L_{eq}$) or higher as measured from the receptor property line. These noise levels represent a worst-case scenario that is typically associated with grading activity, which only represents a limited duration in time during the overall construction period. Ambient noise levels at the closest residential property line south of Boyle Avenue range between 54.7 and 62.4 dBA $L_{eq}$ and 73.6 and 88.0 dBA $L_{max}$ based on long-term ambient noise measurements taken at the Project site. Although the noise generated by Project construction activities would be higher than the ambient noise levels and may result in a temporary increase in the ambient noise levels, construction noise would stop once project construction is completed.

The proposed Project is required to comply with the construction hours specified in Section 18-63(b)(7) of the City Municipal Code. As specified in **Mitigation Measure NOI-1**, construction activities are restricted within the City to between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday, between 8:00 a.m. and 5:00 p.m. on Saturdays, and are prohibited on Sundays and federal holidays.

**Mitigation Measure NOI-1:** Prior to issuance of demolition, grading, and building permits, the Project Applicant shall provide evidence to the City that construction plans include direction to limit construction activities, including operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, grading, or demolition work, to the hours of 7:00 a.m. to 6:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays. No construction shall be allowed at any time on Sundays and federal holidays except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the building inspector, which permit may be granted for a period not to exceed three days or less while the emergency continues and which permit may be renewed for periods of three days or less while the emergency continues. This measure shall be implemented to the satisfaction of the City of Fontana Building Inspector.

Since the City's Municipal Code Section 18-63(b)(7) allows construction noise in excess of normally defined thresholds between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays, implementation of **Mitigation Measure NOI-1** would ensure the Project would not generate a substantial temporary increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance. Impacts would be reduced to **less than significant with mitigation incorporated**.

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112 The usage factor of 40 percent is approximately 4 dBA less than the maximum noise level (88 dBA maximum noise level - 4 dBA usage factor = 84 dBA).

113 The $L_{eq}$ noise level is provided to describe construction noise levels for a longer period of time (compared to the maximum instantaneous noise level, $L_{max}$) and compare it to ambient noise levels anticipated to be generated by the proposed Project.

***Permanent (Operational) Noise.*** Long-term noise associated with the Project would be generated from vehicle traffic entering and exiting the site and on-site stationary sources, such as truck delivery and loading/unloading activities. These mobile and stationary operational noise sources are analyzed separately in relation to the ambient noise environment because the City's applicable noise standards are different for mobile versus stationary noise sources. Whereas mobile noise sources such as vehicle traffic are measured as CNEL, stationary noise sources such as truck loading/unloading, parking lot activities, and heating ventilation air conditioning are measured as $L_{max}$ and $L_{eq}$. Additionally, anticipating the timing of noise events (continuous versus intermittent) would be speculative, as they differ for the various stationary noise sources. However, reasonable assumptions are made as specified for each noise source described below in order to combine the stationary noise levels anticipated to be generated by the proposed Project and compare them to the ambient noise environment in terms of $L_{eq}$.[114]

*Mobile Noise:* Noise levels from vehicle traffic (including employee passenger vehicles and freight trucks) entering and exiting the site are analyzed along roadway segments in the project vicinity using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (1977; FHWA RD-77-108). The existing (2020) and opening year (2021) average daily traffic (ADT) volumes were obtained from the Focused Traffic Impact Analysis (TIA) of the Project (Appendix K). The standard vehicle mix for southern California roadways was used for traffic on these roadway segments under the without Project scenario. Under the with Project scenario, the vehicle mix was adjusted based on the Project's vehicle mix through consultation with the City as part of the Traffic Scoping Agreement (refer to Appendix K).

Tables 3.13.C and 3.13.D summarize the existing (2020) and opening year (2021) traffic noise levels without and with the Project along roadways in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. Additionally, the Project site is very close to a similar, albeit independent, [76,562-square foot] warehouse project (Transwestern – Boyle Avenue Building 2) (Building 2) on APNs 0251-202-12 and 15 to the west of the Project site. Because passenger vehicle and freight truck access to and from both sites would occur via the Slover Avenue/Juniper Avenue intersection and along Juniper Avenue, traffic and associated noise generated from the operation of Building 2 is incorporated in the opening year (2021) analysis to consider the ambient noise effect of both Projects on the neighborhood.

As detailed in Table 3.13.D, the Project-related traffic noise increase on Boyle Avenue and Juniper Avenue would increase by up to 8.4 dBA and 4.5 dBA, respectively. However, when factoring existing noise levels (65.5 dBA CNEL at LT-1 and 64.5 dBA CNEL at LT-2) based on ambient noise measurements taken in the Project vicinity (refer to Figure 3 of Appendix J), the Project-related traffic noise increase on Boyle Avenue and Juniper Avenue would be 1.2 dBA and 1.0 dBA, respectively, under the opening year (2021) scenario with both Building 1 and Building 2 Projects operating. Noise level increases less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, traffic noise impacts from project-related traffic on off-site sensitive receptors would be **less than significant**.

[114] The $L_{eq}$ noise level is provided to describe operatonal noise levels for a longer period of time (compared to the maximum instantaneous noise level, $L_{max}$) and compare them to ambient noise levels anticipated to be generated by the proposed Project.

## Table 3.13.C: Existing (2020) Traffic Noise Levels Without and With Project

| Roadway Segment | Without Project Traffic Conditions | | | | | With Project Traffic Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ADT | Center-line to 70 dBA CNEL (feet) | Center-line to 65 dBA CNEL (feet) | Center-line to 60 dBA CNEL (feet) | CNEL (dBA) 50 feet from Centerline of Outermost Lane | ADT | Center-line to 70 dBA CNEL (feet) | Center-line to 65 dBA CNEL (feet) | Center-line to 60 dBA CNEL (feet) | CNEL (dBA) 50 feet from Centerline of Outermost Lane | Increase from Baseline Conditions |
| Boyle Avenue from Juniper Avenue to Project Driveway | 190 | < 50 | < 50 | < 50 | 43.5 | 497 | < 50 | < 50 | < 50 | 54.6 | 11.1 (1.5)[1] |
| Juniper Avenue from Boyle Avenue to Slover Avenue | 465 | < 50 | < 50 | < 50 | 47.4 | 772 | < 50 | < 50 | < 50 | 53.7 | 6.3 (1.3)[2] |
| Slover Avenue from Juniper Avenue to Sierra Avenue | 18,493 | 60 | 116 | 242 | 67.7 | 18,694 | 60 | 116 | 244 | 67.7 | 0.0 |

Source: LSA Associates, Inc. *Noise and Vibration Assessment for the Transwestern – Boyle Avenue Building 1 Project.* Table N. June 2020 (Appendix J).

Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

[1] The overall traffic noise increase for the residences along Boyle Avenue would be 1.5 dBA when the ambient noise levels are factored in.

[2] The overall traffic noise increase for the residences along Juniper Avenue would be 1.3 dBA when the ambient noise levels are factored in.

ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels

## Table 3.13.D: Opening Year (2021) Traffic Noise Levels Without and With Project

| Roadway Segment | Without Project Traffic Conditions | | | | | With Project Traffic Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ADT | Center-line to 70 dBA CNEL (feet) | Center-line to 65 dBA CNEL (feet) | Center-line to 60 dBA CNEL (feet) | CNEL (dBA) 50 feet from Centerline of Outermost Lane | ADT | Center-line to 70 dBA CNEL (feet) | Center-line to 65 dBA CNEL (feet) | Center-line to 60 dBA CNEL (feet) | CNEL (dBA) 50 feet from Centerline of Outermost Lane | Increase from Baseline Conditions |
| Boyle Avenue from Juniper Avenue to Project Driveway | 304 | < 50 | < 50 | < 50 | 45.6 | 611 | < 50 | < 50 | < 50 | 54 | 8.4 (1.2)[1] |
| Juniper Avenue from Boyle Avenue to Slover Avenue | 679 | < 50 | < 50 | < 50 | 49 | 986 | < 50 | < 50 | < 50 | 53.5 | 4.5 (1.0)[2] |
| Slover Avenue from Juniper Avenue to Sierra Avenue | 20,713 | 63 | 124 | 261 | 68.2 | 20,914 | 64 | 125 | 263 | 68.2 | 0.0 |

Source: LSA Associates, Inc. *Noise and Vibration Assessment for the Transwestern – Boyle Avenue Building 1 Project.* Table O. June 2020 (Appendix J).

Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

[1] The overall traffic noise increase for the residences along Boyle Avenue would be 1.2 dBA when the ambient noise levels are factored in.

[2] The overall traffic noise increase for the residences along Juniper Avenue would be 1.0 dBA when the ambient noise levels are factored in.

ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels

*Truck Delivery and Loading/Unloading Activities:* Truck delivery and truck loading/unloading activities during operation of the Project would be located on the south side of the warehouse building, as shown in Figure 4. These activities would occur during both daytime and nighttime hours. Noise levels generated from these activities would result in a maximum noise level of 75 dBA $L_{max}$ at 50 feet. Although a typical truck-unloading process takes an average of 15–20 minutes, this maximum noise level occurs in a much shorter period of time (less than 5 minutes). Approximately seven delivery trucks per hour are expected to the site, and each truck is assumed to generate the maximum noise level for a cumulative period of 5 minutes, which would result in a cumulative period of 35 minutes in any hour.[115] Based on the assumptions above, truck delivery and truck loading and unloading activities would generate a noise level of 72.7 dBA $L_{eq}$ at 50 feet.[116]

The closest residential property line to the project's truck delivery and truck loading/unloading activities is located approximately 210 feet south of the Project site across Boyle Avenue. At a distance of 210 feet, noise would be attenuated by 12.5 dBA compared to the noise level measured at 50 feet from the source.[117] A 14-foot high concrete tilt-up screen wall shall be constructed to shield the loading docks from surrounding properties and would provide a minimum noise reduction of 10 dBA.[118] Therefore, noise generated from on-site truck delivery and truck loading/unloading activities at the closest residential property line south of the Project site would reach 50.2 dBA $L_{eq}$ (i.e., 72.7 dBA – 12.5 dBA – 10 dBA = 50.2 dBA).

*Parking Lot Activity:* The Project includes surface parking on the south and west side of the warehouse building for employees and delivery trucks. Noise generated from parking lot activities would result from vehicles traveling at slow speeds, engine start-up noise, car door slams, car horns, car alarms, and tire squeals. Representative parking activities would generate approximately 60 to 70 dBA $L_{max}$ at 50 feet. Parking activities from employees and delivery trucks are assumed to generate the maximum noise level for a cumulative period of 15 minutes in any hour, which would result in a noise level of 64.0 dBA $L_{eq}$ at 50 feet.[119]

The closest residential property is located south of Boyle Avenue 110 feet south of the proposed employee parking lot and 70 feet south of the truck parking lot. At a distance of 110 feet and 70 feet, noise would be attenuated by 6.8 dBA and 2.9 dBA, respectively, compared to the noise level measured at 50 feet from the source because sound levels decrease approximately 6 dB for each doubling of distance from the source. As stated above, the required 14 foot-high concrete tilt-up screen wall would shield the truck parking lot from surrounding properties and would provide a minimum noise reduction of 10 dBA. Noise generated from on-site parking lot activities at the closest

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115 The trip generation for Building 1 indicates 95 truck trips per day, of which 21 would be medium trucks and 74 heavy trucks (refer to Appendix K). Distributing this over 24 hours with more trips assumed during the daytime comes out to 18 medium trucks and 64 heavy trucks (total of 82 daytime trucks). 82 daytime spread out evenly over 12 daytime hours is 6.8 trucks (rounded to 7 trucks per hour).

116 LSA Associates, Inc. *Noise and Vibration Assessment for the Transwestern – Boyle Avenue Building 1 Project.* Page 23. June 2020 (Appendix J).

117 According to the Inverse Square Law, sound levels decrease approximately 6 dB for each doubling of distance from the source. Georgia State University. *Estimating Sound Levels with the Inverse Square Law.* HyperPhysics, Department of Physics and Astronomy. 2016. http://hyperphysics.phy-astr.gsu.edu/hbase/Acoustic/isprob2.html (accessed June 2, 2020).

118 Atkinson-Noland & Associates, Inc. *Masonry Sound Barrier Walls and Fences.* Page 28. 2007.

119 LSA Associates, Inc. *Noise and Vibration Assessment for the Transwestern – Boyle Avenue Building 1 Project.* Page 24. June 2020 (Appendix J).

residential property line south of the project site would reach 57.2 dBA $L_{eq}$ (i.e., 64.0 dBA – 6.8 dBA = 57.2 dBA) and 51.1 dBA $L_{eq}$ (i.e., 64.0 dBA – 2.9 dBA – 10 dBA = 51.1 dBA).

*Heating-Ventilation-Air Conditioning (HVAC) Activity:* The Project includes up to two rooftop HVAC units shielded from public view by four-foot high parapets. The HVAC equipment could operate 24 hours per day. Each rooftop HVAC unit would generate a noise level of 66.6 dBA $L_{eq}$ at a distance of 5 feet. Two HVAC units operating simultaneously would generate a noise level of 69.6 dBA $L_{eq}$ at a distance of 5 feet. Since sound levels decrease approximately 6 dB for each doubling of distance from the source, HVAC noise at 50 feet would reach 49.6 dBA $L_{eq}$.[120]

The closest residential property is located south of Boyle Avenue 200 feet south of the proposed rooftop HVAC equipment. At a distance of 200 feet, noise would be attenuated by 12 dBA compared to the noise level measured at 50 feet from the source. The rooftop HVAC equipment would be shielded by the roofline and parapet, together which would provide a minimum noise reduction of 8 dBA. Noise generated from on-site HVAC equipment at the closest residential property line would reach 29.6 dBA $L_{eq}$ (i.e., 49.6 dBA – 12 dBA – 8 dBA = 29.6 dBA).

Table 3.13.E details the combined stationary noise from truck delivery and truck loading and unloading activities, parking activities from employees and truck delivery, and rooftop HVAC equipment at the closest residential property.

**Table 3.13.E: Stationary Noise Levels**

| Noise Source | Reference Noise Level at 50 feet (dBA $L_{eq}$) | Distance from Source to Receptor (feet) | Distance Attenuation (dBA) | Shielding (dBA) | Noise Level (dBA $L_{eq}$) | Combined Noise Level (dBA $L_{eq}$) |
|---|---|---|---|---|---|---|
| Truck Delivery and Truck Loading and Unloading | 72.7 | 210 | 12.5 | 10 | 50.2 | 58.8 |
| Truck Parking | 64 | 70 | 2.9 | 10 | 51.1 | |
| Employee Parking | 64 | 110 | 6.8 | 0 | 57.2 | |
| HVAC Noise | 49.6 | 200 | 12 | 8 | 29.6 | |

Source: LSA Associates, Inc. *Noise and Vibration Assessment for the Transwestern – Boyle Avenue Building 1 Project.* Table P. June 2020 (Appendix J).
dBA = A-weighted decibels
HVAC = heating, ventilation, and air conditioning
$L_{eq}$ = equivalent continuous sound level

As shown in Table 3.13.E, the combined stationary noise level generated by the Project is 58.8 dBA $L_{eq}$, which would not exceed the City's exterior daytime and nighttime noise standards of 70 dBA and 65 dBA, respectively. Furthermore, Table 3.13.B indicates the average $L_{eq}$ noise level at the closest residential property line (LT-1) is measured to be 60 dBA $L_{eq}$. The measured average ambient noise level is higher than noise levels generated from Project stationary noise sources, which therefore would not increase the ambient noise environment in the project area.

[120] *Ibid.*

The analysis above is based on a Project-specific Noise and Vibration Impact Analysis prepared for the Transwestern – Boyle Avenue Warehouse Building 1 Project (Appendix J). The analysis included short-term and long-term ambient noise measurements taken at the Project site and examined how short-term construction and long-term operational noise generated by the proposed Project would affect the surrounding land uses based on existing baseline conditions. As detailed above, the Project would not result in generation of 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. With implementation of **Mitigation Measure NOI-1** for construction activities, impacts would be reduced to **less than significant with mitigation incorporated**.

***Threshold B: Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?***

**Less than Significant Impact**

Discussion of Effects: The following analysis is based on a Project-specific Noise and Vibration Impact Analysis prepared for the Transwestern – Boyle Avenue Warehouse Building 1 Project (Appendix J).

Groundborne noise is typically assessed at locations where there is no airborne noise path, or for buildings with substantial sound insulation such as a recording studio. For typical buildings, the interior airborne noise levels are often higher than the groundborne noise levels. Therefore, the main focus of the discussion/analysis is groundborne vibration. A vibration level of 94 vibration velocity decibels (VdB) (0.2 peak particle velocity [PPV] inches per second [in/sec]) is the threshold used to evaluate construction vibration impacts to buildings because this vibration level has the potential to damage residential structures made of non-engineered timber.[121] Because the City does not specify the vibration level that can be felt, this analysis uses a vibration perception threshold of 78 VdB, which is the approximate threshold of perception for many humans, for residential buildings, 84 VdB for commercial or office uses, and 90 VdB for industrial buildings that are not as sensitive to vibration to determine community annoyance.[122]

***Construction Vibration.*** The greatest levels of vibration are anticipated to occur during the site preparation phase, during which a large bulldozer and loaded trucks would generate groundborne vibration of up to 87 VdB (0.089 PPV [in/sec]) and 86 VdB (0.076 PPV [in/sec] when measured at 25 feet, respectively. All other construction phases are expected to result in lower vibration levels.

The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project construction limits because vibration impacts normally occur within buildings. Table 3.13.F lists the projected vibration levels at the nearest adjacent buildings from various construction equipment expected to be used on the Project site.

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121 Federal Transit Administration (FTA). *Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123.* September 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed June 2, 2020).

122 *Ibid.*

**Table 3.13.F: Summary of Construction Vibration Levels**

| Land Use | Direction | Equipment/ Activity | Reference Vibration Level | | Distance (feet)[1] | Maximum Vibration Level (Vdb) | Maximum Vibration (PPV) |
|---|---|---|---|---|---|---|---|
| | | | Vdb at 25 feet | PPV (in/sec) at 25 feet | | | |
| Commercial | East | Large bulldozer | 87 | 0.089 | 275 | 56 | 0.002 |
| | | Loaded truck | 86 | 0.076 | 275 | 55 | 0.002 |
| Residential | South | Large bulldozer | 87 | 0.089 | 90 | 70 | 0.013 |
| | | Loaded truck | 86 | 0.076 | 90 | 69 | 0.011 |
| Industrial | West | Large bulldozer | 87 | 0.089 | 30 | 85 | 0.068 |
| | | Loaded truck | 86 | 0.076 | 30 | 84 | 0.058 |

Source: LSA Associates, Inc. *Noise and Vibration Assessment for the Transwestern – Boyle Avenue Building 1 Project.* Table M. June 2020 (Appendix J).
Note: The FTA-recommended building damage threshold is 90 VdB (or 0.12 PPV [in/sec]) for fragile buildings, 94 VdB (0.2 PPV [in/sec]) for non-engineered timber and masonry structures, and 98 VdB (0.3 PPV [in/sec]) for engineered concrete and masonry buildings.
[1] Distances reflect the nearest structure to the nearest project construction boundary.
FTA = Federal Transit Administration
PPV = peak particle velocity
in/sec = inches per second
VdB = vibration velocity decibels

The closest building in proximity to the Project construction limits is an industrial building observed to be constructed of non-engineered timber and masonry approximately 30 feet west of the Project construction boundary and is used as a workshop and material storage facility for the industrial pallet yard adjacent to the west of the Project site. As shown in Table 3.13.F, this building would experience vibration levels of up to 85 VdB (0.044 PPV in/sec). This vibration level would not result in building damage because it would not exceed the FTA damage threshold of 94 VdB (0.2 PPV [in/sec]), nor would it result in annoyance because it would not exceed the FTA's annoyance threshold of 90 VdB for buildings akin to industrial workshops that are not as sensitive to vibration. Other nearby buildings (residential and commercial buildings observed to be constructed of non-engineered timber and masonry) are farther than 30 feet from the Project construction boundary and would experience vibration levels of 70 VdB (0.013 PPV [in/sec]) or lower (refer to Table 3.13.F). These vibration levels would not result in building damage because they would not exceed the FTA damage threshold of 94 VdB (0.2 PPV [in/sec]) for non-engineered timber and masonry buildings, nor would they result in annoyance because they would not exceed the FTA's annoyance thresholds of 78 VdB and 84 VdB for residential and commercial buildings, respectively.

Construction vibration levels at the closest buildings would not exceed the FTA threshold of 94 VdB (0.2 PPV [in/sec]) for building damage when bulldozers and loaded trucks operate at the Project construction boundary. In addition, construction vibration levels would not exceed the vibration annoyance threshold of 78 VdB for residential uses, 84 VdB for commercial/office uses, or 90 VdB for industrial uses. Therefore, construction vibration levels would be **less than significant.** Mitigation is not required.

***Long-Term Operational Vibration.*** Operation of the proposed warehouse would not generate substantial vibration. In addition, vibration generated from project-related traffic on the adjacent roadways (Boyle Avenue and Juniper Avenue) is not expected to be substantial for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation.

Therefore, vibration generated from project-related operations and traffic on the adjacent roadways would be **less than significant.** Mitigation is not required.

***Threshold 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***

**Less than Significant Impact**

Discussion of Effects: The Ontario International Airport is 8.2 miles west of the Project site. The Compatibility Policy Map: Noise Impact Zones from the LA/Ontario International Airport Land Use Compatibility Plan shows that the Project site is outside of the 60 to 65 dBA CNEL noise contour.[123] Therefore, the Project would not expose people working in the project area to excessive airport-related noise levels. Impacts would be **less than significant** and mitigation is not required.

## 3.14 POPULATION AND HOUSING

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Induce substantial unplanned population growth in an area, either directly (e.g., new homes and businesses) or indirectly (e.g., extension of roads and infrastructure)? | ☐ | ☐ | ☒ | ☐ |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project induce substantial unplanned population growth in an area, either directly (e.g., new homes and businesses) or indirectly (e.g., extension of roads and infrastructure)?***

**Less than Significant Impact**

Discussion of Effects: *CEQA Guidelines* Section 15126.2[d] identifies a project as growth inducing if it fosters economic or population growth, or the construction of additional housing either directly or indirectly in the surrounding environment. New employees from commercial or industrial development and new population from residential development represent direct forms of growth, which have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area.

Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of little significance to the environment. Typically, the growth-inducing potential of a project would be considered substantial if it fosters growth or a concentration of population in excess of what is

[123] Ontario International Airport Land Use Compatibility Plan. *Chapter 2: Procedural and Compatibility Policies.* Map 2-3: Noise Impact Zones. April 19, 2011.

assumed in pertinent master plans, land use plans, or in projections made by regional planning agencies (e.g., SCAG).

The Project is proposed in an area of the City with a General Industrial (I-G) land use designation and General Industrial (M-2) Zoning District. The City General Plan indicates the General Industrial (I-G) land use designation allows uses such as manufacturing, warehousing, fabrication, assembly, processing, trucking, equipment, and automobile and truck sales and services with a floor-to-area ration (FAR) of 0.1 to 0.6.[124] Section No. 30-522(2) of the City Zoning and Development Code indicates the General Industrial (M-2) Zoning District is a general industrial zoning district that accommodates the manufacture and treatment of goods from raw materials, high cube/warehousing and logistics, and permits other types of industrial uses not suitable for location in the M-1 District.

As detailed in Section 3.11 above, the proposed Project is consistent with the City General Plan and Zoning and Development Code through development of a 176,219-square foot speculative logistics/ distribution warehouse building, of which approximately 12,000 square feet would be office space, with an FAR of approximately 0.47. Based on the Institute of Transportation Engineers (ITE) *Trip Generation* (10th Edition) rates for Land Use 150 – "Warehousing," the proposed Project would generate approximately 61 employees.[125]

Although the potential exists for the proposed Project to result in population growth through employment opportunities, the Project is consistent with the General Plan land use designation and Zoning and Development Code for the site. Therefore, population increase as a result of the proposed Project is not considered substantial or unplanned. The proposed Project would have a **less than significant** impact to the environment from population growth. Mitigation is not required.

***Threshold B: Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?***

**Less than Significant Impact**

Discussion of Effects: As of 2018, Fontana had approximately 213,739 residents, 53,510 households, and an average of 3.89 persons per household.[126] The Project site is occupied with two residential households, so approximately eight people could reside on the site. The two on-site residential units and their occupants would be displaced by the proposed Project. It is possible that relocation of these existing City residents would require some incremental amount of new housing to be constructed, but it is more likely that these displaced residents would find adequate housing within the existing unoccupied housing stock within the City or adjacent communities. According to recent housing data, the City has a housing vacancy of approximately 4 percent.[127] Based on 53,510 households in the City, there are approximately 2,140 vacant residential units in the City. The eight residents and two

[124] City of Fontana, State of California. *General Plan Update 2015-2035. Chapter 15 – Land Use, Zoning, and Urban Development.* Page 15.26. Approved and Adopted November 13, 2018.

[125] Average 1.74 daily vehicle trips per 1,000 square feet gross floor area and average 5.05 daily vehicle trips per employee. 1.74 ÷ 5.05 = 0.345 employee per 1,000 square feet gross floor area. 0.345 × 176.219 = 61 employees.

[126] United States Census Bureau. *QuickFacts, Fontana City, California.* https://www.census.gov/quickfacts/fact/table/fontanacitycalifornia,US/PST045219 (accessed April 6, 2020).

[127] TownCharts. *Fontana, California Housing Data.* Figure 35: Occupied and Vacant Housing Units in Fontana, CA. https://www.towncharts.com/California/Housing/Fontana-city-CA-Housing-data.html (accessed April 21, 2020). 2019 American Community Survey.

households displaced from the Project site would respectively represent approximately 0.0037 percent of the City's population and 0.093 percent of the City's available vacant housing stock. Therefore, an adequate amount of vacant housing is available in the City for residents and households displaced by the proposed Project to relocate, and the Project would not displace a substantial number of people or housing that would necessitate the construction of housing elsewhere. Impacts would be **less than significant.** Mitigation is not required.

## 3.15 PUBLIC SERVICES AND FACILITIES

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Fire protection? | ☐ | ☐ | ☒ | ☐ |
| b) Police Protection? | ☐ | ☐ | ☒ | ☐ |
| c) Schools? | ☐ | ☐ | ☐ | ☒ |
| d) Parks? | ☐ | ☐ | ☒ | ☐ |
| e) Other Public Facilities, including Libraries? | ☐ | ☐ | ☒ | ☐ |

***Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:***

***Threshold A: Fire Protection services?***

**Less than Significant Impact**

Discussion of Effects: The San Bernardino County Fire Department provides fire protection, fire prevention, and emergency services to the Fontana Fire Protection District (FFPD) comprising City of Fontana and the Project site. San Bernardino County Fire Station 77 located at 17459 Slover Avenue approximately 1 mile to the east is the closest station to the Project site. Fire Station 77 is staffed with one captain, one engineer, two firefighter paramedics, and one firefighter and is equipped with one medic engine and one medic squad.[128] Average travel time between Fire Station 77 and the Project

[128] City of Fontana. *About the Fontana Fire District, Stations & Equipment, Fire Station 77.* https://www.fontana.org/639/Stations-Equipment (accessed May 26, 2020).

site is 3 minutes. Through compliance with California Vehicle Code 21806(A)(1), which requires all vehicles to yield to emergency vehicles, the proposed Project is not expected to reduce the FFPD's response times.

Development of the proposed warehouse may incrementally increase the demand for fire protection services through generation of 61 employees working at the site, but not to the degree that the existing fire stations within the City could not meet demand. Project design features incorporated into the structural design and layout of the proposed warehouse would keep service demand increases to a minimum. For example, the Project must coordinate with the FFPD during the development review process to identify and mitigate any fire hazards and ensure adequate emergency water flow, fire-resistant design and materials, early warning systems and evacuation routes, and a 30-foot-wide fire lane encircling the site. These construction methods are far superior to the structures that currently exist on the Project site, which are constructed of materials that are less resistant to fire. Additionally, the City maintains mutual aid agreements with surrounding cities (e.g., Rancho Cucamonga, Ontario, and Rialto) and San Bernardino County, which allow for the services of nearby fire departments to assist the City during major emergencies.

The proposed Project design would be submitted to and approved by the FFPD prior the issuance of building permits. Furthermore, the Project would be required to pay Development Impact Fees (DIFs) used to fund capital costs associated with constructing new public safety structures such as fire stations and purchasing equipment for new public safety structures. Based on the information and analysis above, the addition of a 176,219-square foot logistics/distribution warehouse building consistent with the General Plan and zoning and constructed in accordance with applicable policies designed to minimize fires (i.e., CBC and California Fire Code) would not require new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts. Therefore, impacts would be **less than significant** and mitigation is not required.

***Threshold B: Police Protection?***

**Less than Significant Impact**

Discussion of Effects: The City of Fontana Police Department (FPD) headquarters is located at 17005 Upland Avenue, approximately 3.5 miles north of the Project site. Implementation of the Project would incrementally increase the demand for police services; however, the proposed warehouse could operate 24 hours per day, which would help reduce the overall potential for crime on the site. The Project would incorporate Crime Prevention Through Environmental Design (CPTED) features to keep service demand increases to a minimum. For example, the Project would incorporate public zones and private zones via physical and symbolic barriers to define acceptable uses of the proposed warehouse facilities and determine who has a right to occupy such zones. Additionally, the Project site would be equipped with formal surveillance through the use of closed-circuit television, electronic monitoring, and potentially security patrols, as well as informal surveillance such as architecture, landscaping, and lighting designed to minimize visual obstacles and eliminate places of concealment for potential assailants. The FPD employs CPTED principles during the development review process for

new construction and offers CPTED inspection services free of charge to reduce the likelihood of criminal activity and create safer places for the community.[129]

The City monitors staffing levels to ensure that adequate police protection and response times continue to be provided as individual development projects are proposed and on an annual basis as part of the City Council's budgeting process. Additionally, the City employs a 5-year strategic planning process to ensure adequate police services as buildout of the City occurs. The continual monitoring of police staffing levels by the City would ensure the proposed Project would not result in a significant reduction in police response times.

Funding for new police facilities commensurate with the increased demand for services in the City would be provided from capital improvement fees levied on new development. These DIFs are one-time charges applied to new development and are imposed to raise revenue for the construction or expansion of capital facilities such as police stations located outside of project boundaries of a new development that benefit the area. DIFs enable the City to collect fair-share fees from new development projects to fund new infrastructure and services, including police services. DIFs are collected for specific infrastructure needs and are deposited into different accounts representing these requirements.

The Project would be designed and operated per applicable standards required by the City for new development with regard to public safety. The Project would be required to pay DIFs used to fund capital costs associated with constructing new public safety structures and purchasing equipment for new public safety structures. In addition, the City maintains mutual aid agreements with police agencies in the surrounding cities (e.g., Rancho Cucamonga, Ontario, and Rialto) and with the San Bernardino County Sheriff's Department, which allow for the services of nearby police departments to assist the FPD during major emergencies. Payment of DIFs commensurate with the increased demand for services in the City would offset any increase in demand for police services.

Based on the information and analysis provided above, the addition of a 176,219-square foot logistics/ distribution warehouse building consistent with the General Plan and zoning and constructed in accordance with applicable policies designed to minimize crime (e.g., CPTED) would not require new or physically altered police protection facilities, the construction of which could cause significant environmental effects. Therefore, impacts would be **less than significant** and mitigation is not required.

***Threshold C: Schools?***

**No Impact**

Discussion of Effects: The Project does not include housing; therefore, no increase in the number of school-age students is expected. California Government Code (Section 65995[b]) establishes the base amount of allowable developer fees imposed by school districts. These base amounts are commonly referred to as "Level 1 fees" and are subject to inflation adjustment every two years. School districts are placed into a specific "level" based on school impact fee amounts that are imposed on the development. With the adoption of Senate Bill 50 and Proposition 1A in 1998, schools meeting certain

[129] City of Fontana. *Crime Prevention Through Environmental Design.* https://www.fontana.org/295/Crime-Prevention-Through-Environmental-D (accessed May 26, 2020).

criteria can now adopt Level 2 and 3 developer fees. The amount of fees that can be charged over the Level 1 amount is determined by the district's total facilities needs and the availability of State matching funds. If there is State facility funding available, districts are able to charge fees equal to 50 percent of their total facility costs, termed "Level 2" fees. If, however, there are no State funds available, "Level 3" fees may be imposed for the full cost of their facility needs.[130]

Per California Government Code, "The payment or satisfaction of a fee, charge, or other requirement levied or imposed … are hereby deemed to be full and complete mitigation of the impacts … on the provision of adequate school facilities." The Project Applicant would be required to pay these development fees in accordance with Government Code 65995 and Education Code 17620. Through payment of development fees, **no impacts** related to school services would occur. Mitigation is not required.

***Threshold D: Parks?***

**Less than Significant Impact**

Discussion of Effects: Please refer to Section 3.16 below.

***Threshold E: Other Public Facilities, including Libraries?***

**Less than Significant Impact**

Discussion of Effects: The type of use of the proposed Project (industrial warehouse) does not generate permanent population in the City that would require access to public facilities, including the City's three libraries (Lewis Library at 8437 Sierra Avenue, Summit Branch Library at 15551 Summit Avenue, and Library at Kaiser High School at 11155 Almond Avenue). Even if any of the 61 employees anticipated by the Project would require access to public facilities, the Project is consistent with the General Plan land use designation and zoning of the site, so the projected increase in population (through employment generation) would be consistent with planned population growth in the City. This minimal increase in population would incrementally increase the need for a number of public services, including those listed above, and others such as libraries and City administrative facilities. In the same manner for those facilities, the Project would be required to pay DIFs used to fund capital costs associated with constructing new public facility structures and purchasing equipment for new public facilities, including libraries.

Based on the information and analysis provided above, the incremental and planned increase of employment by the Project is not expected to result in the need to construct or expand other public facilities, including libraries. Therefore, impacts would be **less than significant** and mitigation is not required.

[130] California State Legislature, Legislative Analyst's Office. *An Evaluation of the School Facility Fee Affordable Housing Assistance Programs*, January 2001. http://www.lao.ca.gov/2001/011701_school_facility_fee.html (accessed May 26, 2020).

## 3.16 RECREATION

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) 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? | ☐ | ☐ | ☒ | ☐ |
| b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☒ | ☐ |

***Threshold 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?***

**Less than Significant Impact**

Discussion of Effects: The City maintains a performance standard of 5 acres for every 1,000 residents. Although the Project-generated 61 employees could elect to utilize the City's park facilities, the Project would not involve the addition of any housing units that would permanently increase the City's population, and it is speculative to assume the number of employees who would reside in the City. The closest parks to the Project site are Sycamore Hills Park located at 11075 Mayberry Street 1.5 miles to the south and Jack Bulik Park and Multi-Purpose Rink located at 16581 Filbert Avenue 1.5 miles to the north. These parks are open to the public, and the amenities include basketball courts, baseball/softball field, skate park and rink, restrooms, playgrounds, and open space. The Project would be required to pay applicable development fees to offset impacts from deterioration to parks and recreation facilities in the City. Therefore, development of the Project would not create a significant increase in the use of existing neighborhood, regional parks, or other recreational facilities. Impacts would be **less than significant** and mitigation is not required.

***Threshold B: Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?***

**Less than Significant Impact**

Discussion of Effects: The City currently exceeds its performance standard of 5 acres for every 1,000 residents by approximately 300 acres of parkland citywide.[131] Since the Project is consistent with the City General Plan, zoning ordinance, and City growth projections, it is not expected to require

[131] City of Fontana. *Fontana Forward General Plan Update 2015-2035. Draft Environmental Impact Report. SCH #2016021099.* Page 5.12-34. June 8, 2018.

construction of new or expansion of existing park facilities. Impacts would be **less than significant** and mitigation is not required.

## 3.17 TRANSPORTATION AND TRAFFIC

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | 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? | ☐ | ☒ | ☐ | ☐ |
| b) Conflict or be inconsistent with *CEQA Guidelines* Section 15064.3, Subdivision (b)? | ☐ | ☐ | ☐ | ☒ |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☒ | ☐ |
| d) Result in inadequate emergency access? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: A focused Traffic Impact Analysis (TIA) was prepared for the Project in accordance with the City of Fontana's *Draft Traffic Impact Analysis Guidelines* (dated November 2016), the San Bernardino County Transportation Authority's (SBCTA) Congestion Management Plan (CMP) TIA Guidelines (dated June 2016), and the requirements for the disclosure of potential impacts and mitigation measures pursuant to CEQA (Appendix K). The City's *Draft Traffic Impact Analysis Guidelines* identify intersection thresholds of significance using level of service (LOS) as ratio of traffic volume to roadway capacity. Levels of service are defined using the letter grades A through F, in which LOS A[132] represents the least amount of traffic congestion and LOS F[133] the most.

Determination of a significant study intersection or roadway impact is based on the impact criteria contained in the City's *Draft Traffic Impact Analysis Guidelines*, which state that a significant project impact occurs when the project causes an unsatisfactory condition (deteriorate from LOS A through C to D or worse)[134] during peak hours[135] or when the project contributes to an existing deficiency.

[132] LOS A is defined as a delay per vehicle of ≤ 10 seconds for unsignalized intersection and ≤ 10 seconds for signalized intersection.
[133] LOS F is defined as a delay per vehicle of > 50 seconds for unsignalized intersection and > 80 seconds for signalized intersection.
[134] LOS D is defined as a delay per vehicle of > 25 and ≤ 35 seconds for unsignalized intersection and > 35 and ≤ 55 seconds for signalized intersection.
[135] The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak hour is the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m.

To help alleviate LOS deficiencies, public transit is provided via Omnitrans Route 82 at the intersection of Slover Avenue and Sierra Avenue 0.4 mile from the site. Omnitrans Route 82 traverses the entire City in a north-south direction, interconnecting the Project site with the Fontana Downtown area and major transit facilities such as the South Fontana Transfer Center and Fontana Metrolink Station, as well as neighboring Ontario and Rancho Cucamonga.[136] Development of the Project site would not conflict with any program, plan, ordinance, or policy designed to promote or enhance the City's transit facilities. Rather, development of a modern industrial warehouse under the proposed Project would promote the continued use of Omnitrans Route 82 by introducing employment opportunities onto a partially vacant and underutilized property in proximity to an Omnitrans bus stop consistent with the Goals and Policies of the City's General *Community Mobility and Circulation Element.*[137] Additionally, the Project would construct new curb and sidewalk along the entire roadway frontage of the Project site to help fill in gaps in the City's sidewalk network pursuant to General Plan *Community Mobility and Circulation Element* Goals 1 and 2. Finally, the Project site would include bicycle parking, and alternative access to the Project site would be available via proposed Class 2 and 3 bicycle lanes to be implemented by the City at a future date along nearby major corridors such as Cypress Avenue 0.5 mile to the west and Sierra Avenue 0.4 mile to the east. These project design features would be installed in accordance with City Municipal Code Section No. 30-554 (Trip Reduction Measures).

Using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition, for land use 150 – Warehousing, the Project is expected to generate 307 daily trips with 31 trips occurring during the a.m. peak hour and 33 trips occurring during the p.m. peak hour. Of the 307 daily trips generated by the Project, 95 daily trips (31 percent) are expected to be multiple-axle truck trips.[138] When multiple-axle truck volumes are converted to Passenger Car Equivalents (PCEs),[139] the daily traffic volume generated by the proposed Project would be 468 daily trips with 49 trips occurring during the a.m. peak hour and 51 trips occurring during the p.m. peak hour.

This analysis examines traffic operations in the vicinity of the proposed Project under the following four scenarios:

- Existing (2020) without Project conditions;
- Existing (2020) with Project conditions;
- Opening Year (2021) without Project conditions; and
- Opening Year (2021) with Project conditions.

The following study intersections were identified via the Scoping Agreement process:

- Juniper Avenue/Boyle Avenue;

136 City of Fontana, State of California. *General Plan Update 2015-2035. Chapter 9: Community Mobility and Circulation.* Exhibit 9.3: Mobility. Adopted November 13, 2018.

137 *Ibid.* Pages 9.5 and 9.6.

138 LSA Associates, Inc. *Focused Traffic Impact Analysis, Transwestern Building 1 Project, City of Fontana, San Bernardino County, California.* Table 5-A: Project Trip Generation. June 2020 (Appendix K).

139 The concept of passenger car equivalents (PCEs) accounts for the larger impact of trucks on traffic operations. It does so by assigning each type of truck a PCE factor that represents the number of passenger vehicles that could travel through an intersection in the same time that a particular type of truck could.

- Juniper Avenue/Slover Avenue; and
- Project Driveway 1/Boyle Avenue.

The following study roadway segment was identified via the Scoping Agreement process:

- Slover Avenue, between Juniper Avenue and Sierra Avenue.

Adequacy of turning radii at the study intersections for truck ingress/egress was analyzed since the Project site would be accessed by freight trucks. The Project-specific focused TIA indicates there is adequate turning radii for both ingress and egress movements at the intersections of Juniper Avenue/ Boyle Avenue and Juniper Avenue/Slover Avenue. Additionally, adequate space is available on site for the trucks to park during loading and unloading operations.

An LOS analysis was conducted for existing without Project and existing with Project conditions to determine intersection performance. As detailed in Table 3.17.A, the Juniper Avenue/Slover Avenue intersection currently operates at an unsatisfactory level of service (LOS D during a.m. peak hour and LOS E during p.m. peak hour) without the Project and would continue to operate at an unsatisfactory level of service (LOS E during a.m. peak hour and LOS F during p.m. peak hour) with the Project. Therefore, mitigation is required.

**Table 3.17.A: Existing (2020) Intersection Levels of Service**

| Intersection | Level of Service Standard | Without Project | | With Project | | Significant Impact |
|---|---|---|---|---|---|---|
| | | AM Peak Hour | PM Peak Hour | AM Peak Hour | PM Peak Hour | |
| 1. Juniper Avenue/Boyle Avenue | C | A | A | A | B | No |
| 2. Juniper Avenue/Slover Avenue | C | **D** | **E** | **E** | **F** | **Yes** |
| 3. Project Driveway 1/ Boyle Avenue | C | *Does not exist* | *Does not exist* | A | A | No |

Source: LSA Associates, Inc. *Focused Traffic Impact Analysis, Transwestern Building 1 Project, City of Fontana, San Bernardino County, California.* Table 7-A: Existing Intersection Level of Service. June 2020 (Appendix K).

An LOS analysis conducted for existing without Project and existing with Project conditions to determine roadway segment performance indicates the study roadway segment (Slover Avenue between Juniper Avenue and Sierra Avenue) currently operates at a satisfactory LOS without the Project and would continue to operate at a satisfactory LOS with the Project.[140] No significant impact would occur to the study area roadway segment of Slover Avenue between Juniper Avenue and Sierra Avenue under existing (2020) conditions.

An LOS analysis was conducted for opening year (2021) without Project and opening year (2021) with Project conditions to determine intersection performance. As detailed in Table 3.17.B, the Juniper Avenue/Slover Avenue intersection is forecast to operate at an unsatisfactory level of service (LOS E

[140] LSA Associates, Inc. *Focused Traffic Impact Analysis, Transwestern Building 1 Project, City of Fontana, San Bernardino County, California.* Table 7-B: Existing Roadway Segment Level of Service. June 2020 (Appendix K).

during a.m. peak hour and LOS F during p.m. peak hour) without the Project and would continue to operate at an unsatisfactory level of service (LOS F during a.m. peak hour and LOS F during p.m. peak hour) with the Project. Therefore, the proposed Project would contribute to an adverse cumulative effect at this intersection and mitigation is required.

**Table 3.17.B: Opening Year (2021) Intersection Levels of Service**

| Intersection | Level of Service Standard | Without Project | | With Project | | Significant Impact |
|---|---|---|---|---|---|---|
| | | AM Peak Hour | PM Peak Hour | AM Peak Hour | PM Peak Hour | |
| 1. Juniper Avenue/Boyle Avenue | C | A | A | A | B | No |
| 2. Juniper Avenue/Slover Avenue | C | **E** | **F** | **F** | **F** | **Yes** |
| 3. Project Driveway 1/ Boyle Avenue | C | *Does not exist* | *Does not exist* | A | A | No |

Source: LSA Associates, Inc. *Focused Traffic Impact Analysis, Transwestern Building 1 Project, City of Fontana, San Bernardino County, California.* Table 7-C: Existing Intersection Level of Service. June 2020 (Appendix K).

An LOS analysis conducted for opening year (2021) without Project and opening year (2021) with Project conditions to determine roadway segment performance indicates the study roadway segment (Slover Avenue between Juniper Avenue and Sierra Avenue) is forecast to operate at a satisfactory LOS without the Project and with the Project.[141] No significant impact is expected to the study area roadway segment of Slover Avenue between Juniper Avenue and Sierra Avenue under opening year (2021) conditions.

The intersection of Juniper Avenue/Slover Avenue operates at a deficient LOS under existing (2020) and opening year (2021) without project conditions. As such, the Project contributes to an existing and forecast deficiency at this intersection, and mitigation to improve the function of this intersection is required.

Measure I 2010–2040 was approved by the citizens of San Bernardino County in 2004. In the San Bernardino Valley area, local jurisdictions implement development mitigation programs that generate development contributions for regional transportation improvements equal to or greater than fair-share contributions determined through the Nexus Study. Regional transportation facilities addressed by the Nexus Study include freeway interchanges, railroad grade separations, and regional arterial highways on the Nexus Study Network. Local jurisdiction development mitigation programs are required to comply with requirements established in the CMP. Each local jurisdiction, including the City of Fontana, has adopted and is required to implement a compliant development mitigation program for the Nexus Study Network based on the requirements established in the CMP.

The SBCTA is responsible for cooperative regional planning and furthering of an efficient countywide multimodal transportation system, and supporting freeway construction projects, regional and local road improvements, transit, congestion management efforts, and long-term planning studies. The SBCTA administers Measure I, the half-cent transportation sales tax approved by County voters in

[141] LSA Associates, Inc. *Focused Traffic Impact Analysis, Transwestern Building 1 Project, City of Fontana, San Bernardino County, California.* Table 7-D: Opening Year (2021) Roadway Segment Level of Service. June 2020 (Appendix K).

1989. The improvements required at the intersection of Juniper Avenue/Slover Avenue, including installation of a traffic signal, are covered under the SBCTA Nexus Study Fee Program

A peak hour signal warrant analysis was conducted at the intersection of Juniper Avenue/Slover Avenue under existing (2020) and opening year (2021) conditions to consider the feasibility of installing a signal as an improvement. The peak hour signal warrant is intended for use where traffic conditions are such that for a minimum of one hour on an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. As detailed in the Project-specific TIA, a signal is warranted at the intersection of Juniper Avenue/Slover Avenue under existing (2020) and opening year (2021) without project conditions.[140]

Table 3.17.C lists the intersection improvements required to meet the City's level of service standard and offset Project impacts under existing (2020) and opening year (2021) with Project conditions for the intersection of Juniper Avenue/Slover Avenue.

**Table 3.17.C: Opening Year (2021) Intersection Levels of Service**

| Intersection | Existing (2020) with Project Improvements[1] | Opening Year (2021) with Project Improvements |
|---|---|---|
| 2. Juniper Avenue/ Slover Avenue | Install a traffic signal. Restripe the NB approach to add a dedicated NBL and a NBTR. There is sufficient right-of-way available for implementation of this improvement. Additionally, a dedicated SBL lane will be required for the SB approach. This will require widening the SB approach by approximately 22 feet. | No additional improvements are required beyond what is required under Existing with Project conditions. |

Source: LSA Associates, Inc. *Focused Traffic Impact Analysis, Transwestern Building 1 Project, City of Fontana, San Bernardino County, California.* Table 8-A: Recommended Intersection Improvements and Funding Sources. June 2020. (Appendix K).
Notes:
NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.
L, T, R = Left, Through, Right
[1] The conceptual design of these improvements are illustrated in Figure 10-3 of Appendix K.

Since there is a funding mechanism (SBCTA Nexus Study Fee Program) for the recommended improvements and Juniper Avenue/Slover Avenue, payment into the fee program and verification that these improvements to reduce LOS to C or better would be implemented prior to operation of the Project, as prescribed under **Mitigation Measure TRA-1,** is considered sufficient Project obligation to alleviate Project impacts.

**Mitigation Measure TRA-1:** Prior to issuance of an occupancy permit, the applicant shall construct the improvements required at the Juniper Avenue/Slover Avenue intersection to maintain a level of service C or better. As such, the City will add the intersection improvements to the 2021–2022 Measure I Nexus Study list and the Capital Project Needs Analysis (CPNA) project list and enter into a reimbursement agreement with the applicant to reimburse the cost of the improvements minus the fair-share amount identified in the traffic study. This measure shall

[140] *Ibid.* Section 9.0 and Figures 9-1 and 9-2.

be implemented to the satisfaction of the City of Fontana Director of Engineering, or designee.

As detailed in Table 3.17.D, implementation of the recommended improvements to the intersection of Juniper Avenue/Slover Avenue would improve the LOS at this intersection to satisfactory levels for existing year (2020) and opening year (2021) conditions without and with the proposed Project.

**Table 3.17.D: Existing Year (2020) and Opening Year (2021) with Project Recommended Improvements Intersection Levels of Service**

| Intersection | Level of Service Standard | With Project Without Improvements | | With Project With Improvements | | Significant Impact |
|---|---|---|---|---|---|---|
| | | AM Peak Hour | PM Peak Hour | AM Peak Hour | PM Peak Hour | |
| **Existing Year (2020)** | | | | | | |
| 2. Juniper Avenue/ Slover Avenue | C | **E** | **F** | C | C | No |
| **Opening Year (2021)** | | | | | | |
| 2. Juniper Avenue/ Slover Avenue | C | **F** | **F** | C | C | No |

Source: LSA Associates, Inc. *Focused Traffic Impact Analysis, Transwestern Building 1 Project, City of Fontana, San Bernardino County, California.* Table 8-B: Existing with Project Recommended Improvements Intersection Level of Service. Table 8-C: Opening Year (2021) with Project Recommended Improvements Intersection Level of Service June 2020 (Appendix K).

Payment into the SBCTA Nexus Study Fee Program and verification that improvements to reduce LOS to C or better at the intersection of Juniper Avenue/Slover Avenue would be implemented prior to operation of the Project would reduce the Project's impact at this intersection to **less than significant with mitigation incorporated.** With implementation of **Mitigation Measure TRA-1,** the Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

***Threshold B: Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?***

**No Impact**

Discussion of Effect: *CEQA Guidelines* Section 15064.3, subdivision (b) establishes "vehicle miles traveled" criteria in lieu of LOS for analyzing transportation impacts and was signed into law as Senate Bill (SB) 743 in 2013. However, the City's General Plan identifies intersection thresholds of significance in accordance with multi-modal LOS, and the proposed Project is anticipated to add 468 daily trips with 49 trips occurring during the a.m. peak hour and 51 trips occurring during the p.m. peak hour when multiple-axle truck volumes are converted to PCEs.

As detailed in Section 3.17 (Threshold A), the Project would facilitate access to alternative, shared, and community transportation opportunities that satisfy key policies of the General Plan that reduce vehicle miles traveled (VMT) without generating a substantial unanticipated increase in population. The Office of Planning and Research approved regulatory changes to the *CEQA Guidelines* that implement SB 743 on December 28, 2018. However, lead agencies have until July 1, 2020, which is

the statewide implementation date, to opt-in use of the new VMT metric. In cases where lead agencies use LOS for analyzing transportation impacts, they may continue to do so until July 1, 2020. Therefore, *CEQA Guidelines* Section 15064.3, subdivision (b) does not apply to the proposed Project, and **no impact** would occur. Mitigation is not required.

***Threshold C: Would the Project 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 Impact**

Discussion of Effects: Roadway improvements in and around the Project site would be designed and constructed to satisfy all City requirements for street widths, corner radii, intersection control, as well as incorporate design standards tailored specifically to site access requirements pursuant to Division 7 (Design Guidelines) of Article VII (Industrial Zoning Districts) of the City Municipal Code. Entrances and exits to and from parking and loading facilities would be marked clearly with appropriate directional signage where multiple access points are provided. All site access points and driveway aprons are designed and would be constructed to adequate widths for public safety pursuant to City Municipal Code Section No. 30-550(H). Off site, the Project would dedicate and widen Boyle Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install asphalt concrete, curb, gutter, sidewalk, landscaping, streetlights, and trees along Boyle Avenue from Juniper Avenue to its eastern terminus at Sierra Avenue. The proposed Project would dedicate and widen Juniper Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install curb, gutter, sidewalk, landscaping, and street trees along Juniper Avenue north of Boyle Avenue to its terminus at the Union Pacific Railroad tracks. South of Boyle Avenue, Juniper Avenue would be repaved with asphalt concrete to a half-width of 28 feet.[143] Additionally, the eastern terminus of Boyle Avenue and the northern terminus of Juniper Avenue would be improved with cul-de-sacs. (Figures 7a through 7d detail the infrastructure and off-site improvements.)

The City, at final plan check, would ensure that all improvements associated with the Project are consistent with City standards and requirements. Adherence to applicable City requirements would ensure the proposed development would not include any sharp curves or dangerous intersections. Therefore, no substantial increase in hazards due to a design feature would occur. Impacts are **less than significant** and mitigation is not required.

***Threshold D: Would the Project result in inadequate emergency access?***

**Less than Significant Impact**

Discussion of Effects:

***Construction.*** Construction activities that may temporarily restrict vehicular traffic would be required to implement appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Typical City requirements include prior notification of any lane or road closures with sufficient signage before and during any closures, flag crews with radio communication when necessary to coordinate traffic flow, etc. The warehouse developer would be required to comply with these requirements, which would maintain emergency access and allow for evacuation if needed

[143] Curb, gutter, and landscaping along Juniper Avenue south of Boyle Avenue will be installed by the City under a separate action.

during construction activities. Compliance with these requirements would ensure that short-term impacts related to this issue are **less than significant.** Mitigation is not required.

***Operation.*** Access to and from the Project site is available only via Boyle Avenue and Juniper Avenue from Slover Avenue. Implementation of the proposed Project would increase the number of trucks operating near the site and would generate an increase in the amount and volume of traffic on local and regional roadway networks. In accordance with the California Fire Code, the Project Applicant is required to design, construct, and maintain structures, roadways, and facilities to maintain appropriate emergency/evacuation access to and from the Project site as codified in Section Nos. 30-529 (Public Safety), 30-541(D)(7)(a) and (b) (Fences and Walls), and 30-550 (H) (Site Plan Design) of the City Municipal Code.

Ultimate [full-width] buildout of Boyle Avenue, Juniper Avenue, and the intersection of Juniper and Slover Avenues would be a cooperative effort between the Project Applicant, the City, and other developers proposing separate projects anticipated to utilize these roadways. These improvements would be subject to compliance with the City Municipal Code sections specified above and would be reviewed by the Fontana Fire Protection District and Police Department through the City's general development review process. Proper site design and compliance with standard and emergency City access requirements would allow for evacuation if necessary during ongoing warehouse operations. This would ensure that long-term impacts related to this issue are **less than significant.** Mitigation is not required.

## 3.18 TRIBAL CULTURAL RESOURCES

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:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| 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)? | ☐ | ☒ | ☐ | ☐ |
| 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe? | ☐ | ☒ | ☐ | ☐ |

***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:***

***Threshold 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)?***

***And***

***Threshold 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: The term "California Native American tribe" is defined as "a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the Native American Heritage Commission (NAHC)."

Chapter 532, Statutes of 2014 (i.e., Assembly Bill 52), requires Lead Agencies evaluate a project's potential to affect "tribal cultural resources." Such resources include "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources." Assembly Bill (AB) 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource qualifies as a "tribal cultural resource."

CEQA defines a "historical resource" as a resource that meets one or more of the following criteria: (1) is listed in, or determined eligible for listing in, the California Register of Historical Resources (California Register); (2) is listed in a local register of historical resources as defined in PRC §5020.1(k); (3) is identified as significant in a historical resource survey meeting the requirements of PRC §5024.1(g); or (4) is determined to be a historical resource by a project's Lead Agency (PRC §21084.1 and *State CEQA Guidelines* §15064.5[a]).

"Local register of historical resources" means a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution.

A resource may be listed as a historical resource in the California Register of Historical Resources if it meets any of the following National Register of Historic Places criteria as defined in PRC §5024.1(C):

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
B. Is associated with the lives of persons important in our past.
C. 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.

D. Has yielded, or may be likely to yield, information important in prehistory or history.

A "substantial adverse change" to a historical resource, according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

*CEQA Guidelines* do not preclude identification of historical resources as defined in Public Resources Code Sections 5020.1(j) or 5024.1. Pursuant to *State CEQA Guidelines* Section 15064.5[c][4], if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study, but they need not be considered further in the CEQA process.

Per AB 52 (specifically California Public Resources Code 21080.3.1), Native American consultation is required upon request by interested California Native American tribes that have previously requested that the City provide them with notice of such projects. The City mailed notices of the proposed project to Native American tribes on April 22, 2020. To date, two tribes, the San Manuel Band of Mission Indians (San Manuel) and the Gabrieleño Band of Mission Indians – Kizh Nation (Kizh) have responded.

The San Manuel responded to the City via an email dated May 5, 2020, indicating the Tribe has no concerns about the Project but requested specific conditions be implemented to ensure unanticipated discoveries of cultural resources are managed pursuant to applicable regulations and the San Manuel are engaged for input as appropriate. These conditions are codified in **Mitigation Measure CUL-1** and **Mitigation Measure CUL-2** in Section 3.5 (Threshold B) and **Mitigation Measures TCR-1** through **TCR-5** below. With regard to human remains, compliance with State Health and Safety Code § 7050.5 is required for all development as a matter of regulatory policy and would apply to the Project outright regardless of mitigation.

The Kizh responded to the City via email on April 22, 2020, indicating a desire to consult on the Project. A meeting between the City and the Kizh occurred on June 24, 2020, during which the Kizh indicated that the Project has potential to affect Tribal Cultural Resources.[144] The Kizh proposed mitigation for potential impacts to Tribal Cultural Resources, which the City has included as **Mitigation Measures TCR-1** through **TCR-5** below.

**Mitigation Measure TCR-1:** The Project Applicant shall retain for construction monitoring the services of Tribal monitor(s)/consultant(s) who are ancestrally affiliated with the Project area, have expresses interest in consulting with the City pursuant to California Public Resources Code § 21080.3.1 and § 21080.3.2, and are listed under the Native American Heritage Commission's (NAHC's) Tribal Contact list for the area of the project location.

[144] Pursuant to Section 21082.3(c) of the Public Resources Code, details on the nature, extent, and location of Tribal Cultural Resources identified by the Kizh shall remain confidential for the purposes of this analysis.

The monitor(s)/consultant(s) will be present on site only during the construction phases that involve ground-disturbing activities. Ground-disturbing activities are defined as activities that include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling and trenching within the project area. The Tribal monitor(s)/consultant(s) will complete daily monitoring logs that provide a description of the day's activities, including construction activities, locations, soils, and any cultural materials identified. The on-site monitoring shall end when the Project site grading and excavation activities area completed, or when the Tribal Representatives and monitor(s)/ consultant(s) have indicated that the site has a low potential for affect to Tribal Cultural Resources.

**Mitigation Measure TCR-2:** Upon discovery of any tribal cultural or archaeological resource, construction activities in the immediate vicinity of the find shall cease until the find can be assessed. All tribal cultural and archaeological resources unearthed by the Project construction activities shall be evaluated by a qualified archaeologist and the Tribal monitor(s)/ consultant(s). If the resources are Native American in origin, the consulting Tribe(s) shall coordinate with the landowner regarding the treatment and curation of these resources. Typically, the consulting Tribe(s) request preservation in place or recovery for educational purposes. Work may continue on other parts of the Project while evaluation and, if necessary, additional protective mitigation is implemented.

If a resource is determined by the qualified archaeologist to be a "historical resource" or "unique archaeological resource", a treatment plan shall be developed (pursuant to *CEQA Guidelines*, Section 15064.5[f]) allowing for sufficient time and funding to identify and implement avoidance measures and/or additional mitigation.

**Mitigation Measure TCR-3:** For unique archaeological resources, preservation in place is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery extraction to remove the resource along with subsequent laboratory processing and analysis. Any Tribal Cultural Resources encountered shall be treated in accordance with the treatment plan specified in **Mitigation Measure TCR-2** and a Memorandum of Understanding to be executed between the City of Fontana, the consulting Tribe(s), and the owner of the property on which such resources are encountered. Any historic archaeological material that is not Native American in origin shall, at the discretion of the landowner, be curated at a public, non-profit institution with a research interest agreeing to accept in the materials. If no such

institution agrees to accept the materials, they shall be offered to the consulting Tribe(s) or to a local school or historical society in the area for educational purposes.

**Mitigation Measure TCR-4:** Public Resources Code (Section 5097.98(d)(1)) defines Native American remains as "… an inhumation or cremation, and in any state of decomposition or skeletal completeness." Funerary objects, called "grave goods" shall be treated similarly according to this statute. These objects are those reasonably believed to have been placed with human remains either at the time of death; other items made exclusively for burial purposes; or contain human remains. The treatment of funerary objects shall be treated in the same manner as human remains.

Health and Safety Code (Section 7050.5) dictates that any discovery of human remains shall immediately be reported to the San Bernardino County Coroner, and excavation shall be halted until the Coroner has determined the nature of the remains. If the Coroner recognizes the remains to be those of a Native American or has reason to believe they are those of a Native American, he or she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours of the find, and appropriate provisions of Public Resources Code (Section 5097.98) shall be followed.

Upon discovery of human remains and/or associated grave goods, the tribal and/or archeological monitor/consultant shall immediately divert work a minimum of 150 feet and place an exclusion zone around the burial and associated grave goods. The monitor/ consultant(s) shall notify the consulting Tribe(s), the qualified lead archaeologist, and the construction manager who will call the San Bernardino County Coroner. The discovery shall be kept confidential and secure to prevent further disturbance. If the finds are determined to be Native American, the coroner will notify the NAHC as mandated by State law, and the NAHC will then appoint a Most Likely Descendant (MLD).

If the Gabrieleño Band of Mission Indians – Kizh Nation (Kizh) is designated MLD, the Koo-nas-gna Burial Policy shall be implemented. This would include, but is not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made

exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.

Prior to the continuation of ground-disturbing activities, the landowner shall arrange a designated location within the footprint of the project for the respectful reburial of the human remains and/or funerary objects. In cases where discovered human remains cannot be fully documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment to protect the remains. If this type of protection is not available, a 24-hour guard shall be posted outside of working hours. The MLD(s) will make every effort to recommend diverting the Project and keeping the remains in situ and protected. If the Project cannot be diverted, it may be determined that burials will be removed. The MLD(s) will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the MLD(s), documentation shall be taken which includes at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall be approved by the MLD(s) for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all material.

Each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony shall be removed to a secure container on site. These items shall be retained and reburied within six months of recovery. The site of reburial/ repatriation shall be on the Project site but at a location agreed upon between the MLD(s) and the landowner at a location to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

If the discovery of human remains includes four or more burials, the location shall be considered a cemetery, and a separate treatment plan shall be developed. Once complete, a final report of all activities shall be submitted to the consulting Tribe(s), the NAHC, and the City. The MLDs(s) do not authorize any scientific study or the utilization of invasive and/or destructive diagnostics on human remains.

**Mitigation Measure TCR-5:** Archaeological and Native American monitoring and excavation during construction shall be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel shall meet the Secretary of Interior standards for archaeology and have a minimum of ten years of experience as a principal investigator

working with Native American archaeological sites in southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified.

Upon implementation of **Mitigation Measures CUL-1** and **CUL-2** and **Mitigation Measures TCR-1** through **TCR-5**, the Project would include provisions for Native American Monitoring of ground-disturbing activities and would be conditioned to cease excavation or construction activities if tribal cultural or archaeological resources are identified during execution. These measures would ensure further consultation with interested Native American Tribes for the appropriate treatment of Tribal Cultural Resources. Therefore, impacts to Tribal Cultural Resources would be reduced to **less than significant with mitigation incorporated**.

## 3.19 UTILITIES AND SERVICE SYSTEMS

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Require or result in the relocation or construction of new or expanded water, drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects? | ☐ | ☒ | ☐ | ☐ |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years? | ☐ | ☐ | ☒ | ☐ |
| 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 project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☒ | ☐ |
| 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 reduction goals? | ☐ | ☐ | ☒ | ☐ |
| e) Comply with federal, State, and local management reduction statutes and regulations related to solid waste? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: Would the Project require or result in the relocation or construction of new or expanded water, drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effects: Construction and expansion of water, drainage, electric, gas, and telecommunications facilities is described in Section 2.3.8. The proposed warehouse facility would interconnect to existing utilities where available along the site frontage of Boyle Avenue and expand sewer, water, electrical, gas, and telecommunications within the Boyle Avenue and Juniper Avenue ROWs for interconnection to the Project site. The Project also would include reconfiguration of the storm drain and catch basin facilities at Slover Avenue (refer to Figures 7a through 7d). The approval of drainage features and other utility improvements occurs through the building plan check process. As part of this process, all Project-related drainage features and utility infrastructure would be required to comply with City Municipal Code Chapter 21, Section 21-85(c) (Additional Public Improvements), Chapter 27 (Utilities) and Chapter 30, Section 30-550 (Site Plan Design), as well as Santa Ana RWQCB standards. On-site Project-related drainage features would be designed, installed, and maintained per City MS4 standards and the requirements identified in the Final WQMP (per **Mitigation Measure HYD-3**).

All proposed improvements and interconnection to drainage, electric power, water, and wastewater facilities would be installed simultaneously with finish grading activities and required roadway improvements (Boyle Avenue, Juniper Avenue, and Juniper Avenue/Slover Avenue Intersection) for the Project. The areas of potential impact from drainage and utility infrastructure improvements is included in the analytical footprint of this Initial Study and associated technical studies, and impacts are mitigated where necessary to less than significant levels. As a result, interconnection to the existing utilities in the Project vicinity would not result in substantial disturbance to native habitat or soils, or to the operation of existing roadways and utilities. There would be no significant environmental effects specifically related to the installation of utility interconnections that are not encompassed within the Project's construction and operational footprints, and therefore already identified, disclosed, and subject to all applicable mitigation measures, as well as local, State, and federal regulations, as part of this Initial Study. Therefore, impacts related to relocation of utilities would be reduced to **less than significant with mitigation incorporated**.

***Threshold B: Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?***

**Less than Significant Impact**

Discussion of Effects: As detailed in Section 3.10 (Threshold B), the FWC would supply water to the Project site via groundwater supplies from three adjudicated basins, including the Chino Basin, Rialto-Colton Basin, and the Lytle Basin, and one unadjudicated basin called No Man's Land Basin. The Chino Basin is the main source of water for the FWC. According to the FWC UWMP, none of the basins supplying groundwater to the FWC is in "critical condition of overdraft."[145] FWC's current available pumping capacity totals approximately 39,300 gallons per minute (gpm), with individual well

[145] San Gabriel Water Company, Fontana Water Company Division. *2015 Urban Water Management Plan.* Page 6-19. June 2016, Amended December 2017.

production ranging from approximately 165 gpm to 2,700 gpm. Current pumping capacity (as of March 2016) from each basin is as follows:[146]

- Chino Basin: 31,007 gpm.
- Lytle Basin: 3,700 gpm.
- Rialto-Colton Basin: 1,650 gpm (pursuant to Court-ordered Groundwater Production Injunction).
- No-Man's Land: 3,314 gpm.

Based on regional employment/square footage averages detailed in Section 3.14 (Threshold A), FWC's Normal Year demand projection is 156 gallons per capita per day (GPCD) for 2020, and 176 GPCD for 2025 and subsequent years through 2040.[147] Based on a rate of 176 GPCD, the projected employees of the Project would consume approximately 10,736 gallons per day[148] or 3.92 million gallons or 12.03 AFY, which would be a worst-case scenario assuming the employees would occupy the site 24 hours per day.

The proposed Project is anticipated to create a water demand of up to 12.03 AFY, which is 0.03 percent of available FWC supplies in 2020.[149] The FWC production capacity for 2040 is 56,562 AFY. The amount of water available for the Project is sufficient for normal, single-dry, and multiple-dry years for the next 23 years. Since planned water supplies are sufficient, impacts would be **less than significant** and mitigation is not required.

***Threshold C: Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

**Less than Significant Impact**

Discussion of Effects: The Project site is within the sewer service area of the City of Fontana and the Inland Empire Utilities Agency (IEUA). Operational discharge flows treated by the IEUA would be required to comply with waste discharge requirements for that facility. IEUA serves approximately 830,000 people over 242 square miles in the Western San Bernardino County and provides services to the Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and Rancho Cucamonga.[150] IEUA operates four Regional Water Recycling Plants (RPs), including RP-1, RP-4, RP-5, and the Carbon Canyon Water Recycling Facility. IEUA's RP-4 located near the intersection of Etiwanda Avenue and 6th Street in the City of Rancho Cucamonga treats local wastewater generated by the City of Fontana.

IEUA's four RPs have a combined treatment capacity of 84 million gallons per day (MGD)[151] and currently treat over 50 MGD.[152] RP-1 has a capacity of 44 MGD, treats an average flow of 28 MGD of wastewater, and is operated in conjunction with RP-4 to provide recycled water to users. RP-4 has

146 *Ibid.* Page 6-5.
147 *Ibid.* Page 7-5.
148 176 gal/person/day × 61 persons = 10,736 gallons per day
149 San Gabriel Water Company, Fontana Water Company Division. *2015 Urban Water Management Plan.* Table 6-12. June 2016, Amended December 2017. (12.03 acre-feet Project demand ÷ 40,140 acre-feet FWC supply = 0.0299 percent.)
150 Inland Empire Utilities Agency. *Strategic Plan, Fiscal Years 2015-2019.* Page 4. Updated July 1, 2014.
151 *Ibid.* Page 5.
152 Inland Empire Utilities Agency. *Fiscal Year 2016/17 Ten-Year Capital Improvement Plan.* Page 13. April 2016.

recently been expanded to a capacity of 14 MGD and treats an average flow of 10 MGD, with a surplus capacity of approximately 4 MDG.[153]

The average wastewater flow is 100 gallons per person per day.[154] Under a worst-case scenario where the Project site would be occupied 24 hours per day, the Project would generate 6,100 gallons of wastewater per day[155] or 2.227 million gallons of wastewater per year.[156] The Project's estimated wastewater treatment demand represents 0.15 percent of RP-4's current daily surplus capacity. As sufficient surplus treatment capacity is available, impacts would be **less than significant** and mitigation is not required.

***Threshold D: Would the proposed Project 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?***

**Less than Significant Impact**

Discussion of Effects: Solid waste collection is a "demand-responsive" service, and current service levels can be expanded and funded through user fees. Solid waste from the proposed Project would be hauled by Burrtec Waste Industries, Inc. and transferred to the West Valley Materials Recycling Facility (MRF)/Transfer Station. From the MRF, the non-recyclable material would be transferred to regional landfills as available. Solid waste generated by the proposed on-site uses would be collected and processed by Burrtec, after which non-recyclable material would be sent to Mid-Valley Landfill. Mid-Valley Landfill has a daily throughput of 7,500 tons with a remaining capacity of 61,219,377 cubic yards.[157]

Based on a generation rate of 11.9 pounds per employee per day (61 employees),[158] the Project would generate approximately 725.9 pounds of solid waste per day.[159] This amount is equivalent to 0.0048 percent of the daily throughput at Mid-Valley Landfill.[160] The Mid-Valley Landfill has adequate capacity to serve the proposed Project. As adequate daily surplus capacity exists at the receiving landfill, and the Project would comply with local and State waste reduction strategies, the Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure. Impacts would be **less than significant** and mitigation is not required.

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153 Inland Empire Utilities Agency. *Facilities.* https://www.ieua.org/facilities/ (accessed May 27, 2020).

154 ESA Associates, Inc. *IEUA Facilities Master Plan Draft Program Environmental Impact Report. SCH #2016061064.* Page 2-38. December 2016.

155 100 gallons/person/day × 61 persons = 6,100 gallons per day

156 6,100 gallons per day × 365 days/year = 2.227 million gallons per year

157 California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary Details: Mid-Valley Sanitary Landfill.* https://www2.calrecycle.ca.gov/swfacilities/Directory/36-AA-0055/ (accessed May 27, 2020).

158 California Department of Resources Recycling and Recovery (CalRecycle). California's 2017 Per Capita Disposal Rate Estimate. https://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/mostrecent/ (accessed May 27, 2020).

159 11.9 pounds per employee per day × 61 employees = 725.9 pounds of solid waste per day.

160 725.9 pounds of solid waste per day ÷ 7,500 tons (15,000,000 pounds) daily surplus = 0.0048 percent.

***Threshold E: Would the Project comply with federal, State, and local management reduction statutes and regulations related to solid waste?***

**Less than Significant Impact**

Discussion of Effects: The Project is required to coordinate with Burrtec Waste Industries, Inc. which would collect solid waste from the site and transfer the solid waste to the MRF. The MRF would sort the solid waste into recyclable and non-recyclable waste and would transfer the non-recyclable waste to Mid-Valley Landfill for disposal. All development within the City, including the proposed Project, is required to comply with applicable elements of AB 1327, Chapter 18 (California Solid Waste Reuse and Recycling Access Act of 1991) and other local, State, and federal solid waste disposal standards. Therefore, the proposed Project would comply with applicable federal, State, and local statutes and regulations related to solid waste. Impacts would be **less than significant** and mitigation is not required.

## 3.20 WILDFIRE

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☒ | ☐ |
| b) If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project, due to slope and/or prevailing winds, expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | ☐ | ☐ | ☒ | ☐ |
| c) If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project 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? | ☐ | ☐ | ☒ | ☐ |
| d) If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project 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? | ☐ | ☐ | ☒ | ☐ |

***Threshold A: If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?***

**Less than Significant Impact**

Discussion of Effect: According to the California Department of Forestry and Fire Protection (CALFIRE), the Project site is not located within a wildfire State Responsibility Area, nor is the site classified as a Very High Fire Hazard Severity Zone (VHFHSZ).[161] The nearest VHFHSZ is located approximately 2.65 miles south of the site. The Project is located in an area that is developed with local roads and regional highways that provide adequate access and departure from the area in the event of an emergency, such as a wildfire. The Project is designed to comply with the current California Fire Code (at this time the California 2019 Fire Code) standards for development for industrial uses, Fontana Building Code Standards, and standards as set forth by the FFPD. Adequate emergency access points also are included in the design of the Project. Therefore, the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan within a VHFHSZ. Impacts are **less than significant** and mitigation is not required.

***Threshold B: If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project, due to slope and/or prevailing winds, expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?***

**Less than Significant Impact**

Discussion of Effect: As described above, the proposed Project is not located within or near a wildfire State Responsibility Area, nor is the land classified as a VHFHSZ. The land on site and vicinity is relatively flat, except for the engineered slope from the Sierra Avenue grade separation to the east (refer to Figure 3e). Wildfires have the tendency for uncontrolled spread when the terrain is hilly or mountainous and not conducive to practicable firefighting capabilities. The likelihood of uncontrolled spread of a wildfire near or on the Project site would be relatively low since the surrounding topography is relatively flat and substantially developed.

San Bernardino County and Fontana are subject to seasonal wind events including times during the fall when Santa Ana Wind conditions are prevalent. Santa Ana Wind conditions in the area of the proposed Project typically blow from a northeast to southwest direction (an offshore flow). Wildfires have been recorded to occur in such Santa Ana Wind events sometimes leading to uncontrolled spread of wildfires. CALFIRE and the San Bernardino County Fire Department have taken these conditions and the locations of Fire Hazard Severity Zones into consideration when determining potential impacts associated with wildfire spread within the City of Fontana and surrounding cities. If such a conflagration[162] driven by winds were to get out of control, the City's FFPD and San Bernardino County Fire Department have procedures in place to respond to such an emergency and evacuate residents and employees as needed.[163]

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161 California Department of Forestry and Fire Protection (CALFIRE). *Fire Hazard Severity Zones Maps for San Bernardino County.* https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/ (accessed May 28, 2020).

162 Conflagration is an extensive fire that destroys a great deal of land or property.

163 City of Fontana. *Local Hazard Mitigation Plan*. Page 176. June 2017; Approved and Adopted August 14, 2018.

Wind events can also result in smoke drift from nearby wildfires resulting in smoke settling in low-lying areas. The City is located in a valley between the San Bernardino/San Gabriel Mountains and the Jurupa Mountains; as such, the potential for smoke settlement from nearby wildfires can be expected to occur. Such smoke settlement would be temporary and would more than likely clear out within a couple days of when settlement commenced (based on weather conditions).

Overall, implementation of the proposed Project would have a low probability of exposing occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope or prevailing winds. Impacts would be **less than significant.** Mitigation is not required.

***Threshold C: If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project 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?***

**Less than Significant Impact**

Discussion of Effect: As described above, the proposed Project is not located within or near a wildfire State Responsibility Area, nor is the land classified as a VHFHSZ. The Project includes development of an industrial building, on-site utility infrastructure, surface parking lots, and off-site improvements to existing surrounding roads and utility infrastructure. The Project would not incorporate infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other non-existing utilities) that may exacerbate fire risk because all improvement would be implemented in an urbanized setting in accordance with the 2019 CBC, California Fire Code, and applicable local ordinances. Impacts would be **less than significant** and mitigation is not required.

***Threshold D: If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project 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?***

**Less than Significant Impact**

Discussion of Effect: As described above, the proposed Project is not located within or near a wildfire State Responsibility Area, nor is the land classified as a VHFHSZ. According to the City's Local Hazard Mitigation Plan, the Project site is not located in flood hazard or inundation zones,[164] and the site is not located near bodies of water or enclosed water storage features which could result in tsunamis or seiches. Therefore, risks associated with runoff caused by post-fire slope instability or post-fire drainage change are low.

The Project site is located on land that is relatively flat, and the foothills of the Jurupa Mountains are approximately 2.65 miles south of the site and 30 feet down gradient. Additionally, the land between the Project site and the Jurupa Mountains is developed with residential, commercial, and industrial uses. The distance, slope, and intervening uses between the Project site and foothills of the Jurupa

[164] City of Fontana. *Local Hazard Mitigation Plan*. Figure 4-1: Flood Hazard Map and Figure 4-2: Dam Inundation areas in Fontana. June 2017; Approved and Adopted August 14, 2018.

Mountains precludes the Project site from significant risks due to landslides caused by post-fire slope instability or post-fire drainage changes. Impacts would be **less than significant** and mitigation is not required.

## 3.21 MANDATORY FINDINGS OF SIGNIFICANCE

Would the Project:

| Issues: | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) 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 major periods of California history or prehistory? | ☐ | ☒ | ☐ | ☐ |
| b) Have possible environmental effects which are individually limited but cumulatively considerable? | ☐ | ☒ | ☐ | ☐ |
| c) Have environmental effects that would cause substantial adverse effects on humans either directly or indirectly? | ☐ | ☒ | ☐ | ☐ |

***Threshold A: Would the Project 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 major periods of California history or prehistory?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effect: The natural habitat of the site was cleared in the 1920s and 1930s to establish orchards. By the 1990s, the orchards had been removed[165] and the site remains highly disturbed with two single-family residences and ancillary structures used for storage and staging automobiles, boats, and other mechanical and construction equipment. Undeveloped portions of the site contain a variety of ornamental trees and ruderal vegetation as a result of seasonal weed abatement activities.

Although potential hydrology and water quality impacts could result from the proposed Project, implementation of NPDES permits ensures the State's mandatory standards for the maintenance of clean water and the federal minimums are met. No mitigation is required; however, compliance with the provisions of the NPDES permit and implementation of the LID BMPs specified in the WQMP are regulatory requirements that apply to all development projects. These requirements are detailed as

[165] Avocet Environmental, Inc. *Phase I Environmental Site Assessment, NEC Boyle & Juniper Avenues, Fontana, California 92337.* Pages 11–13. February 3, 2020 (Appendix F).

**Mitigation Measures HYD-1** through **HYD-3** to be included in the conditions of approval for this Project. A Final WQMP will be approved as a routine action during the processing of the Project by the City; therefore, the required measures and features detailed in the WQMP to safeguard water quality would be incorporated into the Project. Adherence to **Mitigation Measures HYD-1** through **HYD-3** and the requirements included in the NPDES permit, SWPPP, and WQMP would ensure impacts to water quality would be reduced to **less than significant with mitigation incorporated.**

No riparian or sensitive natural community is located on site, and there is no designated critical habitat within or adjacent to the Project site for any species.[166] The Project site does not include any federally protected wetlands or any drainage features, ponded areas, wetlands, or riparian habitat subject to jurisdiction by the CDFW, USACE, and/or RWQCB.[167] The Project-specific Biological Resources Assessment included a literature search and pedestrian survey of the site and indicates none of the 13 threatened, endangered, or candidate species with potential to occur in the project vicinity are located on the site due to lack of suitable habitat.[168,169] Additionally, the Project site does not provide suitable habitat for burrowing owl (*Athene cunicularia*) due to the site's previous disturbances, relatively small size, and isolation from open space with suitable habitat to support this species. Furthermore, the lack of ground squirrel burrows renders the site unlikely to facilitate nesting habitat for this species.[170] All other non-listed special-status species with potential to occur on site have a low probability of inhabiting the site due to lack of suitable habitat as a result of prior and current disturbances.

Ornamental trees that provide suitable nesting habitat for common bird species are located on site, so the Project would be conditioned via **Mitigation Measure BIO-1** to ensure a qualified biologist conducts a pre-construction survey for nesting birds if construction activities occur during nesting bird season in accordance with Sections 3503–3801 of the California Fish and Game Code. Additionally, the Project would be conditioned to comply with Article III: Preservation of Heritage, Significant, and Specimen Trees of the City Municipal Code as specified in **Mitigation Measure BIO-2** to evaluate eucalyptus trees 34–37 (refer to Figure 3: Photograph 5 and Figure 4 of Appendix C) to determine if a tree removal permit would be required for these specimens. The same condition would apply if the deodar cedar along Juniper Avenue (refer to Photograph 2 in Figure 3; Tree 177 in Figure 4 of Appendix C) is outside the City right-of-way and would require removal for the proposed improvements to Juniper Avenue.

With implementation of **Mitigation Measure BIO-1,** impacts to native resident or migratory fish or wildlife species, established native resident or migratory wildlife corridors, and native wildlife nursery sites would be reduced to **less than significant with mitigation incorporated.** Through implementation of **Mitigation Measure BIO-2**, the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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166 LSA Associates, Inc. *Biological Resources Assessment for the Transwestern Boyle Avenue Warehouse Building 1 Project (Case Numbers MCN 19-133, DRP 19-043, TPM 19-021) and Transwestern Boyle Avenue Warehouse Building 2 Project (Case Numbers MCN 19-135, DRP 19-044, TPM 19-022) in Fontana, San Bernardino County, California.* Pages 4 and 5. May 14, 2020. (Appendix C)

167 *Ibid.* Page 3.

168 *Ibid.* Table B: Special-Status Species Summary and Page B-3.

169 *Ibid.* Page 4.

170 *Ibid.*

The Project-specific Cultural Resources Assessment (Appendix D) identified and recorded two historic-era cultural resources onsite (archaeological site LSA-CFN1702-S-2 and the residence constructed in 1925 located at 16868 Boyle Avenue) and evaluated them pursuant to *CEQA Guidelines* Section 15064.5. None of the known cultural resources on site exhibit the integrity required to define them as Historical Resources under *CEQA Guidelines* Section 15064.5, so impacts to these resources would be **less than significant.** To further comply with all applicable regulations protecting archaeological resources and Tribal Cultural Resources, **Mitigation Measures CUL-1** and **CUL-2** and **Mitigation Measures TCR-1** through **TCR-5** are prescribed to ensure the Project would include provisions for Native American Monitoring of ground-disturbing activities and would be conditioned to cease excavation or construction activities if tribal cultural or archaeological resources are identified during execution. These measures would ensure further consultation with interested Native American Tribes for the appropriate treatment of Tribal Cultural Resources. Additionally, implementation of **Mitigation Measures GEO-2** and **GEO-3** would ensure unanticipated paleontological resources encountered during construction would be managed pursuant to applicable regulatory policy. Accordingly, impacts to important examples of major periods of California history or prehistory would be reduced to **less than significant with mitigation incorporated.**

The proposed Project has either no impact or a less than significant impact with respect to all natural resources issues pursuant to CEQA. Due to the limited scope of physical impacts to the environment associated with the proposed Project, implementation of the Mitigation Measures described above would ensure impacts to the quality of the environment would be reduced to **less than significant with mitigation incorporated**.

***Threshold B: Would the Project have possible environmental effects which are individually limited but cumulatively considerable?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effect: In evaluating the cumulative effects of the Project, Section 21100(e) of the *CEQA Guidelines* states that "previously approved land use documents including, but not limited to, general plans, specific plans, and local coastal plans, may be used in cumulative impact analysis." No changes are proposed to the City General Plan land use designation or zoning, as the Project will include the development of a 176,219-square foot logistics/distribution warehouse building consistent with the (I-G) General Industrial land use designation and (M-2) General Industrial zoning district (refer to Section 2.2). Therefore, the Project would not generate any increase in population that otherwise would not have been planned for in the City.

As discussed in Section 3.3 (Threshold B), construction and operation of the Project would not generate criteria pollutants in excess of SCAQMD emissions thresholds. Therefore, the Project would not contribute significantly to cumulative impacts for any air quality pollutants for which the region is in nonattainment. As for cumulative impacts to regional air quality, the discussion in Section 3.3 (Threshold A) indicates the proposed Project would neither conflict with the SCAQMD's AQMP nor jeopardize the region's attainment of air quality standards. The Project is consistent with the City's General Plan, as well as the population growth projections used by SCAG to identify future regional air pollutant concentrations necessary to meet the attainment standards identified in the AQMP. The SCAQMD uses the project-level significance thresholds to determine whether a project's emissions are cumulatively considerable. Because the Project's emissions do not exceed the SCAQMD's regional

significance thresholds, as detailed in Section 3.3 (Threshold B), the SCAQMD does not consider the Project to contribute significantly to a cumulative air quality impact.

All study area intersections and roadway segments are forecast to operate within acceptable LOS (C or better) during the peak hours for Existing without Project, Existing with Project, Opening Year (2021) without Project, and Opening Year (2021) with Project conditions except for the Juniper Avenue/Slover Avenue intersection, which is forecast to continue operating at LOS D, E, or F during all scenarios (Table 3.17.A and Table 3.17.B). As detailed in Table 3.17.B, the Juniper Avenue/Slover Avenue intersection is forecast to operate at an unsatisfactory level (LOS E during a.m. peak hour and LOS F during p.m. peak hour) without the Project and would continue to operate at an unsatisfactory level (LOS F during a.m. peak hour and LOS F during p.m. peak hour) with the Project. Therefore, the proposed Project would contribute to an adverse cumulative effect at this intersection. **Mitigation Measure TRA-1** is prescribed to ensure the Project Applicant makes a payment into the SBCTA Nexus Study Fee Program so improvements required to maintain a level of service C or better at the Juniper Avenue/Slover Avenue intersection are completed prior to occupancy, as detailed in Tables 3.17.C and 3.17.D. With implementation of **Mitigation Measure TRA-1,** impacts to the Juniper Avenue/Slover Avenue intersection would be reduced to **less than significant with mitigation incorporated**.

The Project site is very close to a similar, albeit independent, [76,562-square foot] warehouse project (Transwestern – Boyle Avenue Building 2) (Building 2) on APNs 0251-202-12 and 15 to the west of this Project site. These two projects do not rely on one another for any infrastructure and thus have independent utility. However, passenger vehicle and freight truck access to and from both Projects (Building 1 and Building 2) would occur via the Slover Avenue/Juniper Avenue intersection and along Juniper Avenue, so traffic and associated noise generated from the operation of Building 2 is incorporated in the opening year (2021) analysis to consider the ambient noise effect of both Projects on the neighborhood (refer to Table 3.13.D). As detailed in Table 3.13.D, the Project-related traffic noise increase on Boyle Avenue and Juniper Avenue would increase by up to 8.4 dBA and 4.5 dBA, respectively. However, when factoring existing noise levels (65.5 dBA CNEL at LT-1 and 64.5 dBA CNEL at LT-2) based on ambient noise measurements taken in the Project vicinity (refer to Figure 3 of Appendix J), the Project-related traffic noise increase on Boyle Avenue and Juniper Avenue would be 1.2 dBA and 1.0 dBA, respectively, under the opening year (2021) scenario with both Building 1 and Building 2 Projects operating. Noise level increases less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, traffic noise impacts from cumulative Project-related traffic on off-site sensitive receptors would be **less than significant**.

Finally, as detailed throughout Section 3.19, Utilities and Service Systems, sufficient utility facilities and resources are available to serve the Project in addition to existing entitlements.

The Project has no impact, a less than significant impact, or a less than significant impact with implementation of mitigation with respect to all environmental issues. Therefore, a **less than significant** cumulative impact would occur **with mitigation incorporated**.

***Threshold C: Would the Project have environmental effects that would cause substantial adverse effects on humans either directly or indirectly?***

**Less than Significant with Mitigation Incorporated**

Discussion of Effect: All development associated with the proposed Project must comply with applicable provisions of the 2019 CBC and the City's building regulations. Accordingly, proper engineering design and construction in conformance with the 2019 CBC standards and project-specific geotechnical recommendations (**Mitigation Measure GEO-1**) would ensure that the Project does not subject people to significant geologic hazards.

The Project proposes to demolish two buildings constructed prior to regulation of ACM and LBM. With implementation of **Mitigation Measures HAZ-1** through **HAZ-3,** impacts to the public through the disposal of ACM and LBM during Project demolition activities would remain l**ess than significant.** Additionally, **Mitigation Measures HAZ-4** would ensure any soils containing residual pesticides in excess of regulatory standards are disposed pursuant to 15 U.S.C. §2601 et seq. (1976) (Toxic Substances Control Act), Cal/OSHA, DTSC, and California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control). **Mitigation Measure HAZ-5** would ensure unanticipated subsurface features would be evaluated for asbestos and disposed in accordance with Cal/OSHA and Title 8, CCR Section 1529. **Mitigation Measure HAZ-6** would ensure known hazardous materials will be disposed pursuant to 15 U.S.C. §2601 et seq. (1976) (Toxic Substances Control Act), Cal/OSHA, and California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control).

Only California Division of Occupational Safety and Health Administration (Cal/OSHA) licensed Hazardous Materials Substances Removal contractors, and/or California State Registered Asbestos Abatement Contractors registered by the Division of Occupational Health and Safety in accordance with the California Administrative Code, Title 8, and article 2.5 and the SCAQMD Asbestos Hazard Emergency Response Act pursuant to Code of Federal Regulations Chapter 40, Part 763, subpart E would transport hazardous materials off-site. Implementation of **Mitigation Measures HAZ-1** through **HAZ-6** require the Project to comply with applicable regulations for the treatment and disposal of hazardous materials to ensure impacts would be reduced to **less than significant with mitigation incorporated**.

The Project site is located within the ONTLUCP Overflight Notification Zone for Real Estate Transaction Disclosures and within the ONT Airspace Protection Zone for structural heights greater than 200 feet above grade.[171] Notification is a regulatory requirement for all projects within the ONTLUCP Overflight Notification Zone for Real Estate Transaction Disclosures and generally is the responsibility of real estate agents or brokers. Therefore, the City prescribes **Mitigation Measure HAZ-7** to require the Project Applicant as a condition of Project entitlement to notify prospective Project occupants of the site's proximity to the ONT and airport overflight in accordance with the ONTLUCP. Impacts from the Project's proximity to ONT would be reduced to **less than significant with mitigation incorporated.**

The Project site is very close to a similar, albeit independent, [76,562-square foot] warehouse project (Transwestern – Boyle Avenue Building 2) (Building 2) on APNs 0251-202-12 and 15 to the west of this

[171] Ontario International Airport Land Use Compatibility Plan. *Chapter 2: Procedural and Compatibility Policies.* Map 2-4: Airspace Protection Zones, and Map 2-5: Overflight Notification Zones. April 19, 2011.

Project site. These two projects do not rely on one another for any infrastructure and thus have independent utility. However, passenger vehicle and freight truck access to and from both Project sites would occur via the Slover Avenue/Juniper Avenue intersection and along Juniper Avenue, so emissions from the operation of Building 2 are incorporated in this analysis to consider the effect of both Projects on the neighborhood as a worst-case scenario. As indicated in Table 3.3.E, the maximum cancer risk for the residential MEI would be 2.4 in 1 million, less than the threshold of 10 in 1 million. The maximum cancer risk for the worker MEI would be 0.3 in 1 million, also less than the threshold of 10 in 1 million. The chronic and acute health risks from the combined operation of Transwestern – Boyle Avenue Building 1 and Building 2 also are shown in Table 3.3.E and indicate the hazard index for each of these risks is below the threshold of 1.0. Therefore, all health risk levels to nearby residents and workers from Project-related emissions of TAC from the concurrent operation of both Building 1 and Building 2 would be below SCAQMD's HRA thresholds. Impacts to sensitive receptors from TACs would be **less than significant** and mitigation is not required.

As detailed in Section 3.13, construction and operation of the Project would not generate a substantial temporary or permanent increase in ambient noise levels or generate vibration in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance with implementation of **Mitigation Measure NOI-1.**

Through compliance with existing regulations and policy as codified in **Mitigation Measure GEO-1**, **Mitigation Measures HAZ-1** through **HAZ-7,** and **Mitigation Measure NOI-1,** substantial direct or indirect effects on human beings would be reduced to **less than significant with mitigation incorporated**.

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# APPENDIX A

# CALIFORNIA EMISSIONS ESTIMATOR MODEL, VERSION 2016.3.2 (CALEEMOD) RUNS

# Transwestern Boyle Avenue Warehouse Building 1

**San Bernardino-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 176.22 | 1000sqft | 4.05 | 176,220.00 | 0 |
| Other Non-Asphalt Surfaces | 35.54 | 1000sqft | 0.82 | 35,540.00 | 0 |
| Parking Lot | 3.27 | Acre | 3.27 | 142,441.20 | 0 |
| Other Asphalt Surfaces | 1.63 | Acre | 1.63 | 71,002.80 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 10 | | | **Operational Year** | 2021 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 601.59 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity factor adjusted for 2017 SCE Power Content Label assuming 32% renewables (601.59 lb/MWh).

Land Use - "Other Non-Asphalt Surfaces" represents the landscaping, "Other Asphalt Surfaces" represents Boyle and Juniper improvements.

Construction Phase - From project plans, assume that architectural coatings are applied during the building construction process.

Demolition - From developer

Grading -

Architectural Coating - Assume all architectural coatings comply with SCAQMD Rule 1113.

Vehicle Trips - Trip rates from the Project Focused Traffic Impact Analysis, assumed the average haul truck trip length to be 40 miles.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Area Coating - Assume all architectural coatings comply with SCAQMD Rule 1113.

Energy Use - Assume building will comply with 2019 Title 24, energy would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Water And Wastewater - Assume with 2019 Title 24 compliance, water use would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Solid Waste - Assume with 2019 Title 24 compliance, waste rate would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Sequestration - Estimated number of trees from project plans.

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Operational Off-Road Equipment - Assumed forklifts would operate in the warehouse.

Fleet Mix - Fleet mix from the traffic study.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 100.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 100.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 100.00 | 50.00 |
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 100 | 50 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 100 | 50 |
| tblAreaCoating | Area_EF_Parking | 100 | 50 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstructionPhase | NumDays | 20.00 | 76.00 |
| tblConstructionPhase | NumDays | 230.00 | 175.00 |
| tblConstructionPhase | NumDays | 20.00 | 5.00 |
| tblConstructionPhase | NumDays | 20.00 | 10.00 |
| tblConstructionPhase | NumDays | 10.00 | 5.00 |
| tblConstructionPhase | PhaseEndDate | 4/7/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/10/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/11/2021 | 1/21/2021 |
| tblConstructionPhase | PhaseEndDate | 3/25/2021 | 2/11/2021 |
| tblConstructionPhase | PhaseEndDate | 3/10/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/25/2021 | 1/28/2021 |
| tblConstructionPhase | PhaseStartDate | 3/11/2022 | 7/1/2021 |

| | | | |
|---|---|---|---|
| tblConstructionPhase | PhaseStartDate | 3/26/2021 | 2/12/2021 |
| tblConstructionPhase | PhaseStartDate | 2/26/2021 | 1/29/2021 |
| tblConstructionPhase | PhaseStartDate | 2/11/2022 | 9/17/2021 |
| tblConstructionPhase | PhaseStartDate | 2/12/2021 | 1/22/2021 |
| tblEnergyUse | LightingElect | 1.17 | 0.88 |
| tblEnergyUse | NT24E | 0.82 | 0.62 |
| tblEnergyUse | NT24NG | 0.03 | 0.02 |
| tblEnergyUse | T24E | 0.37 | 0.28 |
| tblEnergyUse | T24NG | 2.00 | 1.50 |
| tblFleetMix | HHD | 0.06 | 0.17 |
| tblFleetMix | LDA | 0.55 | 0.58 |
| tblFleetMix | LDT1 | 0.04 | 0.09 |
| tblFleetMix | LDT2 | 0.18 | 0.02 |
| tblFleetMix | LHD1 | 0.02 | 0.03 |
| tblFleetMix | LHD2 | 5.2670e-003 | 0.03 |
| tblFleetMix | MCY | 6.0000e-003 | 0.00 |
| tblFleetMix | MDV | 0.12 | 0.07 |
| tblFleetMix | MH | 1.0100e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.02 |
| tblFleetMix | OBUS | 1.3480e-003 | 0.00 |
| tblFleetMix | SBUS | 8.1200e-004 | 0.00 |
| tblFleetMix | UBUS | 1.6070e-003 | 0.00 |
| tblGrading | MaterialImported | 0.00 | 13,737.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 601.59 |
| tblSequestration | NumberOfNewTrees | 0.00 | 10.00 |
| tblSolidWaste | SolidWasteGenerationRate | 165.65 | 124.24 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |

| | | | |
|---|---|---|---|
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | LDA | 4.6640e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 261.85 | 203.82 |
| tblVehicleEF | LDA | 5.3170e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 286.52 | 203.82 |
| tblVehicleEF | LDA | 4.5320e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 256.02 | 203.82 |
| tblVehicleEF | LDT1 | 0.02 | 0.01 |
| tblVehicleEF | LDT1 | 323.73 | 411.09 |
| tblVehicleEF | LDT1 | 0.02 | 0.01 |
| tblVehicleEF | LDT1 | 352.65 | 411.09 |
| tblVehicleEF | LDT1 | 0.01 | 0.01 |
| tblVehicleEF | LDT1 | 316.91 | 411.09 |
| tblVehicleEF | LDT2 | 6.9330e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 363.70 | 275.19 |
| tblVehicleEF | LDT2 | 7.8730e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 397.09 | 275.19 |
| tblVehicleEF | LDT2 | 6.7430e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 355.82 | 275.19 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD2 | 5.2410e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | LHD2 | 5.3190e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | LHD2 | 5.2490e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | MDV | 0.01 | 6.0500e-004 |

| | | | |
|---|---|---|---|
| tblVehicleEF | MDV | 498.66 | 371.70 |
| tblVehicleEF | MDV | 0.02 | 6.0500e-004 |
| tblVehicleEF | MDV | 542.90 | 371.70 |
| tblVehicleEF | MDV | 0.01 | 6.0500e-004 |
| tblVehicleEF | MDV | 488.33 | 371.70 |
| tblVehicleEF | MHD | 4.1450e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleEF | MHD | 4.2290e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleEF | MHD | 4.1530e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleTrips | CW_TL | 16.60 | 40.00 |
| tblVehicleTrips | ST_TR | 1.68 | 1.74 |
| tblVehicleTrips | SU_TR | 1.68 | 1.74 |
| tblVehicleTrips | WD_TR | 1.68 | 1.74 |
| tblWater | IndoorWaterUseRate | 40,750,875.00 | 30,563,156.00 |

## 2.0 Emissions Summary

### 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 | | | | | |
| 2021 | 0.7497 | 2.8763 | 2.6238 | 7.0800e-003 | 0.3257 | 0.1119 | 0.4375 | 0.1080 | 0.1050 | 0.2130 | 0.0000 | 640.2759 | 640.2759 | 0.0839 | 0.0000 | 642.3730 |
| **Maximum** | **0.7497** | **2.8763** | **2.6238** | **7.0800e-003** | **0.3257** | **0.1119** | **0.4375** | **0.1080** | **0.1050** | **0.2130** | **0.0000** | **640.2759** | **640.2759** | **0.0839** | **0.0000** | **642.3730** |

## 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 | | | | | |
| 2021 | 0.7497 | 2.8763 | 2.6238 | 7.0800e-003 | 0.2806 | 0.1119 | 0.3925 | 0.0848 | 0.1050 | 0.1898 | 0.0000 | 640.2756 | 640.2756 | 0.0839 | 0.0000 | 642.3727 |
| **Maximum** | **0.7497** | **2.8763** | **2.6238** | **7.0800e-003** | **0.2806** | **0.1119** | **0.3925** | **0.0848** | **0.1050** | **0.1898** | **0.0000** | **640.2756** | **640.2756** | **0.0839** | **0.0000** | **642.3727** |

| | 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** | **13.83** | **0.00** | **10.30** | **21.52** | **0.00** | **10.91** | **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) |
|---|---|---|---|---|
| **1** | **1-15-2021** | **4-14-2021** | 1.1530 | 1.1530 |
| **2** | **4-15-2021** | **7-14-2021** | 0.9677 | 0.9677 |
| **3** | **7-15-2021** | **9-30-2021** | 1.2163 | 1.2163 |
| | | **Highest** | 1.2163 | 1.2163 |

## 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 | 0.6957 | 3.0000e-005 | 2.7800e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 5.3800e-003 | 5.3800e-003 | 1.0000e-005 | 0.0000 | 5.7300e-003 |
| Energy | 1.4400e-003 | 0.0131 | 0.0110 | 8.0000e-005 | | 1.0000e-003 | 1.0000e-003 | | 1.0000e-003 | 1.0000e-003 | 0.0000 | 113.4915 | 113.4915 | 5.0600e-003 | 1.2500e-003 | 113.9908 |
| Mobile | 0.1680 | 3.0773 | 2.6864 | 0.0169 | 1.0653 | 0.0146 | 1.0799 | 0.2868 | 0.0138 | 0.3006 | 0.0000 | 1,413.1067 | 1,413.1067 | 0.0329 | 0.0000 | 1,413.9297 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Offroad | 0.0673 | 0.6132 | 0.6073 | 7.9000e-004 | | 0.0435 | 0.0435 | | 0.0400 | 0.0400 | 0.0000 | 69.8315 | 69.8315 | 0.0226 | 0.0000 | 70.3961 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 25.2196 | 0.0000 | 25.2196 | 1.4904 | 0.0000 | 62.4805 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 9.6963 | 108.5948 | 118.2910 | 1.0011 | 0.0246 | 150.6498 |
| **Total** | **0.9323** | **3.7036** | **3.3075** | **0.0178** | **1.0653** | **0.0592** | **1.1244** | **0.2868** | **0.0549** | **0.3416** | **34.9159** | **1,705.0298** | **1,739.9457** | **2.5522** | **0.0259** | **1,811.4526** |

## 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 | 0.6957 | 3.0000e-005 | 2.7800e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 5.3800e-003 | 5.3800e-003 | 1.0000e-005 | 0.0000 | 5.7300e-003 |
| Energy | 1.4400e-003 | 0.0131 | 0.0110 | 8.0000e-005 | | 1.0000e-003 | 1.0000e-003 | | 1.0000e-003 | 1.0000e-003 | 0.0000 | 113.4915 | 113.4915 | 5.0600e-003 | 1.2500e-003 | 113.9908 |
| Mobile | 0.1680 | 3.0773 | 2.6864 | 0.0169 | 1.0653 | 0.0146 | 1.0799 | 0.2868 | 0.0138 | 0.3006 | 0.0000 | 1,413.1067 | 1,413.1067 | 0.0329 | 0.0000 | 1,413.9297 |
| Offroad | 0.0673 | 0.6132 | 0.6073 | 7.9000e-004 | | 0.0435 | 0.0435 | | 0.0400 | 0.0400 | 0.0000 | 69.8315 | 69.8315 | 0.0226 | 0.0000 | 70.3961 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 25.2196 | 0.0000 | 25.2196 | 1.4904 | 0.0000 | 62.4805 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 9.6963 | 108.5948 | 118.2910 | 1.0011 | 0.0246 | 150.6498 |
| **Total** | **0.9323** | **3.7036** | **3.3075** | **0.0178** | **1.0653** | **0.0592** | **1.1244** | **0.2868** | **0.0549** | **0.3416** | **34.9159** | **1,705.0298** | **1,739.9457** | **2.5522** | **0.0259** | **1,811.4526** |

| | **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** |

## 2.3 Vegetation

### Vegetation

| | CO2e |
|---|---|
| Category | MT |
| New Trees | 7.0800 |
| **Total** | **7.0800** |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Demolition | Demolition | 1/15/2021 | 1/21/2021 | 5 | 5 | |
| 2 | Site Preparation | Site Preparation | 1/22/2021 | 1/28/2021 | 5 | 5 | |
| 3 | Grading | Grading | 1/29/2021 | 2/11/2021 | 5 | 10 | |
| 4 | Building Construction | Building Construction | 2/12/2021 | 10/14/2021 | 5 | 175 | |
| 5 | Paving | Paving | 9/17/2021 | 10/14/2021 | 5 | 20 | |
| 6 | Architectural Coating | Architectural Coating | 7/1/2021 | 10/14/2021 | 5 | 76 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 5**

**Acres of Paving: 5.72**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 264,330; Non-Residential Outdoor: 88,110; Striped Parking**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Excavators | 3 | 8.00 | 158 | 0.38 |
| Demolition | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

| | | | | | |
|---|---|---|---|---|---|
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 3 | 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 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| 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 |

**Trips and VMT**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | 6 | 15.00 | 0.00 | 30.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 6 | 15.00 | 0.00 | 1,717.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 179.00 | 70.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 36.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Demolition - 2021

**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 | | | | | 3.2000e-003 | 0.0000 | 3.2000e-003 | 4.8000e-004 | 0.0000 | 4.8000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.9100e-003 | 0.0786 | 0.0539 | 1.0000e-004 | | 3.8800e-003 | 3.8800e-003 | | 3.6000e-003 | 3.6000e-003 | 0.0000 | 8.5002 | 8.5002 | 2.3900e-003 | 0.0000 | 8.5600 |
| **Total** | **7.9100e-003** | **0.0786** | **0.0539** | **1.0000e-004** | **3.2000e-003** | **3.8800e-003** | **7.0800e-003** | **4.8000e-004** | **3.6000e-003** | **4.0800e-003** | **0.0000** | **8.5002** | **8.5002** | **2.3900e-003** | **0.0000** | **8.5600** |

## 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 | 9.0000e-005 | 3.5000e-003 | 5.6000e-004 | 1.0000e-005 | 2.6000e-004 | 1.0000e-005 | 2.7000e-004 | 7.0000e-005 | 1.0000e-005 | 8.0000e-005 | 0.0000 | 1.1105 | 1.1105 | 6.0000e-005 | 0.0000 | 1.1121 |
| 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 | 1.7000e-004 | 1.3000e-004 | 1.3400e-003 | 0.0000 | 4.1000e-004 | 0.0000 | 4.1000e-004 | 1.1000e-004 | 0.0000 | 1.1000e-004 | 0.0000 | 0.3412 | 0.3412 | 1.0000e-005 | 0.0000 | 0.3415 |
| **Total** | **2.6000e-004** | **3.6300e-003** | **1.9000e-003** | **1.0000e-005** | **6.7000e-004** | **1.0000e-005** | **6.8000e-004** | **1.8000e-004** | **1.0000e-005** | **1.9000e-004** | **0.0000** | **1.4518** | **1.4518** | **7.0000e-005** | **0.0000** | **1.4536** |

## 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 | | | | | 1.4400e-003 | 0.0000 | 1.4400e-003 | 2.2000e-004 | 0.0000 | 2.2000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road | 7.9100e-003 | 0.0786 | 0.0539 | 1.0000e-004 | | 3.8800e-003 | 3.8800e-003 | | 3.6000e-003 | 3.6000e-003 | 0.0000 | 8.5002 | 8.5002 | 2.3900e-003 | 0.0000 | 8.5600 |
| **Total** | **7.9100e-003** | **0.0786** | **0.0539** | **1.0000e-004** | **1.4400e-003** | **3.8800e-003** | **5.3200e-003** | **2.2000e-004** | **3.6000e-003** | **3.8200e-003** | **0.0000** | **8.5002** | **8.5002** | **2.3900e-003** | **0.0000** | **8.5600** |

**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 | 9.0000e-005 | 3.5000e-003 | 5.6000e-004 | 1.0000e-005 | 2.6000e-004 | 1.0000e-005 | 2.7000e-004 | 7.0000e-005 | 1.0000e-005 | 8.0000e-005 | 0.0000 | 1.1105 | 1.1105 | 6.0000e-005 | 0.0000 | 1.1121 |
| 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 | 1.7000e-004 | 1.3000e-004 | 1.3400e-003 | 0.0000 | 4.1000e-004 | 0.0000 | 4.1000e-004 | 1.1000e-004 | 0.0000 | 1.1000e-004 | 0.0000 | 0.3412 | 0.3412 | 1.0000e-005 | 0.0000 | 0.3415 |
| **Total** | **2.6000e-004** | **3.6300e-003** | **1.9000e-003** | **1.0000e-005** | **6.7000e-004** | **1.0000e-005** | **6.8000e-004** | **1.8000e-004** | **1.0000e-005** | **1.9000e-004** | **0.0000** | **1.4518** | **1.4518** | **7.0000e-005** | **0.0000** | **1.4536** |

## 3.3 Site Preparation - 2021

**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 | | | | | 0.0452 | 0.0000 | 0.0452 | 0.0248 | 0.0000 | 0.0248 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.7200e-003 | 0.1012 | 0.0529 | 1.0000e-004 | | 5.1100e-003 | 5.1100e-003 | | 4.7000e-003 | 4.7000e-003 | 0.0000 | 8.3589 | 8.3589 | 2.7000e-003 | 0.0000 | 8.4265 |
| **Total** | **9.7200e-003** | **0.1012** | **0.0529** | **1.0000e-004** | **0.0452** | **5.1100e-003** | **0.0503** | **0.0248** | **4.7000e-003** | **0.0295** | **0.0000** | **8.3589** | **8.3589** | **2.7000e-003** | **0.0000** | **8.4265** |

**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 | 2.1000e-004 | 1.6000e-004 | 1.6000e-003 | 0.0000 | 4.9000e-004 | 0.0000 | 5.0000e-004 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 0.4095 | 0.4095 | 1.0000e-005 | 0.0000 | 0.4097 |
| **Total** | **2.1000e-004** | **1.6000e-004** | **1.6000e-003** | **0.0000** | **4.9000e-004** | **0.0000** | **5.0000e-004** | **1.3000e-004** | **0.0000** | **1.3000e-004** | **0.0000** | **0.4095** | **0.4095** | **1.0000e-005** | **0.0000** | **0.4097** |

## 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 | | | | | 0.0203 | 0.0000 | 0.0203 | 0.0112 | 0.0000 | 0.0112 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.7200e-003 | 0.1012 | 0.0529 | 1.0000e-004 | | 5.1100e-003 | 5.1100e-003 | | 4.7000e-003 | 4.7000e-003 | 0.0000 | 8.3589 | 8.3589 | 2.7000e-003 | 0.0000 | 8.4265 |
| **Total** | **9.7200e-003** | **0.1012** | **0.0529** | **1.0000e-004** | **0.0203** | **5.1100e-003** | **0.0254** | **0.0112** | **4.7000e-003** | **0.0159** | **0.0000** | **8.3589** | **8.3589** | **2.7000e-003** | **0.0000** | **8.4265** |

## 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 | 2.1000e-004 | 1.6000e-004 | 1.6000e-003 | 0.0000 | 4.9000e-004 | 0.0000 | 5.0000e-004 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 0.4095 | 0.4095 | 1.0000e-005 | 0.0000 | 0.4097 |
| **Total** | **2.1000e-004** | **1.6000e-004** | **1.6000e-003** | **0.0000** | **4.9000e-004** | **0.0000** | **5.0000e-004** | **1.3000e-004** | **0.0000** | **1.3000e-004** | **0.0000** | **0.4095** | **0.4095** | **1.0000e-005** | **0.0000** | **0.4097** |

## 3.4 Grading - 2021

### 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 | | | | | 0.0335 | 0.0000 | 0.0335 | 0.0170 | 0.0000 | 0.0170 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0115 | 0.1237 | 0.0793 | 1.5000e-004 | | 5.8000e-003 | 5.8000e-003 | | 5.3400e-003 | 5.3400e-003 | 0.0000 | 13.0269 | 13.0269 | 4.2100e-003 | 0.0000 | 13.1322 |
| **Total** | **0.0115** | **0.1237** | **0.0793** | **1.5000e-004** | **0.0335** | **5.8000e-003** | **0.0393** | **0.0170** | **5.3400e-003** | **0.0223** | **0.0000** | **13.0269** | **13.0269** | **4.2100e-003** | **0.0000** | **13.1322** |

### 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 | 5.2000e-003 | 0.2005 | 0.0322 | 6.6000e-004 | 0.0148 | 5.6000e-004 | 0.0153 | 4.0600e-003 | 5.3000e-004 | 4.5900e-003 | 0.0000 | 63.5599 | 63.5599 | 3.5800e-003 | 0.0000 | 63.6493 |
| 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 | 3.5000e-004 | 2.6000e-004 | 2.6700e-003 | 1.0000e-005 | 8.2000e-004 | 1.0000e-005 | 8.3000e-004 | 2.2000e-004 | 0.0000 | 2.2000e-004 | 0.0000 | 0.6824 | 0.6824 | 2.0000e-005 | 0.0000 | 0.6829 |
| **Total** | **5.5500e-003** | **0.2008** | **0.0349** | **6.7000e-004** | **0.0156** | **5.7000e-004** | **0.0162** | **4.2800e-003** | **5.3000e-004** | **4.8100e-003** | **0.0000** | **64.2423** | **64.2423** | **3.6000e-003** | **0.0000** | **64.3322** |

### 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 | | | | | 0.0151 | 0.0000 | 0.0151 | 7.6300e-003 | 0.0000 | 7.6300e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0115 | 0.1237 | 0.0793 | 1.5000e-004 | | 5.8000e-003 | 5.8000e-003 | | 5.3400e-003 | 5.3400e-003 | 0.0000 | 13.0268 | 13.0268 | 4.2100e-003 | 0.0000 | 13.1322 |
| **Total** | **0.0115** | **0.1237** | **0.0793** | **1.5000e-004** | **0.0151** | **5.8000e-003** | **0.0209** | **7.6300e-003** | **5.3400e-003** | **0.0130** | **0.0000** | **13.0268** | **13.0268** | **4.2100e-003** | **0.0000** | **13.1322** |

**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 | 5.2000e-003 | 0.2005 | 0.0322 | 6.6000e-004 | 0.0148 | 5.6000e-004 | 0.0153 | 4.0600e-003 | 5.3000e-004 | 4.5900e-003 | 0.0000 | 63.5599 | 63.5599 | 3.5800e-003 | 0.0000 | 63.6493 |
| 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 | 3.5000e-004 | 2.6000e-004 | 2.6700e-003 | 1.0000e-005 | 8.2000e-004 | 1.0000e-005 | 8.3000e-004 | 2.2000e-004 | 0.0000 | 2.2000e-004 | 0.0000 | 0.6824 | 0.6824 | 2.0000e-005 | 0.0000 | 0.6829 |
| **Total** | **5.5500e-003** | **0.2008** | **0.0349** | **6.7000e-004** | **0.0156** | **5.7000e-004** | **0.0162** | **4.2800e-003** | **5.3000e-004** | **4.8100e-003** | **0.0000** | **64.2423** | **64.2423** | **3.6000e-003** | **0.0000** | **64.3322** |

## 3.5 Building Construction - 2021

**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 | 0.1663 | 1.5253 | 1.4503 | 2.3600e-003 | | 0.0839 | 0.0839 | | 0.0789 | 0.0789 | 0.0000 | 202.6826 | 202.6826 | 0.0489 | 0.0000 | 203.9051 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **0.1663** | **1.5253** | **1.4503** | **2.3600e-003** | | **0.0839** | **0.0839** | | **0.0789** | **0.0789** | **0.0000** | **202.6826** | **202.6826** | **0.0489** | **0.0000** | **203.9051** |

## 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 | 0.0162 | 0.5959 | 0.1212 | 1.6300e-003 | 0.0386 | 1.0200e-003 | 0.0396 | 0.0112 | 9.8000e-004 | 0.0121 | 0.0000 | 155.5525 | 155.5525 | 0.0105 | 0.0000 | 155.8145 |
| Worker | 0.0721 | 0.0545 | 0.5581 | 1.5800e-003 | 0.1717 | 1.1200e-003 | 0.1729 | 0.0456 | 1.0300e-003 | 0.0466 | 0.0000 | 142.5132 | 142.5132 | 3.9900e-003 | 0.0000 | 142.6129 |
| **Total** | **0.0883** | **0.6504** | **0.6793** | **3.2100e-003** | **0.2104** | **2.1400e-003** | **0.2125** | **0.0568** | **2.0100e-003** | **0.0588** | **0.0000** | **298.0657** | **298.0657** | **0.0145** | **0.0000** | **298.4274** |

## 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 | 0.1663 | 1.5253 | 1.4503 | 2.3600e-003 | | 0.0839 | 0.0839 | | 0.0789 | 0.0789 | 0.0000 | 202.6824 | 202.6824 | 0.0489 | 0.0000 | 203.9048 |
| **Total** | **0.1663** | **1.5253** | **1.4503** | **2.3600e-003** | | **0.0839** | **0.0839** | | **0.0789** | **0.0789** | **0.0000** | **202.6824** | **202.6824** | **0.0489** | **0.0000** | **203.9048** |

## 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 | 0.0162 | 0.5959 | 0.1212 | 1.6300e-003 | 0.0386 | 1.0200e-003 | 0.0396 | 0.0112 | 9.8000e-004 | 0.0121 | 0.0000 | 155.5525 | 155.5525 | 0.0105 | 0.0000 | 155.8145 |
| Worker | 0.0721 | 0.0545 | 0.5581 | 1.5800e-003 | 0.1717 | 1.1200e-003 | 0.1729 | 0.0456 | 1.0300e-003 | 0.0466 | 0.0000 | 142.5132 | 142.5132 | 3.9900e-003 | 0.0000 | 142.6129 |
| **Total** | **0.0883** | **0.6504** | **0.6793** | **3.2100e-003** | **0.2104** | **2.1400e-003** | **0.2125** | **0.0568** | **2.0100e-003** | **0.0588** | **0.0000** | **298.0657** | **298.0657** | **0.0145** | **0.0000** | **298.4274** |

## 3.6 Paving - 2021

### 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 | 0.0126 | 0.1292 | 0.1465 | 2.3000e-004 | | 6.7800e-003 | 6.7800e-003 | | 6.2400e-003 | 6.2400e-003 | 0.0000 | 20.0235 | 20.0235 | 6.4800e-003 | 0.0000 | 20.1854 |
| Paving | 6.4200e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0190** | **0.1292** | **0.1465** | **2.3000e-004** | | **6.7800e-003** | **6.7800e-003** | | **6.2400e-003** | **6.2400e-003** | **0.0000** | **20.0235** | **20.0235** | **6.4800e-003** | **0.0000** | **20.1854** |

### 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 | 6.9000e-004 | 5.2000e-004 | 5.3400e-003 | 2.0000e-005 | 1.6400e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.3649 | 1.3649 | 4.0000e-005 | 0.0000 | 1.3658 |
| **Total** | **6.9000e-004** | **5.2000e-004** | **5.3400e-003** | **2.0000e-005** | **1.6400e-003** | **1.0000e-005** | **1.6600e-003** | **4.4000e-004** | **1.0000e-005** | **4.5000e-004** | **0.0000** | **1.3649** | **1.3649** | **4.0000e-005** | **0.0000** | **1.3658** |

**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 | 0.0126 | 0.1292 | 0.1465 | 2.3000e-004 | | 6.7800e-003 | 6.7800e-003 | | 6.2400e-003 | 6.2400e-003 | 0.0000 | 20.0235 | 20.0235 | 6.4800e-003 | 0.0000 | 20.1854 |
| Paving | 6.4200e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0190** | **0.1292** | **0.1465** | **2.3000e-004** | | **6.7800e-003** | **6.7800e-003** | | **6.2400e-003** | **6.2400e-003** | **0.0000** | **20.0235** | **20.0235** | **6.4800e-003** | **0.0000** | **20.1854** |

**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 | 6.9000e-004 | 5.2000e-004 | 5.3400e-003 | 2.0000e-005 | 1.6400e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.3649 | 1.3649 | 4.0000e-005 | 0.0000 | 1.3658 |
| **Total** | **6.9000e-004** | **5.2000e-004** | **5.3400e-003** | **2.0000e-005** | **1.6400e-003** | **1.0000e-005** | **1.6600e-003** | **4.4000e-004** | **1.0000e-005** | **4.5000e-004** | **0.0000** | **1.3649** | **1.3649** | **4.0000e-005** | **0.0000** | **1.3658** |

## 3.7 Architectural Coating - 2021

**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 | 0.4257 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 8.3200e-003 | 0.0580 | 0.0691 | 1.1000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 9.7024 | 9.7024 | 6.7000e-004 | 0.0000 | 9.7190 |
| **Total** | **0.4340** | **0.0580** | **0.0691** | **1.1000e-004** | | **3.5800e-003** | **3.5800e-003** | | **3.5800e-003** | **3.5800e-003** | **0.0000** | **9.7024** | **9.7024** | **6.7000e-004** | **0.0000** | **9.7190** |

## 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 | 6.3000e-003 | 4.7600e-003 | 0.0487 | 1.4000e-004 | 0.0150 | 1.0000e-004 | 0.0151 | 3.9800e-003 | 9.0000e-005 | 4.0700e-003 | 0.0000 | 12.4474 | 12.4474 | 3.5000e-004 | 0.0000 | 12.4562 |
| **Total** | **6.3000e-003** | **4.7600e-003** | **0.0487** | **1.4000e-004** | **0.0150** | **1.0000e-004** | **0.0151** | **3.9800e-003** | **9.0000e-005** | **4.0700e-003** | **0.0000** | **12.4474** | **12.4474** | **3.5000e-004** | **0.0000** | **12.4562** |

## 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 | 0.4257 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road | 8.3200e-003 | 0.0580 | 0.0691 | 1.1000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 9.7024 | 9.7024 | 6.7000e-004 | 0.0000 | 9.7190 |
| **Total** | **0.4340** | **0.0580** | **0.0691** | **1.1000e-004** | | **3.5800e-003** | **3.5800e-003** | | **3.5800e-003** | **3.5800e-003** | **0.0000** | **9.7024** | **9.7024** | **6.7000e-004** | **0.0000** | **9.7190** |

**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 | 6.3000e-003 | 4.7600e-003 | 0.0487 | 1.4000e-004 | 0.0150 | 1.0000e-004 | 0.0151 | 3.9800e-003 | 9.0000e-005 | 4.0700e-003 | 0.0000 | 12.4474 | 12.4474 | 3.5000e-004 | 0.0000 | 12.4562 |
| **Total** | **6.3000e-003** | **4.7600e-003** | **0.0487** | **1.4000e-004** | **0.0150** | **1.0000e-004** | **0.0151** | **3.9800e-003** | **9.0000e-005** | **4.0700e-003** | **0.0000** | **12.4474** | **12.4474** | **3.5000e-004** | **0.0000** | **12.4562** |

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | 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 | 0.1680 | 3.0773 | 2.6864 | 0.0169 | 1.0653 | 0.0146 | 1.0799 | 0.2868 | 0.0138 | 0.3006 | 0.0000 | 1,413.1067 | 1,413.1067 | 0.0329 | 0.0000 | 1,413.9297 |
| Unmitigated | 0.1680 | 3.0773 | 2.6864 | 0.0169 | 1.0653 | 0.0146 | 1.0799 | 0.2868 | 0.0138 | 0.3006 | 0.0000 | 1,413.1067 | 1,413.1067 | 0.0329 | 0.0000 | 1,413.9297 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 306.62 | 306.62 | 306.62 | 2,750,985 | 2,750,985 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Total | 306.62 | 306.62 | 306.62 | 2,750,985 | 2,750,985 |

## 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- | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Non-Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No Rail | 40.00 | 8.40 | 6.90 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |
| Parking Lot | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |
| Unrefrigerated Warehouse-No Rail | 0.580000 | 0.090000 | 0.020000 | 0.068000 | 0.027500 | 0.027500 | 0.020000 | 0.167000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |

# 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 | 99.1978 | 99.1978 | 4.7800e-003 | 9.9000e-004 | 99.6121 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 99.1978 | 99.1978 | 4.7800e-003 | 9.9000e-004 | 99.6121 |
| NaturalGas Mitigated | 1.4400e-003 | 0.0131 | 0.0110 | 8.0000e-005 | | 1.0000e-003 | 1.0000e-003 | | 1.0000e-003 | 1.0000e-003 | 0.0000 | 14.2937 | 14.2937 | 2.7000e-004 | 2.6000e-004 | 14.3787 |
| NaturalGas Unmitigated | 1.4400e-003 | 0.0131 | 0.0110 | 8.0000e-005 | | 1.0000e-003 | 1.0000e-003 | | 1.0000e-003 | 1.0000e-003 | 0.0000 | 14.2937 | 14.2937 | 2.7000e-004 | 2.6000e-004 | 14.3787 |

## 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 |
| Other Non-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 |
| Parking Lot | 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 | 267854 | 1.4400e-003 | 0.0131 | 0.0110 | 8.0000e-005 | | 1.0000e-003 | 1.0000e-003 | | 1.0000e-003 | 1.0000e-003 | 0.0000 | 14.2937 | 14.2937 | 2.7000e-004 | 2.6000e-004 | 14.3787 |
| **Total** | | **1.4400e-003** | **0.0131** | **0.0110** | **8.0000e-005** | | **1.0000e-003** | **1.0000e-003** | | **1.0000e-003** | **1.0000e-003** | **0.0000** | **14.2937** | **14.2937** | **2.7000e-004** | **2.6000e-004** | **14.3787** |

### 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 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Non-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 |
| Parking Lot | 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 | 267854 | 1.4400e-003 | 0.0131 | 0.0110 | 8.0000e-005 | | 1.0000e-003 | 1.0000e-003 | | 1.0000e-003 | 1.0000e-003 | 0.0000 | 14.2937 | 14.2937 | 2.7000e-004 | 2.6000e-004 | 14.3787 |
| **Total** | | **1.4400e-003** | **0.0131** | **0.0110** | **8.0000e-005** | | **1.0000e-003** | **1.0000e-003** | | **1.0000e-003** | **1.0000e-003** | **0.0000** | **14.2937** | **14.2937** | **2.7000e-004** | **2.6000e-004** | **14.3787** |

## 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 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 49854.4 | 13.6041 | 6.6000e-004 | 1.4000e-004 | 13.6609 |
| Unrefrigerated Warehouse-No | 313672 | 85.5937 | 4.1300e-003 | 8.5000e-004 | 85.9512 |
| **Total** | | **99.1978** | **4.7900e-003** | **9.9000e-004** | **99.6121** |

### 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 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 49854.4 | 13.6041 | 6.6000e-004 | 1.4000e-004 | 13.6609 |

| | | | | | |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 313672 | 85.5937 | 4.1300e-003 | 8.5000e-004 | 85.9512 |
| **Total** | | **99.1978** | **4.7900e-003** | **9.9000e-004** | **99.6121** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | 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 | 0.6957 | 3.0000e-005 | 2.7800e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 5.3800e-003 | 5.3800e-003 | 1.0000e-005 | 0.0000 | 5.7300e-003 |
| Unmitigated | 0.6957 | 3.0000e-005 | 2.7800e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 5.3800e-003 | 5.3800e-003 | 1.0000e-005 | 0.0000 | 5.7300e-003 |

## 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 | 0.0426 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.6529 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.6000e-004 | 3.0000e-005 | 2.7800e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 5.3800e-003 | 5.3800e-003 | 1.0000e-005 | 0.0000 | 5.7300e-003 |
| **Total** | **0.6957** | **3.0000e-005** | **2.7800e-003** | **0.0000** | | **1.0000e-005** | **1.0000e-005** | | **1.0000e-005** | **1.0000e-005** | **0.0000** | **5.3800e-003** | **5.3800e-003** | **1.0000e-005** | **0.0000** | **5.7300e-003** |

**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 | 0.0426 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.6529 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.6000e-004 | 3.0000e-005 | 2.7800e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 5.3800e-003 | 5.3800e-003 | 1.0000e-005 | 0.0000 | 5.7300e-003 |
| **Total** | **0.6957** | **3.0000e-005** | **2.7800e-003** | **0.0000** | | **1.0000e-005** | **1.0000e-005** | | **1.0000e-005** | **1.0000e-005** | **0.0000** | **5.3800e-003** | **5.3800e-003** | **1.0000e-005** | **0.0000** | **5.7300e-003** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 118.2910 | 1.0011 | 0.0246 | 150.6498 |
| Unmitigated | 118.2910 | 1.0011 | 0.0246 | 150.6498 |

## 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 |
| Other Non-Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 30.5632 / 0 | 118.2910 | 1.0011 | 0.0246 | 150.6498 |
| **Total** | | **118.2910** | **1.0011** | **0.0246** | **150.6498** |

**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 |
| Other Non-Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 30.5632 / 0 | 118.2910 | 1.0011 | 0.0246 | 150.6498 |
| **Total** | | **118.2910** | **1.0011** | **0.0246** | **150.6498** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 25.2196 | 1.4904 | 0.0000 | 62.4805 |
| Unmitigated | 25.2196 | 1.4904 | 0.0000 | 62.4805 |

## 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 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 124.24 | 25.2196 | 1.4904 | 0.0000 | 62.4805 |
| **Total** | | **25.2196** | **1.4904** | **0.0000** | **62.4805** |

**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 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 124.24 | 25.2196 | 1.4904 | 0.0000 | 62.4805 |
| **Total** | | **25.2196** | **1.4904** | **0.0000** | **62.4805** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Forklifts | 4 | 8.00 | 260 | 89 | 0.20 | Diesel |

### UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Forklifts | 0.0673 | 0.6132 | 0.6073 | 7.9000e-004 | | 0.0435 | 0.0435 | | 0.0400 | 0.0400 | 0.0000 | 69.8315 | 69.8315 | 0.0226 | 0.0000 | 70.3961 |
| **Total** | **0.0673** | **0.6132** | **0.6073** | **7.9000e-004** | | **0.0435** | **0.0435** | | **0.0400** | **0.0400** | **0.0000** | **69.8315** | **69.8315** | **0.0226** | **0.0000** | **70.3961** |

## 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

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT | | | |
| Unmitigated | 7.0800 | 0.0000 | 0.0000 | 7.0800 |

## 11.2 Net New Trees

**Species Class**

| | Number of Trees | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| | | MT | | | |
| Miscellaneous | 10 | 7.0800 | 0.0000 | 0.0000 | 7.0800 |
| **Total** | | **7.0800** | **0.0000** | **0.0000** | **7.0800** |

# Transwestern Boyle Avenue Warehouse Building 1

**San Bernardino-South Coast County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 176.22 | 1000sqft | 4.05 | 176,220.00 | 0 |
| Other Non-Asphalt Surfaces | 35.54 | 1000sqft | 0.82 | 35,540.00 | 0 |
| Parking Lot | 3.27 | Acre | 3.27 | 142,441.20 | 0 |
| Other Asphalt Surfaces | 1.63 | Acre | 1.63 | 71,002.80 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 10 | | | **Operational Year** | 2021 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 601.59 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity factor adjusted for 2017 SCE Power Content Label assuming 32% renewables (601.59 lb/MWh).

Land Use - "Other Non-Asphalt Surfaces" represents the landscaping, "Other Asphalt Surfaces" represents Boyle and Juniper improvements.

Construction Phase - From project plans, assume that architectural coatings are applied during the building construction process.

Demolition - From developer

Grading -

Architectural Coating - Assume all architectural coatings comply with SCAQMD Rule 1113.

Vehicle Trips - Trip rates from the Project Focused Traffic Impact Analysis, assumed the average haul truck trip length to be 40 miles.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Area Coating - Assume all architectural coatings comply with SCAQMD Rule 1113.

Energy Use - Assume building will comply with 2019 Title 24, energy would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Water And Wastewater - Assume with 2019 Title 24 compliance, water use would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Solid Waste - Assume with 2019 Title 24 compliance, waste rate would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Sequestration - Estimated number of trees from project plans.

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Operational Off-Road Equipment - Assumed forklifts would operate in the warehouse.

Fleet Mix - Fleet mix from the traffic study.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 100.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 100.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 100.00 | 50.00 |
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 100 | 50 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 100 | 50 |
| tblAreaCoating | Area_EF_Parking | 100 | 50 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstructionPhase | NumDays | 20.00 | 76.00 |
| tblConstructionPhase | NumDays | 230.00 | 175.00 |
| tblConstructionPhase | NumDays | 20.00 | 5.00 |
| tblConstructionPhase | NumDays | 20.00 | 10.00 |
| tblConstructionPhase | NumDays | 10.00 | 5.00 |
| tblConstructionPhase | PhaseEndDate | 4/7/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/10/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/11/2021 | 1/21/2021 |
| tblConstructionPhase | PhaseEndDate | 3/25/2021 | 2/11/2021 |
| tblConstructionPhase | PhaseEndDate | 3/10/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/25/2021 | 1/28/2021 |
| tblConstructionPhase | PhaseStartDate | 3/11/2022 | 7/1/2021 |

| | | | |
|---|---|---|---|
| tblConstructionPhase | PhaseStartDate | 3/26/2021 | 2/12/2021 |
| tblConstructionPhase | PhaseStartDate | 2/26/2021 | 1/29/2021 |
| tblConstructionPhase | PhaseStartDate | 2/11/2022 | 9/17/2021 |
| tblConstructionPhase | PhaseStartDate | 2/12/2021 | 1/22/2021 |
| tblEnergyUse | LightingElect | 1.17 | 0.88 |
| tblEnergyUse | NT24E | 0.82 | 0.62 |
| tblEnergyUse | NT24NG | 0.03 | 0.02 |
| tblEnergyUse | T24E | 0.37 | 0.28 |
| tblEnergyUse | T24NG | 2.00 | 1.50 |
| tblFleetMix | HHD | 0.06 | 0.17 |
| tblFleetMix | LDA | 0.55 | 0.58 |
| tblFleetMix | LDT1 | 0.04 | 0.09 |
| tblFleetMix | LDT2 | 0.18 | 0.02 |
| tblFleetMix | LHD1 | 0.02 | 0.03 |
| tblFleetMix | LHD2 | 5.2670e-003 | 0.03 |
| tblFleetMix | MCY | 6.0000e-003 | 0.00 |
| tblFleetMix | MDV | 0.12 | 0.07 |
| tblFleetMix | MH | 1.0100e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.02 |
| tblFleetMix | OBUS | 1.3480e-003 | 0.00 |
| tblFleetMix | SBUS | 8.1200e-004 | 0.00 |
| tblFleetMix | UBUS | 1.6070e-003 | 0.00 |
| tblGrading | MaterialImported | 0.00 | 13,737.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 601.59 |
| tblSequestration | NumberOfNewTrees | 0.00 | 10.00 |
| tblSolidWaste | SolidWasteGenerationRate | 165.65 | 124.24 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |

| | | | |
|---|---|---|---|
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | LDA | 4.6640e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 261.85 | 203.82 |
| tblVehicleEF | LDA | 5.3170e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 286.52 | 203.82 |
| tblVehicleEF | LDA | 4.5320e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 256.02 | 203.82 |
| tblVehicleEF | LDT1 | 0.02 | 0.01 |
| tblVehicleEF | LDT1 | 323.73 | 411.09 |
| tblVehicleEF | LDT1 | 0.02 | 0.01 |
| tblVehicleEF | LDT1 | 352.65 | 411.09 |
| tblVehicleEF | LDT1 | 0.01 | 0.01 |
| tblVehicleEF | LDT1 | 316.91 | 411.09 |
| tblVehicleEF | LDT2 | 6.9330e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 363.70 | 275.19 |
| tblVehicleEF | LDT2 | 7.8730e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 397.09 | 275.19 |
| tblVehicleEF | LDT2 | 6.7430e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 355.82 | 275.19 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD2 | 5.2410e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | LHD2 | 5.3190e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | LHD2 | 5.2490e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | MDV | 0.01 | 6.0500e-004 |

| | | | |
|---|---|---|---|
| tblVehicleEF | MDV | 498.66 | 371.70 |
| tblVehicleEF | MDV | 0.02 | 6.0500e-004 |
| tblVehicleEF | MDV | 542.90 | 371.70 |
| tblVehicleEF | MDV | 0.01 | 6.0500e-004 |
| tblVehicleEF | MDV | 488.33 | 371.70 |
| tblVehicleEF | MHD | 4.1450e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleEF | MHD | 4.2290e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleEF | MHD | 4.1530e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleTrips | CW_TL | 16.60 | 40.00 |
| tblVehicleTrips | ST_TR | 1.68 | 1.74 |
| tblVehicleTrips | SU_TR | 1.68 | 1.74 |
| tblVehicleTrips | WD_TR | 1.68 | 1.74 |
| tblWater | IndoorWaterUseRate | 40,750,875.00 | 30,563,156.00 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 16.5697 | 63.9462 | 43.8379 | 0.1647 | 18.2675 | 2.0458 | 20.3132 | 9.9840 | 1.8821 | 11.8661 | 0.0000 | 17,204.5474 | 17,204.5474 | 1.6930 | 0.0000 | 17,246.8726 |
| **Maximum** | **16.5697** | **63.9462** | **43.8379** | **0.1647** | **18.2675** | **2.0458** | **20.3132** | **9.9840** | **1.8821** | **11.8661** | **0.0000** | **17,204.5474** | **17,204.5474** | **1.6930** | **0.0000** | **17,246.8726** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 16.5697 | 63.9462 | 43.8379 | 0.1647 | 8.3310 | 2.0458 | 10.3768 | 4.5222 | 1.8821 | 6.4043 | 0.0000 | 17,204.5474 | 17,204.5474 | 1.6930 | 0.0000 | 17,246.8726 |
| **Maximum** | **16.5697** | **63.9462** | **43.8379** | **0.1647** | **8.3310** | **2.0458** | **10.3768** | **4.5222** | **1.8821** | **6.4043** | **0.0000** | **17,204.5474** | **17,204.5474** | **1.6930** | **0.0000** | **17,246.8726** |

| | **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** | **54.39** | **0.00** | **48.92** | **54.71** | **0.00** | **46.03** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 3.8127 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| Energy | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| Mobile | 1.0193 | 16.3193 | 16.7952 | 0.0970 | 5.9628 | 0.0802 | 6.0430 | 1.6025 | 0.0759 | 1.6784 | | 8,615.5288 | 8,615.5288 | 0.1901 | | 8,620.2812 |
| Offroad | 0.5173 | 4.7165 | 4.6714 | 6.1100e-003 | | 0.3348 | 0.3348 | | 0.3080 | 0.3080 | | 592.1233 | 592.1233 | 0.1915 | | 596.9109 |
| **Total** | **5.3572** | **21.1079** | **21.5492** | **0.1036** | **5.9628** | **0.4206** | **6.3833** | **1.6025** | **0.3894** | **1.9919** | | **9,294.0346** | **9,294.0346** | **0.3834** | **1.5800e-003** | **9,304.0907** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 3.8127 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| Energy | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| Mobile | 1.0193 | 16.3193 | 16.7952 | 0.0970 | 5.9628 | 0.0802 | 6.0430 | 1.6025 | 0.0759 | 1.6784 | | 8,615.5288 | 8,615.5288 | 0.1901 | | 8,620.2812 |
| Offroad | 0.5173 | 4.7165 | 4.6714 | 6.1100e-003 | | 0.3348 | 0.3348 | | 0.3080 | 0.3080 | | 592.1233 | 592.1233 | 0.1915 | | 596.9109 |
| **Total** | **5.3572** | **21.1079** | **21.5492** | **0.1036** | **5.9628** | **0.4206** | **6.3833** | **1.6025** | **0.3894** | **1.9919** | | **9,294.0346** | **9,294.0346** | **0.3834** | **1.5800e-003** | **9,304.0907** |

| | **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 | Demolition | Demolition | 1/15/2021 | 1/21/2021 | 5 | 5 | |
| 2 | Site Preparation | Site Preparation | 1/22/2021 | 1/28/2021 | 5 | 5 | |
| 3 | Grading | Grading | 1/29/2021 | 2/11/2021 | 5 | 10 | |
| 4 | Building Construction | Building Construction | 2/12/2021 | 10/14/2021 | 5 | 175 | |
| 5 | Paving | Paving | 9/17/2021 | 10/14/2021 | 5 | 20 | |
| 6 | Architectural Coating | Architectural Coating | 7/1/2021 | 10/14/2021 | 5 | 76 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 5**

**Acres of Paving: 5.72**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 264,330; Non-Residential Outdoor: 88,110; Striped Parking**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Excavators | 3 | 8.00 | 158 | 0.38 |
| Demolition | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 3 | 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 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| 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 |

## Trips and VMT

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | 6 | 15.00 | 0.00 | 30.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 6 | 15.00 | 0.00 | 1,717.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 179.00 | 70.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 36.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Demolition - 2021

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 1.2781 | 0.0000 | 1.2781 | 0.1935 | 0.0000 | 0.1935 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.1651 | 31.4407 | 21.5650 | 0.0388 | | 1.5513 | 1.5513 | | 1.4411 | 1.4411 | | 3,747.9449 | 3,747.9449 | 1.0549 | | 3,774.3174 |
| **Total** | **3.1651** | **31.4407** | **21.5650** | **0.0388** | **1.2781** | **1.5513** | **2.8294** | **0.1935** | **1.4411** | **1.6346** | | **3,747.9449** | **3,747.9449** | **1.0549** | | **3,774.3174** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0357 | 1.3685 | 0.2120 | 4.6600e-003 | 0.1050 | 3.8700e-003 | 0.1089 | 0.0288 | 3.7000e-003 | 0.0325 | | 495.1138 | 495.1138 | 0.0265 | | 495.7773 |
| 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 |
| Worker | 0.0762 | 0.0471 | 0.6210 | 1.6500e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 164.1121 | 164.1121 | 4.6700e-003 | | 164.2289 |
| **Total** | **0.1119** | **1.4156** | **0.8329** | **6.3100e-003** | **0.2727** | **4.9400e-003** | **0.2776** | **0.0733** | **4.6900e-003** | **0.0779** | | **659.2259** | **659.2259** | **0.0312** | | **660.0062** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.5751 | 0.0000 | 0.5751 | 0.0871 | 0.0000 | 0.0871 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.1651 | 31.4407 | 21.5650 | 0.0388 | | 1.5513 | 1.5513 | | 1.4411 | 1.4411 | 0.0000 | 3,747.9449 | 3,747.9449 | 1.0549 | | 3,774.3174 |
| **Total** | **3.1651** | **31.4407** | **21.5650** | **0.0388** | **0.5751** | **1.5513** | **2.1265** | **0.0871** | **1.4411** | **1.5282** | **0.0000** | **3,747.9449** | **3,747.9449** | **1.0549** | | **3,774.3174** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0357 | 1.3685 | 0.2120 | 4.6600e-003 | 0.1050 | 3.8700e-003 | 0.1089 | 0.0288 | 3.7000e-003 | 0.0325 | | 495.1138 | 495.1138 | 0.0265 | | 495.7773 |
| 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 |
| Worker | 0.0762 | 0.0471 | 0.6210 | 1.6500e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 164.1121 | 164.1121 | 4.6700e-003 | | 164.2289 |
| **Total** | **0.1119** | **1.4156** | **0.8329** | **6.3100e-003** | **0.2727** | **4.9400e-003** | **0.2776** | **0.0733** | **4.6900e-003** | **0.0779** | | **659.2259** | **659.2259** | **0.0312** | | **660.0062** |

## 3.3 Site Preparation - 2021

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 18.0663 | 0.0000 | 18.0663 | 9.9307 | 0.0000 | 9.9307 | | | 0.0000 | | | 0.0000 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road | 3.8882 | 40.4971 | 21.1543 | 0.0380 | | 2.0445 | 2.0445 | | 1.8809 | 1.8809 | | 3,685.6569 | 3,685.6569 | 1.1920 | | 3,715.4573 |
| **Total** | **3.8882** | **40.4971** | **21.1543** | **0.0380** | **18.0663** | **2.0445** | **20.1107** | **9.9307** | **1.8809** | **11.8116** | | **3,685.6569** | **3,685.6569** | **1.1920** | | **3,715.4573** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.0915 | 0.0565 | 0.7452 | 1.9800e-003 | 0.2012 | 1.2900e-003 | 0.2025 | 0.0534 | 1.1900e-003 | 0.0545 | | 196.9345 | 196.9345 | 5.6000e-003 | | 197.0746 |
| **Total** | **0.0915** | **0.0565** | **0.7452** | **1.9800e-003** | **0.2012** | **1.2900e-003** | **0.2025** | **0.0534** | **1.1900e-003** | **0.0545** | | **196.9345** | **196.9345** | **5.6000e-003** | | **197.0746** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 8.1298 | 0.0000 | 8.1298 | 4.4688 | 0.0000 | 4.4688 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.8882 | 40.4971 | 21.1543 | 0.0380 | | 2.0445 | 2.0445 | | 1.8809 | 1.8809 | 0.0000 | 3,685.6569 | 3,685.6569 | 1.1920 | | 3,715.4573 |
| **Total** | **3.8882** | **40.4971** | **21.1543** | **0.0380** | **8.1298** | **2.0445** | **10.1743** | **4.4688** | **1.8809** | **6.3497** | **0.0000** | **3,685.6569** | **3,685.6569** | **1.1920** | | **3,715.4573** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.0915 | 0.0565 | 0.7452 | 1.9800e-003 | 0.2012 | 1.2900e-003 | 0.2025 | 0.0534 | 1.1900e-003 | 0.0545 | | 196.9345 | 196.9345 | 5.6000e-003 | | 197.0746 |
| **Total** | **0.0915** | **0.0565** | **0.7452** | **1.9800e-003** | **0.2012** | **1.2900e-003** | **0.2025** | **0.0534** | **1.1900e-003** | **0.0545** | | **196.9345** | **196.9345** | **5.6000e-003** | | **197.0746** |

## 3.4 Grading - 2021

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.7077 | 0.0000 | 6.7077 | 3.3910 | 0.0000 | 3.3910 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.2903 | 24.7367 | 15.8575 | 0.0296 | | 1.1599 | 1.1599 | | 1.0671 | 1.0671 | | 2,871.9285 | 2,871.9285 | 0.9288 | | 2,895.1495 |
| **Total** | **2.2903** | **24.7367** | **15.8575** | **0.0296** | **6.7077** | **1.1599** | **7.8676** | **3.3910** | **1.0671** | **4.4581** | | **2,871.9285** | **2,871.9285** | **0.9288** | | **2,895.1495** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.0202 | 39.1625 | 6.0656 | 0.1334 | 3.0048 | 0.1108 | 3.1156 | 0.8238 | 0.1060 | 0.9298 | | 14,168.5069 | 14,168.5069 | 0.7595 | | 14,187.4943 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| Worker | 0.0762 | 0.0471 | 0.6210 | 1.6500e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 164.1121 | 164.1121 | 4.6700e-003 | | 164.2289 |
| **Total** | **1.0965** | **39.2096** | **6.6866** | **0.1351** | **3.1724** | **0.1119** | **3.2843** | **0.8683** | **0.1070** | **0.9753** | | **14,332.6189** | **14,332.6189** | **0.7642** | | **14,351.7231** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 3.0185 | 0.0000 | 3.0185 | 1.5260 | 0.0000 | 1.5260 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.2903 | 24.7367 | 15.8575 | 0.0296 | | 1.1599 | 1.1599 | | 1.0671 | 1.0671 | 0.0000 | 2,871.9285 | 2,871.9285 | 0.9288 | | 2,895.1495 |
| **Total** | **2.2903** | **24.7367** | **15.8575** | **0.0296** | **3.0185** | **1.1599** | **4.1784** | **1.5260** | **1.0671** | **2.5931** | **0.0000** | **2,871.9285** | **2,871.9285** | **0.9288** | | **2,895.1495** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.0202 | 39.1625 | 6.0656 | 0.1334 | 3.0048 | 0.1108 | 3.1156 | 0.8238 | 0.1060 | 0.9298 | | 14,168.5069 | 14,168.5069 | 0.7595 | | 14,187.4943 |
| 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 |
| Worker | 0.0762 | 0.0471 | 0.6210 | 1.6500e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 164.1121 | 164.1121 | 4.6700e-003 | | 164.2289 |
| **Total** | **1.0965** | **39.2096** | **6.6866** | **0.1351** | **3.1724** | **0.1119** | **3.2843** | **0.8683** | **0.1070** | **0.9753** | | **14,332.6189** | **14,332.6189** | **0.7642** | | **14,351.7231** |

# 3.5 Building Construction - 2021

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.9009 | 17.4321 | 16.5752 | 0.0269 | | 0.9586 | 0.9586 | | 0.9013 | 0.9013 | | 2,553.3639 | 2,553.3639 | 0.6160 | | 2,568.7643 |
| **Total** | **1.9009** | **17.4321** | **16.5752** | **0.0269** | | **0.9586** | **0.9586** | | **0.9013** | **0.9013** | | **2,553.3639** | **2,553.3639** | **0.6160** | | **2,568.7643** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| Vendor | 0.1812 | 6.7506 | 1.2703 | 0.0189 | 0.4483 | 0.0116 | 0.4599 | 0.1291 | 0.0111 | 0.1402 | | 1,992.1252 | 1,992.1252 | 0.1259 | | 1,995.2725 |
| Worker | 0.9095 | 0.5622 | 7.4103 | 0.0197 | 2.0008 | 0.0128 | 2.0136 | 0.5306 | 0.0118 | 0.5424 | | 1,958.4041 | 1,958.4041 | 0.0557 | | 1,959.7976 |
| **Total** | **1.0906** | **7.3128** | **8.6806** | **0.0386** | **2.4491** | **0.0244** | **2.4735** | **0.6597** | **0.0229** | **0.6826** | | **3,950.5293** | **3,950.5293** | **0.1816** | | **3,955.0701** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.9009 | 17.4321 | 16.5752 | 0.0269 | | 0.9586 | 0.9586 | | 0.9013 | 0.9013 | 0.0000 | 2,553.3639 | 2,553.3639 | 0.6160 | | 2,568.7643 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **1.9009** | **17.4321** | **16.5752** | **0.0269** | | **0.9586** | **0.9586** | | **0.9013** | **0.9013** | **0.0000** | **2,553.3639** | **2,553.3639** | **0.6160** | | **2,568.7643** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| Vendor | 0.1812 | 6.7506 | 1.2703 | 0.0189 | 0.4483 | 0.0116 | 0.4599 | 0.1291 | 0.0111 | 0.1402 | | 1,992.1252 | 1,992.1252 | 0.1259 | | 1,995.2725 |
| Worker | 0.9095 | 0.5622 | 7.4103 | 0.0197 | 2.0008 | 0.0128 | 2.0136 | 0.5306 | 0.0118 | 0.5424 | | 1,958.4041 | 1,958.4041 | 0.0557 | | 1,959.7976 |
| **Total** | **1.0906** | **7.3128** | **8.6806** | **0.0386** | **2.4491** | **0.0244** | **2.4735** | **0.6597** | **0.0229** | **0.6826** | | **3,950.5293** | **3,950.5293** | **0.1816** | | **3,955.0701** |

## 3.6 Paving - 2021

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.2556 | 12.9191 | 14.6532 | 0.0228 | | 0.6777 | 0.6777 | | 0.6235 | 0.6235 | | 2,207.2109 | 2,207.2109 | 0.7139 | | 2,225.0573 |
| Paving | 0.6419 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.8975** | **12.9191** | **14.6532** | **0.0228** | | **0.6777** | **0.6777** | | **0.6235** | **0.6235** | | **2,207.2109** | **2,207.2109** | **0.7139** | | **2,225.0573** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.0762 | 0.0471 | 0.6210 | 1.6500e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 164.1121 | 164.1121 | 4.6700e-003 | | 164.2289 |
| **Total** | **0.0762** | **0.0471** | **0.6210** | **1.6500e-003** | **0.1677** | **1.0700e-003** | **0.1687** | **0.0445** | **9.9000e-004** | **0.0455** | | **164.1121** | **164.1121** | **4.6700e-003** | | **164.2289** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.2556 | 12.9191 | 14.6532 | 0.0228 | | 0.6777 | 0.6777 | | 0.6235 | 0.6235 | 0.0000 | 2,207.2109 | 2,207.2109 | 0.7139 | | 2,225.0573 |
| Paving | 0.6419 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.8975** | **12.9191** | **14.6532** | **0.0228** | | **0.6777** | **0.6777** | | **0.6235** | **0.6235** | **0.0000** | **2,207.2109** | **2,207.2109** | **0.7139** | | **2,225.0573** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| Worker | 0.0762 | 0.0471 | 0.6210 | 1.6500e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 164.1121 | 164.1121 | 4.6700e-003 | | 164.2289 |
| **Total** | **0.0762** | **0.0471** | **0.6210** | **1.6500e-003** | **0.1677** | **1.0700e-003** | **0.1687** | **0.0445** | **9.9000e-004** | **0.0455** | | **164.1121** | **164.1121** | **4.6700e-003** | | **164.2289** |

## 3.7 Architectural Coating - 2021

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 11.2026 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2189 | 1.5268 | 1.8176 | 2.9700e-003 | | 0.0941 | 0.0941 | | 0.0941 | 0.0941 | | 281.4481 | 281.4481 | 0.0193 | | 281.9309 |
| **Total** | **11.4215** | **1.5268** | **1.8176** | **2.9700e-003** | | **0.0941** | **0.0941** | | **0.0941** | **0.0941** | | **281.4481** | **281.4481** | **0.0193** | | **281.9309** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.1829 | 0.1131 | 1.4903 | 3.9600e-003 | 0.4024 | 2.5700e-003 | 0.4050 | 0.1067 | 2.3700e-003 | 0.1091 | | 393.8690 | 393.8690 | 0.0112 | | 394.1492 |
| **Total** | **0.1829** | **0.1131** | **1.4903** | **3.9600e-003** | **0.4024** | **2.5700e-003** | **0.4050** | **0.1067** | **2.3700e-003** | **0.1091** | | **393.8690** | **393.8690** | **0.0112** | | **394.1492** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 11.2026 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2189 | 1.5268 | 1.8176 | 2.9700e-003 | | 0.0941 | 0.0941 | | 0.0941 | 0.0941 | 0.0000 | 281.4481 | 281.4481 | 0.0193 | | 281.9309 |
| **Total** | **11.4215** | **1.5268** | **1.8176** | **2.9700e-003** | | **0.0941** | **0.0941** | | **0.0941** | **0.0941** | **0.0000** | **281.4481** | **281.4481** | **0.0193** | | **281.9309** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.1829 | 0.1131 | 1.4903 | 3.9600e-003 | 0.4024 | 2.5700e-003 | 0.4050 | 0.1067 | 2.3700e-003 | 0.1091 | | 393.8690 | 393.8690 | 0.0112 | | 394.1492 |
| **Total** | **0.1829** | **0.1131** | **1.4903** | **3.9600e-003** | **0.4024** | **2.5700e-003** | **0.4050** | **0.1067** | **2.3700e-003** | **0.1091** | | **393.8690** | **393.8690** | **0.0112** | | **394.1492** |

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 1.0193 | 16.3193 | 16.7952 | 0.0970 | 5.9628 | 0.0802 | 6.0430 | 1.6025 | 0.0759 | 1.6784 | | 8,615.5288 | 8,615.5288 | 0.1901 | | 8,620.2812 |
| Unmitigated | 1.0193 | 16.3193 | 16.7952 | 0.0970 | 5.9628 | 0.0802 | 6.0430 | 1.6025 | 0.0759 | 1.6784 | | 8,615.5288 | 8,615.5288 | 0.1901 | | 8,620.2812 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 306.62 | 306.62 | 306.62 | 2,750,985 | 2,750,985 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Total | 306.62 | 306.62 | 306.62 | 2,750,985 | 2,750,985 |

## 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 Non-Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No Rail | 40.00 | 8.40 | 6.90 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |
| Parking Lot | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |
| Unrefrigerated Warehouse-No Rail | 0.580000 | 0.090000 | 0.020000 | 0.068000 | 0.027500 | 0.027500 | 0.020000 | 0.167000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |

# 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| NaturalGas Unmitigated | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| Other Non-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 |
| Parking Lot | 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 |
| Unrefrigerated Warehouse-No Rail | 733.848 | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| **Total** | | **7.9100e-003** | **0.0720** | **0.0604** | **4.3000e-004** | | **5.4700e-003** | **5.4700e-003** | | **5.4700e-003** | **5.4700e-003** | | **86.3350** | **86.3350** | **1.6500e-003** | **1.5800e-003** | **86.8481** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| Other Non-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 |
| Parking Lot | 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 |
| Unrefrigerated Warehouse-No | 0.733848 | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| **Total** | | **7.9100e-003** | **0.0720** | **0.0604** | **4.3000e-004** | | **5.4700e-003** | **5.4700e-003** | | **5.4700e-003** | **5.4700e-003** | | **86.3350** | **86.3350** | **1.6500e-003** | **1.5800e-003** | **86.8481** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 3.8127 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| Unmitigated | 3.8127 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.2333 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 3.5774 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 2.0700e-003 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| **Total** | **3.8127** | **2.0000e-004** | **0.0222** | **0.0000** | | **8.0000e-005** | **8.0000e-005** | | **8.0000e-005** | **8.0000e-005** | | **0.0474** | **0.0474** | **1.3000e-004** | | **0.0506** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.2333 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 3.5774 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 2.0700e-003 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| **Total** | **3.8127** | **2.0000e-004** | **0.0222** | **0.0000** | | **8.0000e-005** | **8.0000e-005** | | **8.0000e-005** | **8.0000e-005** | | **0.0474** | **0.0474** | **1.3000e-004** | | **0.0506** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Forklifts | 4 | 8.00 | 260 | 89 | 0.20 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | lb/day | | | | | | | | | | lb/day | | | | | |
| Forklifts | 0.5173 | 4.7165 | 4.6714 | 6.1100e-003 | | 0.3348 | 0.3348 | | 0.3080 | 0.3080 | | 592.1233 | 592.1233 | 0.1915 | | 596.9109 |
| **Total** | **0.5173** | **4.7165** | **4.6714** | **6.1100e-003** | | **0.3348** | **0.3348** | | **0.3080** | **0.3080** | | **592.1233** | **592.1233** | **0.1915** | | **596.9109** |

## 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

# Transwestern Boyle Avenue Warehouse Building 1

**San Bernardino-South Coast County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 176.22 | 1000sqft | 4.05 | 176,220.00 | 0 |
| Other Non-Asphalt Surfaces | 35.54 | 1000sqft | 0.82 | 35,540.00 | 0 |
| Parking Lot | 3.27 | Acre | 3.27 | 142,441.20 | 0 |
| Other Asphalt Surfaces | 1.63 | Acre | 1.63 | 71,002.80 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 10 | | | **Operational Year** | 2021 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 601.59 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity factor adjusted for 2017 SCE Power Content Label assuming 32% renewables (601.59 lb/MWh).

Land Use - "Other Non-Asphalt Surfaces" represents the landscaping, "Other Asphalt Surfaces" represents Boyle and Juniper improvements.

Construction Phase - From project plans, assume that architectural coatings are applied during the building construction process.

Demolition - From developer

Grading -

Architectural Coating - Assume all architectural coatings comply with SCAQMD Rule 1113.

Vehicle Trips - Trip rates from the Project Focused Traffic Impact Analysis, assumed the average haul truck trip length to be 40 miles.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Vehicle Emission Factors - CH4 and CO2 RUNEX factors from EMFAC2017 for 2021, San Bernardino County, Aggregated Model Year and Speed.

Area Coating - Assume all architectural coatings comply with SCAQMD Rule 1113.

Energy Use - Assume building will comply with 2019 Title 24, energy would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Water And Wastewater - Assume with 2019 Title 24 compliance, water use would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Solid Waste - Assume with 2019 Title 24 compliance, waste rate would be 75% of CalEEMod default rates (which are based on 2012 Title 24).

Sequestration - Estimated number of trees from project plans.

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Operational Off-Road Equipment - Assumed forklifts would operate in the warehouse.

Fleet Mix - Fleet mix from the traffic study.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 100.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 100.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 100.00 | 50.00 |
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 100 | 50 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 100 | 50 |
| tblAreaCoating | Area_EF_Parking | 100 | 50 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstructionPhase | NumDays | 20.00 | 76.00 |
| tblConstructionPhase | NumDays | 230.00 | 175.00 |
| tblConstructionPhase | NumDays | 20.00 | 5.00 |
| tblConstructionPhase | NumDays | 20.00 | 10.00 |
| tblConstructionPhase | NumDays | 10.00 | 5.00 |
| tblConstructionPhase | PhaseEndDate | 4/7/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/10/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/11/2021 | 1/21/2021 |
| tblConstructionPhase | PhaseEndDate | 3/25/2021 | 2/11/2021 |
| tblConstructionPhase | PhaseEndDate | 3/10/2022 | 10/14/2021 |
| tblConstructionPhase | PhaseEndDate | 2/25/2021 | 1/28/2021 |
| tblConstructionPhase | PhaseStartDate | 3/11/2022 | 7/1/2021 |

| | | | |
|---|---|---|---|
| tblConstructionPhase | PhaseStartDate | 3/26/2021 | 2/12/2021 |
| tblConstructionPhase | PhaseStartDate | 2/26/2021 | 1/29/2021 |
| tblConstructionPhase | PhaseStartDate | 2/11/2022 | 9/17/2021 |
| tblConstructionPhase | PhaseStartDate | 2/12/2021 | 1/22/2021 |
| tblEnergyUse | LightingElect | 1.17 | 0.88 |
| tblEnergyUse | NT24E | 0.82 | 0.62 |
| tblEnergyUse | NT24NG | 0.03 | 0.02 |
| tblEnergyUse | T24E | 0.37 | 0.28 |
| tblEnergyUse | T24NG | 2.00 | 1.50 |
| tblFleetMix | HHD | 0.06 | 0.17 |
| tblFleetMix | LDA | 0.55 | 0.58 |
| tblFleetMix | LDT1 | 0.04 | 0.09 |
| tblFleetMix | LDT2 | 0.18 | 0.02 |
| tblFleetMix | LHD1 | 0.02 | 0.03 |
| tblFleetMix | LHD2 | 5.2670e-003 | 0.03 |
| tblFleetMix | MCY | 6.0000e-003 | 0.00 |
| tblFleetMix | MDV | 0.12 | 0.07 |
| tblFleetMix | MH | 1.0100e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.02 |
| tblFleetMix | OBUS | 1.3480e-003 | 0.00 |
| tblFleetMix | SBUS | 8.1200e-004 | 0.00 |
| tblFleetMix | UBUS | 1.6070e-003 | 0.00 |
| tblGrading | MaterialImported | 0.00 | 13,737.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 601.59 |
| tblSequestration | NumberOfNewTrees | 0.00 | 10.00 |
| tblSolidWaste | SolidWasteGenerationRate | 165.65 | 124.24 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | HHD | 0.04 | 3.7880e-003 |

| | | | |
|---|---|---|---|
| tblVehicleEF | HHD | 1,493.95 | 1,386.45 |
| tblVehicleEF | LDA | 4.6640e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 261.85 | 203.82 |
| tblVehicleEF | LDA | 5.3170e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 286.52 | 203.82 |
| tblVehicleEF | LDA | 4.5320e-003 | 7.2300e-004 |
| tblVehicleEF | LDA | 256.02 | 203.82 |
| tblVehicleEF | LDT1 | 0.02 | 0.01 |
| tblVehicleEF | LDT1 | 323.73 | 411.09 |
| tblVehicleEF | LDT1 | 0.02 | 0.01 |
| tblVehicleEF | LDT1 | 352.65 | 411.09 |
| tblVehicleEF | LDT1 | 0.01 | 0.01 |
| tblVehicleEF | LDT1 | 316.91 | 411.09 |
| tblVehicleEF | LDT2 | 6.9330e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 363.70 | 275.19 |
| tblVehicleEF | LDT2 | 7.8730e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 397.09 | 275.19 |
| tblVehicleEF | LDT2 | 6.7430e-003 | 7.1000e-004 |
| tblVehicleEF | LDT2 | 355.82 | 275.19 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD1 | 0.01 | 4.7150e-003 |
| tblVehicleEF | LHD1 | 614.92 | 490.23 |
| tblVehicleEF | LHD2 | 5.2410e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | LHD2 | 5.3190e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | LHD2 | 5.2490e-003 | 4.0040e-003 |
| tblVehicleEF | LHD2 | 614.63 | 532.50 |
| tblVehicleEF | MDV | 0.01 | 6.0500e-004 |

| | | | |
|---|---|---|---|
| tblVehicleEF | MDV | 498.66 | 371.70 |
| tblVehicleEF | MDV | 0.02 | 6.0500e-004 |
| tblVehicleEF | MDV | 542.90 | 371.70 |
| tblVehicleEF | MDV | 0.01 | 6.0500e-004 |
| tblVehicleEF | MDV | 488.33 | 371.70 |
| tblVehicleEF | MHD | 4.1450e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleEF | MHD | 4.2290e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleEF | MHD | 4.1530e-003 | 4.9640e-003 |
| tblVehicleEF | MHD | 1,105.72 | 949.10 |
| tblVehicleTrips | CW_TL | 16.60 | 40.00 |
| tblVehicleTrips | ST_TR | 1.68 | 1.74 |
| tblVehicleTrips | SU_TR | 1.68 | 1.74 |
| tblVehicleTrips | WD_TR | 1.68 | 1.74 |
| tblWater | IndoorWaterUseRate | 40,750,875.00 | 30,563,156.00 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 16.5833 | 64.0959 | 42.3417 | 0.1610 | 18.2675 | 2.0458 | 20.3132 | 9.9840 | 1.8821 | 11.8661 | 0.0000 | 16,816.3426 | 16,816.3426 | 1.7577 | 0.0000 | 16,860.2861 |
| **Maximum** | **16.5833** | **64.0959** | **42.3417** | **0.1610** | **18.2675** | **2.0458** | **20.3132** | **9.9840** | **1.8821** | **11.8661** | **0.0000** | **16,816.3426** | **16,816.3426** | **1.7577** | **0.0000** | **16,860.2861** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 16.5833 | 64.0959 | 42.3417 | 0.1610 | 8.3310 | 2.0458 | 10.3768 | 4.5222 | 1.8821 | 6.4043 | 0.0000 | 16,816.3426 | 16,816.3426 | 1.7577 | 0.0000 | 16,860.2861 |
| **Maximum** | **16.5833** | **64.0959** | **42.3417** | **0.1610** | **8.3310** | **2.0458** | **10.3768** | **4.5222** | **1.8821** | **6.4043** | **0.0000** | **16,816.3426** | **16,816.3426** | **1.7577** | **0.0000** | **16,860.2861** |

| | 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** | **54.39** | **0.00** | **48.92** | **54.71** | **0.00** | **46.03** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 3.8127 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| Energy | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| Mobile | 0.9374 | 16.5761 | 14.3487 | 0.0917 | 5.9628 | 0.0807 | 6.0434 | 1.6025 | 0.0763 | 1.6788 | | 8,504.4952 | 8,504.4952 | 0.2105 | | 8,509.7571 |
| Offroad | 0.5173 | 4.7165 | 4.6714 | 6.1100e-003 | | 0.3348 | 0.3348 | | 0.3080 | 0.3080 | | 592.1233 | 592.1233 | 0.1915 | | 596.9109 |
| **Total** | **5.2753** | **21.3647** | **19.1027** | **0.0982** | **5.9628** | **0.4210** | **6.3838** | **1.6025** | **0.3899** | **1.9924** | | **9,183.0010** | **9,183.0010** | **0.4038** | **1.5800e-003** | **9,193.5667** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 3.8127 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| Energy | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| Mobile | 0.9374 | 16.5761 | 14.3487 | 0.0917 | 5.9628 | 0.0807 | 6.0434 | 1.6025 | 0.0763 | 1.6788 | | 8,504.4952 | 8,504.4952 | 0.2105 | | 8,509.7571 |
| Offroad | 0.5173 | 4.7165 | 4.6714 | 6.1100e-003 | | 0.3348 | 0.3348 | | 0.3080 | 0.3080 | | 592.1233 | 592.1233 | 0.1915 | | 596.9109 |
| **Total** | **5.2753** | **21.3647** | **19.1027** | **0.0982** | **5.9628** | **0.4210** | **6.3838** | **1.6025** | **0.3899** | **1.9924** | | **9,183.0010** | **9,183.0010** | **0.4038** | **1.5800e-003** | **9,193.5667** |

| | **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 | Demolition | Demolition | 1/15/2021 | 1/21/2021 | 5 | 5 | |
| 2 | Site Preparation | Site Preparation | 1/22/2021 | 1/28/2021 | 5 | 5 | |
| 3 | Grading | Grading | 1/29/2021 | 2/11/2021 | 5 | 10 | |
| 4 | Building Construction | Building Construction | 2/12/2021 | 10/14/2021 | 5 | 175 | |
| 5 | Paving | Paving | 9/17/2021 | 10/14/2021 | 5 | 20 | |
| 6 | Architectural Coating | Architectural Coating | 7/1/2021 | 10/14/2021 | 5 | 76 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 5**

**Acres of Paving: 5.72**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 264,330; Non-Residential Outdoor: 88,110; Striped Parking**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Excavators | 3 | 8.00 | 158 | 0.38 |
| Demolition | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 3 | 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 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| 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 |

## Trips and VMT

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | 6 | 15.00 | 0.00 | 30.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 6 | 15.00 | 0.00 | 1,717.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 179.00 | 70.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 36.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Demolition - 2021

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 1.2781 | 0.0000 | 1.2781 | 0.1935 | 0.0000 | 0.1935 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.1651 | 31.4407 | 21.5650 | 0.0388 | | 1.5513 | 1.5513 | | 1.4411 | 1.4411 | | 3,747.9449 | 3,747.9449 | 1.0549 | | 3,774.3174 |
| **Total** | **3.1651** | **31.4407** | **21.5650** | **0.0388** | **1.2781** | **1.5513** | **2.8294** | **0.1935** | **1.4411** | **1.6346** | | **3,747.9449** | **3,747.9449** | **1.0549** | | **3,774.3174** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0373 | 1.3737 | 0.2421 | 4.5400e-003 | 0.1050 | 3.9200e-003 | 0.1089 | 0.0288 | 3.7500e-003 | 0.0325 | | 482.1382 | 482.1382 | 0.0288 | | 482.8588 |
| 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 |
| Worker | 0.0764 | 0.0496 | 0.5093 | 1.4800e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 147.2247 | 147.2247 | 4.1000e-003 | | 147.3271 |
| **Total** | **0.1136** | **1.4232** | **0.7514** | **6.0200e-003** | **0.2727** | **4.9900e-003** | **0.2777** | **0.0733** | **4.7400e-003** | **0.0780** | | **629.3629** | **629.3629** | **0.0329** | | **630.1859** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.5751 | 0.0000 | 0.5751 | 0.0871 | 0.0000 | 0.0871 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.1651 | 31.4407 | 21.5650 | 0.0388 | | 1.5513 | 1.5513 | | 1.4411 | 1.4411 | 0.0000 | 3,747.9449 | 3,747.9449 | 1.0549 | | 3,774.3174 |
| **Total** | **3.1651** | **31.4407** | **21.5650** | **0.0388** | **0.5751** | **1.5513** | **2.1265** | **0.0871** | **1.4411** | **1.5282** | **0.0000** | **3,747.9449** | **3,747.9449** | **1.0549** | | **3,774.3174** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0373 | 1.3737 | 0.2421 | 4.5400e-003 | 0.1050 | 3.9200e-003 | 0.1089 | 0.0288 | 3.7500e-003 | 0.0325 | | 482.1382 | 482.1382 | 0.0288 | | 482.8588 |
| 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 |
| Worker | 0.0764 | 0.0496 | 0.5093 | 1.4800e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 147.2247 | 147.2247 | 4.1000e-003 | | 147.3271 |
| **Total** | **0.1136** | **1.4232** | **0.7514** | **6.0200e-003** | **0.2727** | **4.9900e-003** | **0.2777** | **0.0733** | **4.7400e-003** | **0.0780** | | **629.3629** | **629.3629** | **0.0329** | | **630.1859** |

## 3.3 Site Preparation - 2021

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 18.0663 | 0.0000 | 18.0663 | 9.9307 | 0.0000 | 9.9307 | | | 0.0000 | | | 0.0000 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road | 3.8882 | 40.4971 | 21.1543 | 0.0380 | | 2.0445 | 2.0445 | | 1.8809 | 1.8809 | | 3,685.6569 | 3,685.6569 | 1.1920 | | 3,715.4573 |
| **Total** | **3.8882** | **40.4971** | **21.1543** | **0.0380** | **18.0663** | **2.0445** | **20.1107** | **9.9307** | **1.8809** | **11.8116** | | **3,685.6569** | **3,685.6569** | **1.1920** | | **3,715.4573** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.0917 | 0.0595 | 0.6112 | 1.7700e-003 | 0.2012 | 1.2900e-003 | 0.2025 | 0.0534 | 1.1900e-003 | 0.0545 | | 176.6696 | 176.6696 | 4.9200e-003 | | 176.7925 |
| **Total** | **0.0917** | **0.0595** | **0.6112** | **1.7700e-003** | **0.2012** | **1.2900e-003** | **0.2025** | **0.0534** | **1.1900e-003** | **0.0545** | | **176.6696** | **176.6696** | **4.9200e-003** | | **176.7925** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 8.1298 | 0.0000 | 8.1298 | 4.4688 | 0.0000 | 4.4688 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.8882 | 40.4971 | 21.1543 | 0.0380 | | 2.0445 | 2.0445 | | 1.8809 | 1.8809 | 0.0000 | 3,685.6569 | 3,685.6569 | 1.1920 | | 3,715.4573 |
| **Total** | **3.8882** | **40.4971** | **21.1543** | **0.0380** | **8.1298** | **2.0445** | **10.1743** | **4.4688** | **1.8809** | **6.3497** | **0.0000** | **3,685.6569** | **3,685.6569** | **1.1920** | | **3,715.4573** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.0917 | 0.0595 | 0.6112 | 1.7700e-003 | 0.2012 | 1.2900e-003 | 0.2025 | 0.0534 | 1.1900e-003 | 0.0545 | | 176.6696 | 176.6696 | 4.9200e-003 | | 176.7925 |
| **Total** | **0.0917** | **0.0595** | **0.6112** | **1.7700e-003** | **0.2012** | **1.2900e-003** | **0.2025** | **0.0534** | **1.1900e-003** | **0.0545** | | **176.6696** | **176.6696** | **4.9200e-003** | | **176.7925** |

## 3.4 Grading - 2021

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.7077 | 0.0000 | 6.7077 | 3.3910 | 0.0000 | 3.3910 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.2903 | 24.7367 | 15.8575 | 0.0296 | | 1.1599 | 1.1599 | | 1.0671 | 1.0671 | | 2,871.9285 | 2,871.9285 | 0.9288 | | 2,895.1495 |
| **Total** | **2.2903** | **24.7367** | **15.8575** | **0.0296** | **6.7077** | **1.1599** | **7.8676** | **3.3910** | **1.0671** | **4.4581** | | **2,871.9285** | **2,871.9285** | **0.9288** | | **2,895.1495** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.0663 | 39.3097 | 6.9273 | 0.1299 | 3.0048 | 0.1123 | 3.1171 | 0.8238 | 0.1075 | 0.9313 | | 13,797.1894 | 13,797.1894 | 0.8248 | | 13,817.8095 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| Worker | 0.0764 | 0.0496 | 0.5093 | 1.4800e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 147.2247 | 147.2247 | 4.1000e-003 | | 147.3271 |
| **Total** | **1.1427** | **39.3592** | **7.4367** | **0.1314** | **3.1724** | **0.1134** | **3.2858** | **0.8683** | **0.1085** | **0.9767** | | **13,944.4141** | **13,944.4141** | **0.8289** | | **13,965.1366** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 3.0185 | 0.0000 | 3.0185 | 1.5260 | 0.0000 | 1.5260 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.2903 | 24.7367 | 15.8575 | 0.0296 | | 1.1599 | 1.1599 | | 1.0671 | 1.0671 | 0.0000 | 2,871.9285 | 2,871.9285 | 0.9288 | | 2,895.1495 |
| **Total** | **2.2903** | **24.7367** | **15.8575** | **0.0296** | **3.0185** | **1.1599** | **4.1784** | **1.5260** | **1.0671** | **2.5931** | **0.0000** | **2,871.9285** | **2,871.9285** | **0.9288** | | **2,895.1495** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.0663 | 39.3097 | 6.9273 | 0.1299 | 3.0048 | 0.1123 | 3.1171 | 0.8238 | 0.1075 | 0.9313 | | 13,797.1894 | 13,797.1894 | 0.8248 | | 13,817.8095 |
| 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 |
| Worker | 0.0764 | 0.0496 | 0.5093 | 1.4800e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 147.2247 | 147.2247 | 4.1000e-003 | | 147.3271 |
| **Total** | **1.1427** | **39.3592** | **7.4367** | **0.1314** | **3.1724** | **0.1134** | **3.2858** | **0.8683** | **0.1085** | **0.9767** | | **13,944.4141** | **13,944.4141** | **0.8289** | | **13,965.1366** |

## 3.5 Building Construction - 2021

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.9009 | 17.4321 | 16.5752 | 0.0269 | | 0.9586 | 0.9586 | | 0.9013 | 0.9013 | | 2,553.3639 | 2,553.3639 | 0.6160 | | 2,568.7643 |
| **Total** | **1.9009** | **17.4321** | **16.5752** | **0.0269** | | **0.9586** | **0.9586** | | **0.9013** | **0.9013** | | **2,553.3639** | **2,553.3639** | **0.6160** | | **2,568.7643** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| Vendor | 0.1922 | 6.6788 | 1.4858 | 0.0182 | 0.4483 | 0.0119 | 0.4602 | 0.1291 | 0.0114 | 0.1405 | | 1,914.7459 | 1,914.7459 | 0.1395 | | 1,918.2344 |
| Worker | 0.9115 | 0.5913 | 6.0781 | 0.0176 | 2.0008 | 0.0128 | 2.0136 | 0.5306 | 0.0118 | 0.5424 | | 1,756.8808 | 1,756.8808 | 0.0489 | | 1,758.1034 |
| **Total** | **1.1037** | **7.2700** | **7.5639** | **0.0358** | **2.4491** | **0.0247** | **2.4738** | **0.6597** | **0.0232** | **0.6829** | | **3,671.6267** | **3,671.6267** | **0.1884** | | **3,676.3378** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.9009 | 17.4321 | 16.5752 | 0.0269 | | 0.9586 | 0.9586 | | 0.9013 | 0.9013 | 0.0000 | 2,553.3639 | 2,553.3639 | 0.6160 | | 2,568.7643 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **1.9009** | **17.4321** | **16.5752** | **0.0269** | | **0.9586** | **0.9586** | | **0.9013** | **0.9013** | **0.0000** | **2,553.3639** | **2,553.3639** | **0.6160** | | **2,568.7643** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| Vendor | 0.1922 | 6.6788 | 1.4858 | 0.0182 | 0.4483 | 0.0119 | 0.4602 | 0.1291 | 0.0114 | 0.1405 | | 1,914.7459 | 1,914.7459 | 0.1395 | | 1,918.2344 |
| Worker | 0.9115 | 0.5913 | 6.0781 | 0.0176 | 2.0008 | 0.0128 | 2.0136 | 0.5306 | 0.0118 | 0.5424 | | 1,756.8808 | 1,756.8808 | 0.0489 | | 1,758.1034 |
| **Total** | **1.1037** | **7.2700** | **7.5639** | **0.0358** | **2.4491** | **0.0247** | **2.4738** | **0.6597** | **0.0232** | **0.6829** | | **3,671.6267** | **3,671.6267** | **0.1884** | | **3,676.3378** |

## 3.6 Paving - 2021

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.2556 | 12.9191 | 14.6532 | 0.0228 | | 0.6777 | 0.6777 | | 0.6235 | 0.6235 | | 2,207.2109 | 2,207.2109 | 0.7139 | | 2,225.0573 |
| Paving | 0.6419 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.8975** | **12.9191** | **14.6532** | **0.0228** | | **0.6777** | **0.6777** | | **0.6235** | **0.6235** | | **2,207.2109** | **2,207.2109** | **0.7139** | | **2,225.0573** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.0764 | 0.0496 | 0.5093 | 1.4800e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 147.2247 | 147.2247 | 4.1000e-003 | | 147.3271 |
| **Total** | **0.0764** | **0.0496** | **0.5093** | **1.4800e-003** | **0.1677** | **1.0700e-003** | **0.1687** | **0.0445** | **9.9000e-004** | **0.0455** | | **147.2247** | **147.2247** | **4.1000e-003** | | **147.3271** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.2556 | 12.9191 | 14.6532 | 0.0228 | | 0.6777 | 0.6777 | | 0.6235 | 0.6235 | 0.0000 | 2,207.2109 | 2,207.2109 | 0.7139 | | 2,225.0573 |
| Paving | 0.6419 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.8975** | **12.9191** | **14.6532** | **0.0228** | | **0.6777** | **0.6777** | | **0.6235** | **0.6235** | **0.0000** | **2,207.2109** | **2,207.2109** | **0.7139** | | **2,225.0573** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| Worker | 0.0764 | 0.0496 | 0.5093 | 1.4800e-003 | 0.1677 | 1.0700e-003 | 0.1687 | 0.0445 | 9.9000e-004 | 0.0455 | | 147.2247 | 147.2247 | 4.1000e-003 | | 147.3271 |
| **Total** | **0.0764** | **0.0496** | **0.5093** | **1.4800e-003** | **0.1677** | **1.0700e-003** | **0.1687** | **0.0445** | **9.9000e-004** | **0.0455** | | **147.2247** | **147.2247** | **4.1000e-003** | | **147.3271** |

## 3.7 Architectural Coating - 2021

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 11.2026 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2189 | 1.5268 | 1.8176 | 2.9700e-003 | | 0.0941 | 0.0941 | | 0.0941 | 0.0941 | | 281.4481 | 281.4481 | 0.0193 | | 281.9309 |
| **Total** | **11.4215** | **1.5268** | **1.8176** | **2.9700e-003** | | **0.0941** | **0.0941** | | **0.0941** | **0.0941** | | **281.4481** | **281.4481** | **0.0193** | | **281.9309** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.1833 | 0.1189 | 1.2224 | 3.5500e-003 | 0.4024 | 2.5700e-003 | 0.4050 | 0.1067 | 2.3700e-003 | 0.1091 | | 353.3392 | 353.3392 | 9.8400e-003 | | 353.5850 |
| **Total** | **0.1833** | **0.1189** | **1.2224** | **3.5500e-003** | **0.4024** | **2.5700e-003** | **0.4050** | **0.1067** | **2.3700e-003** | **0.1091** | | **353.3392** | **353.3392** | **9.8400e-003** | | **353.5850** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 11.2026 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2189 | 1.5268 | 1.8176 | 2.9700e-003 | | 0.0941 | 0.0941 | | 0.0941 | 0.0941 | 0.0000 | 281.4481 | 281.4481 | 0.0193 | | 281.9309 |
| **Total** | **11.4215** | **1.5268** | **1.8176** | **2.9700e-003** | | **0.0941** | **0.0941** | | **0.0941** | **0.0941** | **0.0000** | **281.4481** | **281.4481** | **0.0193** | | **281.9309** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| 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 |
| Worker | 0.1833 | 0.1189 | 1.2224 | 3.5500e-003 | 0.4024 | 2.5700e-003 | 0.4050 | 0.1067 | 2.3700e-003 | 0.1091 | | 353.3392 | 353.3392 | 9.8400e-003 | | 353.5850 |
| **Total** | **0.1833** | **0.1189** | **1.2224** | **3.5500e-003** | **0.4024** | **2.5700e-003** | **0.4050** | **0.1067** | **2.3700e-003** | **0.1091** | | **353.3392** | **353.3392** | **9.8400e-003** | | **353.5850** |

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.9374 | 16.5761 | 14.3487 | 0.0917 | 5.9628 | 0.0807 | 6.0434 | 1.6025 | 0.0763 | 1.6788 | | 8,504.4952 | 8,504.4952 | 0.2105 | | 8,509.7571 |
| Unmitigated | 0.9374 | 16.5761 | 14.3487 | 0.0917 | 5.9628 | 0.0807 | 6.0434 | 1.6025 | 0.0763 | 1.6788 | | 8,504.4952 | 8,504.4952 | 0.2105 | | 8,509.7571 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 306.62 | 306.62 | 306.62 | 2,750,985 | 2,750,985 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Total | 306.62 | 306.62 | 306.62 | 2,750,985 | 2,750,985 |

## 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 Non-Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No Rail | 40.00 | 8.40 | 6.90 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |
| Parking Lot | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |
| Unrefrigerated Warehouse-No Rail | 0.580000 | 0.090000 | 0.020000 | 0.068000 | 0.027500 | 0.027500 | 0.020000 | 0.167000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces | 0.549952 | 0.037123 | 0.179649 | 0.119457 | 0.017229 | 0.005267 | 0.017877 | 0.062669 | 0.001348 | 0.001607 | 0.006000 | 0.000812 | 0.001010 |

# 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| NaturalGas Unmitigated | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| Other Non-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 |
| Parking Lot | 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 |
| Unrefrigerated Warehouse-No Rail | 733.848 | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| **Total** | | **7.9100e-003** | **0.0720** | **0.0604** | **4.3000e-004** | | **5.4700e-003** | **5.4700e-003** | | **5.4700e-003** | **5.4700e-003** | | **86.3350** | **86.3350** | **1.6500e-003** | **1.5800e-003** | **86.8481** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 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 |
| Other Non-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 |
| Parking Lot | 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 |
| Unrefrigerated Warehouse-No | 0.733848 | 7.9100e-003 | 0.0720 | 0.0604 | 4.3000e-004 | | 5.4700e-003 | 5.4700e-003 | | 5.4700e-003 | 5.4700e-003 | | 86.3350 | 86.3350 | 1.6500e-003 | 1.5800e-003 | 86.8481 |
| **Total** | | **7.9100e-003** | **0.0720** | **0.0604** | **4.3000e-004** | | **5.4700e-003** | **5.4700e-003** | | **5.4700e-003** | **5.4700e-003** | | **86.3350** | **86.3350** | **1.6500e-003** | **1.5800e-003** | **86.8481** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 3.8127 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| Unmitigated | 3.8127 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.2333 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 3.5774 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 2.0700e-003 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| **Total** | **3.8127** | **2.0000e-004** | **0.0222** | **0.0000** | | **8.0000e-005** | **8.0000e-005** | | **8.0000e-005** | **8.0000e-005** | | **0.0474** | **0.0474** | **1.3000e-004** | | **0.0506** |

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.2333 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 3.5774 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 2.0700e-003 | 2.0000e-004 | 0.0222 | 0.0000 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 0.0474 | 0.0474 | 1.3000e-004 | | 0.0506 |
| **Total** | **3.8127** | **2.0000e-004** | **0.0222** | **0.0000** | | **8.0000e-005** | **8.0000e-005** | | **8.0000e-005** | **8.0000e-005** | | **0.0474** | **0.0474** | **1.3000e-004** | | **0.0506** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Forklifts | 4 | 8.00 | 260 | 89 | 0.20 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | lb/day | | | | | | | | | | lb/day | | | | | |
| Forklifts | 0.5173 | 4.7165 | 4.6714 | 6.1100e-003 | | 0.3348 | 0.3348 | | 0.3080 | 0.3080 | | 592.1233 | 592.1233 | 0.1915 | | 596.9109 |
| **Total** | **0.5173** | **4.7165** | **4.6714** | **6.1100e-003** | | **0.3348** | **0.3348** | | **0.3080** | **0.3080** | | **592.1233** | **592.1233** | **0.1915** | | **596.9109** |

## 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

# HEALTH RISK ASSESSMENT

# HEALTH RISK ASSESSMENT

**TRANSWESTERN – BOYLE AVENUE BUILDING 1 PROJECT**

**FONTANA, CALIFORNIA**

LSA

June 2020

# HEALTH RISK ASSESSMENT

## TRANSWESTERN – BOYLE AVENUE BUILDING 1 PROJECT

## FONTANA, CALIFORNIA

Submitted to:

City of Fontana
8353 Sierra Avenue
Fontana, California, 92335

Prepared by:

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Irvine, California 92614-4731
(949) 553-0666

Project No. CFN1702.24

June 2020

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# LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| $\mu g/m^3$ | millions per microgram per cubic meter |
| AB | Assembly Bill |
| AERMOD | American Meteorological Society/Environmental Protection Agency Regulatory Model |
| APN | Assessor's Parcel Number |
| Basin | South Coast Air Basin |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CARB Handbook | California Air Resources Board *Air Quality and Land Use Handbook: A Community Health Perspective* |
| CEQA | California Environmental Quality Act |
| DPM | diesel particulate matter |
| EMFAC2017 | California Emissions Factor Model, Version 2017 |
| EPA | United States Environmental Protection Agency |
| HARP | Hotspots Analysis and Reporting Program, Version 2 |
| HI | Hazard Index |
| HRA | health risk assessment |
| I-10 | Interstate 10 |
| MEI | maximum exposed individual |
| MICR | maximum individual cancer risk |
| mph | miles per hour |
| OEHHA | Office of Environmental Health Hazard Assessment |
| $PM_{10}$ | particulate matter less than 10 microns in size |
| $PM_{2.5}$ | particulate matter less than 2.5 microns in size |
| project | Transwestern – Boyle Avenue Building 1 |
| ROG | reactive organic gas |
| SCAQMD | South Coast Air Quality Management District |
| sf | square foot/feet |
| TAC | toxic air contaminant |
| URF | unit risk factor |

# 1.0 INTRODUCTION

LSA has prepared a health risk assessment (HRA) for the proposed Transwestern – Boyle Avenue Building 1 (Building 1) in Fontana, California. The project involves the development of a warehouse building for industrial uses. The project is planned to begin operations in 2021.

An HRA is a process used to estimate the increased health risk levels for people living and/or working near a project that emits toxic air contaminants (TACs). An HRA combines results of studies on the health effects of various animal and human exposure to TACs with results of studies that estimate the exposure levels at different distances from the source of pollutants. The purpose of the HRA is to document the increased cancer and noncancer health risk levels from project-related emissions of TACs on existing nearby sensitive receptors, including residents and/or workers.

The City of Fontana recommends the preparation of an HRA in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SCAQMD). This HRA evaluates all of these criteria in compliance with applicable requirements.

## 1.1 BACKGROUND

This section provides a discussion of regulatory guidance from the California Air Resources Board (CARB), the OEHHA, California Air Pollution Control Officers Association (CAPCOA), and the SCAQMD.

### 1.1.1 California Air Resources Board Handbook and Technical Advisory

CARB has developed an *Air Quality and Land Use Handbook* (CARB Handbook; 2005) and a supplement, *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory* (CARB 2017), that are intended to serve as general reference guides for evaluating and reducing air pollution impacts associated with new projects that are part of the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between both respiratory and other noncancer health effects and proximity to high-traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that planning agencies recognize that the configuration of warehouse and distribution centers can reduce population exposure and risk. For example, locating the main entry and exit points away from sensitive land uses helps to reduce cancer risks and other health impacts.

### 1.1.2 Office of Environmental Health and Hazard Assessment Guidelines

OEHHA developed the *Air Toxics Hot Spots Program Guidance Manual* (OEHHA 2015) in conjunction with the CARB, for use in implementing the Air Toxics Hot Spots Program (Health and Safety Code Section 44360). The manual describes health effects values, exposure pathway variates (e.g., breathing rates), and a tiered approach for performing HRAs based on current science and policy

assessment. The intent of the guidance manual is to incorporate children's health concerns, update risk assessment practices, and to provide consistent risk assessment procedures.

### 1.1.3 California Air Pollution Control Officers Association

In 2009, the CAPCOA published guidance (CAPCOA 2009) on assessing the health risk impacts from and to proposed land use projects, focusing on the acute, chronic, and cancer impacts of sources affected by California Environmental Quality Act (CEQA). The document recommends procedures to identify when a project should undergo further risk evaluation, procedures for conducting an HRA, guidelines to engage the public, presentation guidelines for results from the HRA, and mitigation measures that may be appropriate for various land use projects.

### 1.1.4 South Coast Air Quality Management District

SCAQMD has risk assessment guidelines, *AB 2588 and Rule 1402 Supplemental Guidelines* (SCAQMD 2018). These guidelines incorporate the OEHHA guidance and the options to be used when using the CARB's Hotspots Analysis and Reporting Program Version 2 (HARP) program for risk assessment calculations.

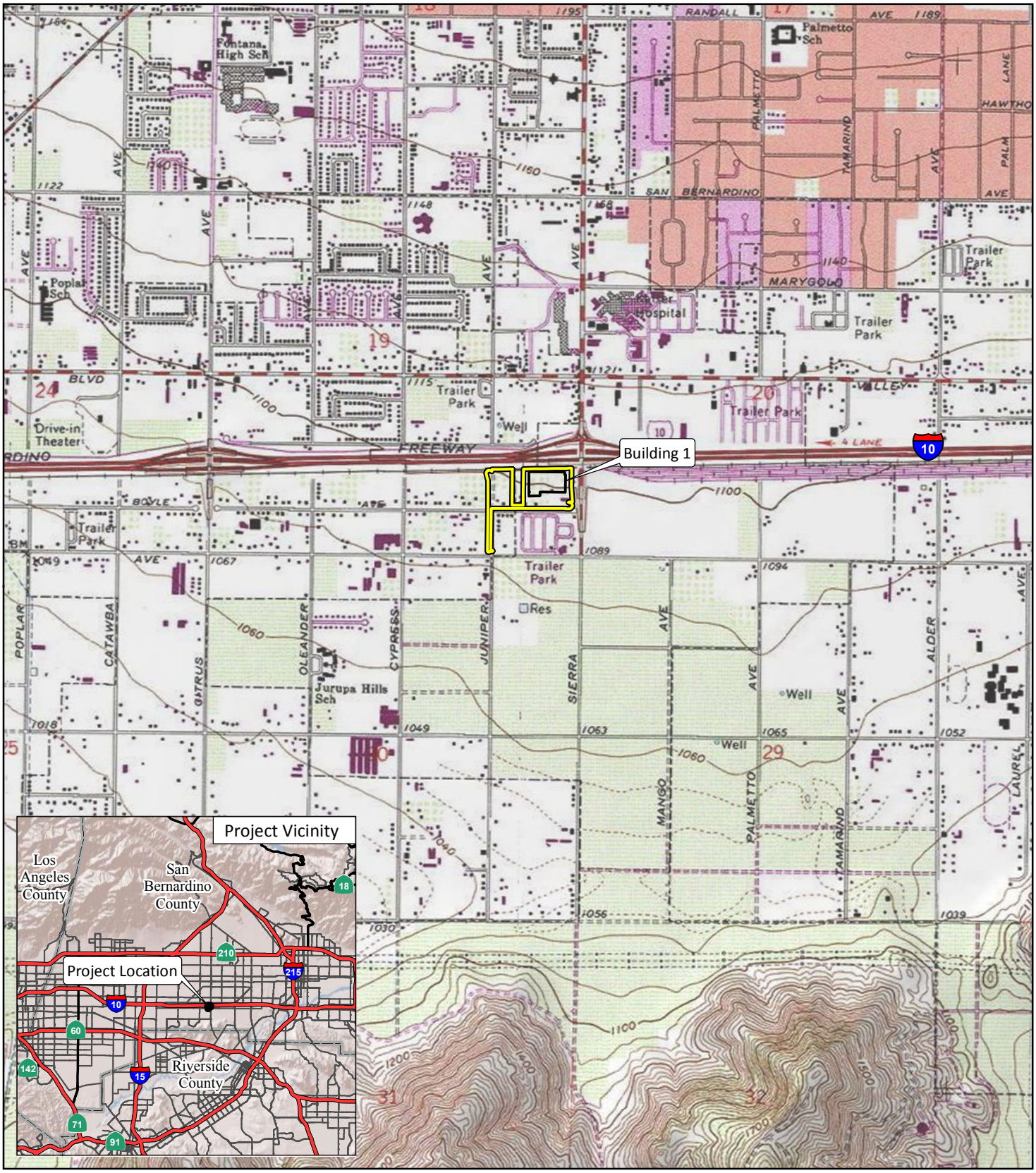
## 1.2 PROJECT LOCATION

The project site is at 16796 Boyle Avenue (Assessor's Parcel Numbers (APN) 0251-202-01, -05, -06, and -07) in Fontana, California, as shown on Figure 1, Regional and Project Location, indicated as Building 1. The project site is just south of Interstate 10 (I-10).

## 1.3 PROJECT DESCRIPTION

The project would develop a warehouse building with 164,219 square feet (sf) of warehouse space, 12,000 sf of office space split on two floors, 103 vehicle parking stalls, and 35 trailer parking stalls on an 8.14-acre lot (see Figure 2, Site Plan). The entrance/exit to the proposed warehouse building would be on Boyle Avenue. The project trucks would travel west on Boyle Avenue and south on Juniper Avenue to Slover Avenue. The primary truck route would then be east on Slover Avenue and north on Sierra Avenue to I-10. The project includes loading bays along the south side of the building, as shown in Figure 2, Conceptual Site Plan. The project would generate a daily trip rate of 212 cars, 21 two-axle trucks, 17 three-axle trucks, and 57 four-plus-axle trucks.

The proposed project site is very close to a similar, albeit independent, project (Transwestern – Boyle Avenue Building 2) (Building 2) proposed by the same Applicant on APNs 0251-202-12 and -15 to the west of this project site. Figure 1 shows both sites. Because access to and from both project sites would take place via the Slover Avenue/Juniper Avenue intersection and along Juniper Avenue, there is potential for cumulative impacts to the community if both projects were to be developed. Therefore, the impacts from the operation of Building 2 will be incorporated in this HRA to consider the effect of both projects on the neighborhood.




LSA

LEGEND

Project Location

Building 1 Footprint

FIGURE 1

N

0 1000 2000

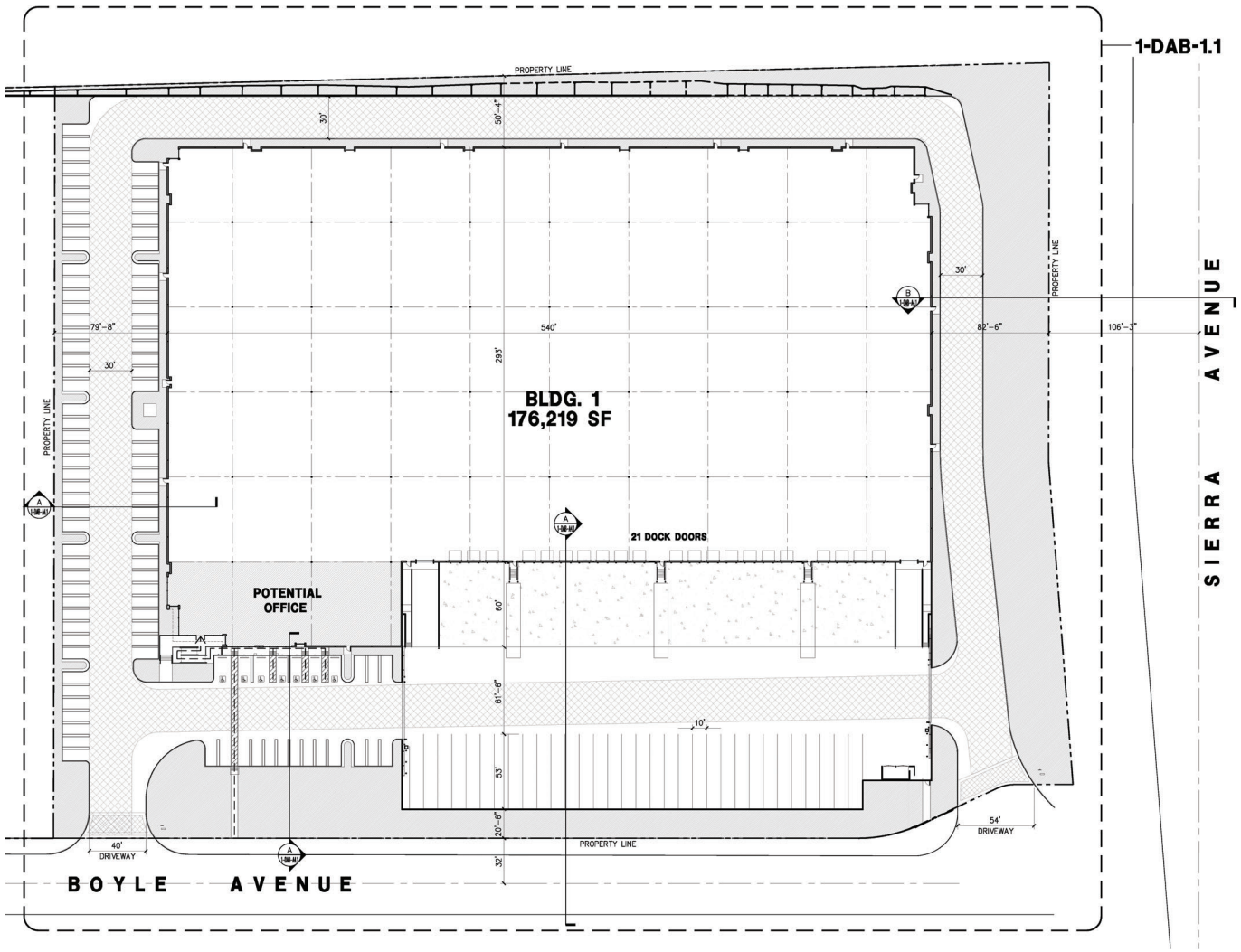
FEET

SOURCE: USGS 7.5' Quad - *Fontana* (1980), CA

I:\CFN1702.24\GIS\MXD\Noise\ProjectLocation_Bldg1.mxd (5/19/2020)

*Transwestern — Boyle Avenue Building 1 Project*

Regional and Project Location




LSA

FIGURE 2

N

0 60 120

FEET

SOURCE: HPA Architecture, March 2020

I:\CFN1702.24\G\Site_Plan.ai (05/19/20)

*Transwestern — Boyle Avenue Building 1 Project*

Conceptual Site Plan

This HRA focuses on the potential health risks to residents and workers near the site, following the CARB Handbook, CAPCOA, and SCAQMD guidance and recommendations. It examines the short-term and long-term potential health effects from emissions of TACs from project operations, primarily the exhaust from trucks hauling materials to and from the project site.

## 1.4 EXISTING SENSITIVE LAND USES IN THE PROJECT AREA

Sensitive receptors include residences, schools, hospitals, and similar uses sensitive to air quality. The project site is surrounded primarily by industrial and residential development, as shown on Figure 3, Sensitive Receptors. The areas adjacent to the project site include the following uses:

- **South:** Residential development between Boyle Avenue and Slover Avenue. The closest residential building is approximately 270 feet south of Building 1's proposed loading docks and 320 feet south of Building 2's proposed loading docks.
- **North:** I-10, with retail uses beyond.
- **East:** Sierra Avenue, with retail uses beyond.
- **West:** A light industrial operation approximately 450 feet from the closest Building 1 loading dock and 120 feet from the closest Building 2 loading dock.
- **Along Truck Route shared by trucks from both Building 1 and Building 2:** Residences south of Boyle Avenue and along both sides of Juniper Avenue.

LSA

FIGURE 3

N

0 200 400
FEET

SOURCE: Google Earth, 2020

*Transwestern — Boyle Avenue Building 1 Project*

Nearby Sensitive Receptors

I:\CFN1702.24\G\Sensitive_Receptors.cdr (5/19/2020)

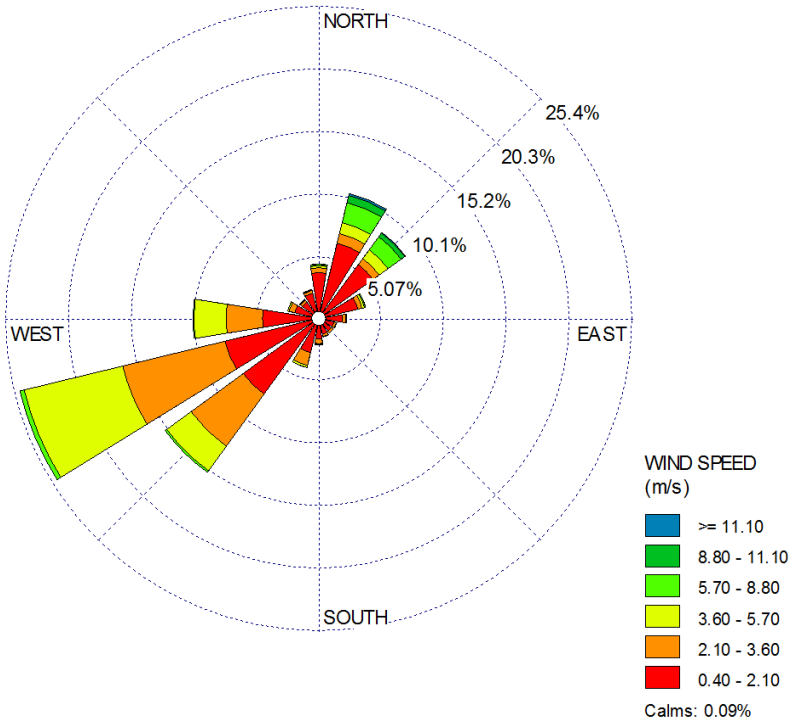
# 2.0 SETTING

## 2.1 REGIONAL AIR QUALITY

The project site is in Fontana, California, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the SCAQMD.

### 2.1.1 Climate/Meteorology

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industry), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The nearest representative meteorological station that provides the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) ready meteorological data is the Fontana Meteorological Station, about 3.8 miles northwest of the project site. Figure 4, Project Area Wind Patterns, below, shows the windrose[1] from data measured at this station and the wind patterns for the project area.




Source: SCAQMD Meteorological Data for AERMOD. Website: www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data/data-for-aermod (accessed May 2020).

**Figure 4: Project Area Wind Patterns**

[1] A windrose provides a succinct view of how wind speed and direction are typically distributed at a particular location. Presented in a circular format, the windrose shows the frequency of winds blowing from particular directions.

### 2.1.2 Toxic Air Contaminants

The public's exposure to TACs is a significant environmental health issue in the State of California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal Act (42 United States Code Section 7412) is a TAC. Under State law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act), AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987), and Senate Bill 25, the Children's Environmental Health Protection Act. The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

Air toxics from stationary sources are also regulated in California under AB 2588. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the designated air quality management district or air pollution control district. High-priority facilities are required to perform an HRA and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

To date, CARB has designated nearly 200 compounds as TACs (CARB Identified Toxic Air Contaminants). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel particulate matter [DPM]).

# 3.0 THRESHOLDS

## 3.1 HEALTH RISK ASSESSMENT THRESHOLDS OF SIGNIFICANCE

Both the State and federal governments have established health-based ambient air quality standards for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For TACs, "substantial" is taken to mean that the individual health risk exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) and noncancer acute and chronic Hazard Index (HI) from project emissions of TACs are considered appropriate for use in determining the health risk for projects in the Basin:

- **MICR:** MICR is the estimated probability of a maximum exposed individual (MEI) contracting cancer as a result of exposure to TACs over a period of 30 years for adults and 9 years for children in residential locations and over a period of 25 years for workers. The MICR calculations include multipathway consideration, when applicable.

  The cumulative increase in MICR that is the sum of the calculated MICR values for all TACs would be considered significant if it would result in an increased MICR greater than 10 in 1 million ($1 \times 10^{-5}$) at any receptor location.

- **Chronic HI:** Chronic HI is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic reference exposure level. The chronic HI calculations include multipathway consideration, when applicable.

  The project would be considered significant if the cumulative increase in total chronic HI for any target organ system would exceed 1.0 at any receptor location.

- **Acute HI:** Acute HI is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential MEI to its acute reference exposure level.

  The project would be considered significant if the cumulative increase in total acute HI for any target organ system would exceed 1.0 at any receptor location.

The SCAQMD *CEQA Air Quality Handbook* (1993, currently under revision) states that emissions of TACs are considered significant if an HRA shows an increased risk of greater than 10 in 1 million. Based on guidance from SCAQMD in the document *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (2003), for the purposes of this analysis, the threshold of 10 in 1 million was used as the cancer risk threshold for the proposed project.

# 4.0 HEALTH RISK IMPACTS

## 4.1 GENERAL INFORMATION

For the purposes of an HRA, short-term emissions are of concern for analyzing acute health impacts, and long-term emissions are of concern for analyzing chronic and carcinogenic health impacts. A screening-level multi-pathway assessment has been conducted. This technique was chosen as recommended in the OEHHA *Air Toxic Hot Spots Program Risk Assessment Guidelines* (2015).

This HRA has been conducted using three models: the CARB's California Emissions Factor Model, Version 2017 (EMFAC2017) for vehicle emissions factors and percentages of fuel type within the overall vehicle fleet, the United States Environmental Protection Agency's (EPA) AERMOD air dispersion model to determine how the TACs would move through the atmosphere after release from sources both on site and on surrounding roadways, and the CARB's HARP model to translate the pollutant concentrations from AERMOD into individual health risks at any sensitive receptor locations surrounding the Building 1 and Building 2 sites.

This HRA includes analyzing the inhalation, dermal soil, mother's milk, and homegrown produce pathways. This technique was chosen as prescribed in SCAQMD's *AB2588 and Rule 1402 Supplemental Guidelines* (2018).

The OEHHA has determined that long-term exposure to diesel exhaust particulates poses the highest cancer risk of any TAC it has evaluated. Exposure to diesel exhaust can also 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 (also known as diesel particulate matter or DPM) 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. For risk assessment procedures, the OEHHA specifies that the surrogate for whole diesel exhaust is DPM.

The conservative nature of this analysis is due primarily to the following three factors:

- The CARB-adopted diesel exhaust unit risk factor (URF) of 300 in 1 million per microgram per cubic meter ($\mu g/m^3$) is based on the upper 95$^{th}$ percentile of estimated risk for each of the epidemiological studies used to develop the URF. Therefore, the risk factor is already representative of the conservative risk posed by DPM.

- The risk estimates assume sensitive receptors will be subject to DPM for 24 hours per day, 350 days per year. As a conservative measure, SCAQMD does not recognize indoor adjustments for

residents. However, typical people spend the majority of their time indoors versus remaining outdoors for 24 hours per day, 350 days per year.[1]

- The exposure to DPM is assumed to be constant for the given period analyzed (i.e., 30 years). However, emissions from DPM are expected to substantially decrease in the future with the implementation of standard regulatory requirements and technological advancement to reduce DPM.

Improvements over the last 40 years to diesel fuel and diesel engines have resulted in lower emissions of some of these TACs (EPA *Learn About Impacts of Diesel Exhaust and the Diesel Emissions Reduction Act*). These improvements resulted in a 75 percent reduction in particle emissions from diesel-powered trucks and other equipment in 2010 and an 85 percent reduction by 2020 as compared to 2000 levels (OEHHA 2001). These improvements are anticipated to continue into the foreseeable future.

### 4.1.1 Emission Sources

The first step of an HRA is to characterize the project-related emissions of TACs. According to the *Focused Traffic Impact Analysis* (LSA 2020), Building 1 would generate a daily trip rate of 212 cars, 21 two-axle trucks, 17 three-axle trucks, and 57 four-plus axle trucks and Building 2 would generate a daily trip rate of 92 cars, 9 two-axle trucks, 7 three-axle trucks, and 25 four-plus axle trucks. The traffic study also characterized the routes and percentages of the car and truck traffic that would travel to and from the two sites. While the TAC emissions from gasoline-powered vehicles have a small health effect compared to DPM, this HRA includes all the traffic information described and both gasoline- and diesel-powered vehicle emissions. For the diesel exhaust emissions, it is sufficient to only consider the DPM (particulate matter less than 10 microns in diameter [$PM_{10}$]) portion of the exhaust; all the TACs for the gasoline exhaust emissions are contained in the reactive organic gas (ROG) emissions. Using speciation data from CARB[2], the emission rates of the TAC components in gasoline exhaust are derived from the total ROG emissions.

The vehicles associated with the two projects were assumed to operate 24 hours per day, 7 days per week, and 52 weeks per year. The trucks operate in two modes: stationary idling and moving on and off the site. The emissions from trucks while idling result in a much higher concentration of TACs at nearby sensitive receptors compared to the emissions from moving trucks. This is due to the dispersion of emissions that occurs with distance and with travel of the vehicle. For this HRA, the truck travel emissions were modeled as a series of volume sources along on-site buildings and driveways and along truck routes as shown on Figure 5, Overall Modeling Layout, with the overlapping dark blue squares. Although it is possible that a few trucks could take other routes, the

[1] In May 1991, the CARB Research Division, in association with the University of California, Berkeley, published research findings titled *Activity Patterns of California Residents*. The findings of that study indicate that, on average, adults and adolescents in California spent almost 15 hours per day inside their homes and 6 hours in other indoor locations, for a total of 21 hours (87 percent of the day). About 2 hours per day were spent in transit, and just over 1 hour per day was spent in outdoor locations.

[2] Speciation Profiles Used in ARB Modeling. Website: www.arb.ca.gov/ei/speciate/speciate.htm (accessed May 2020).

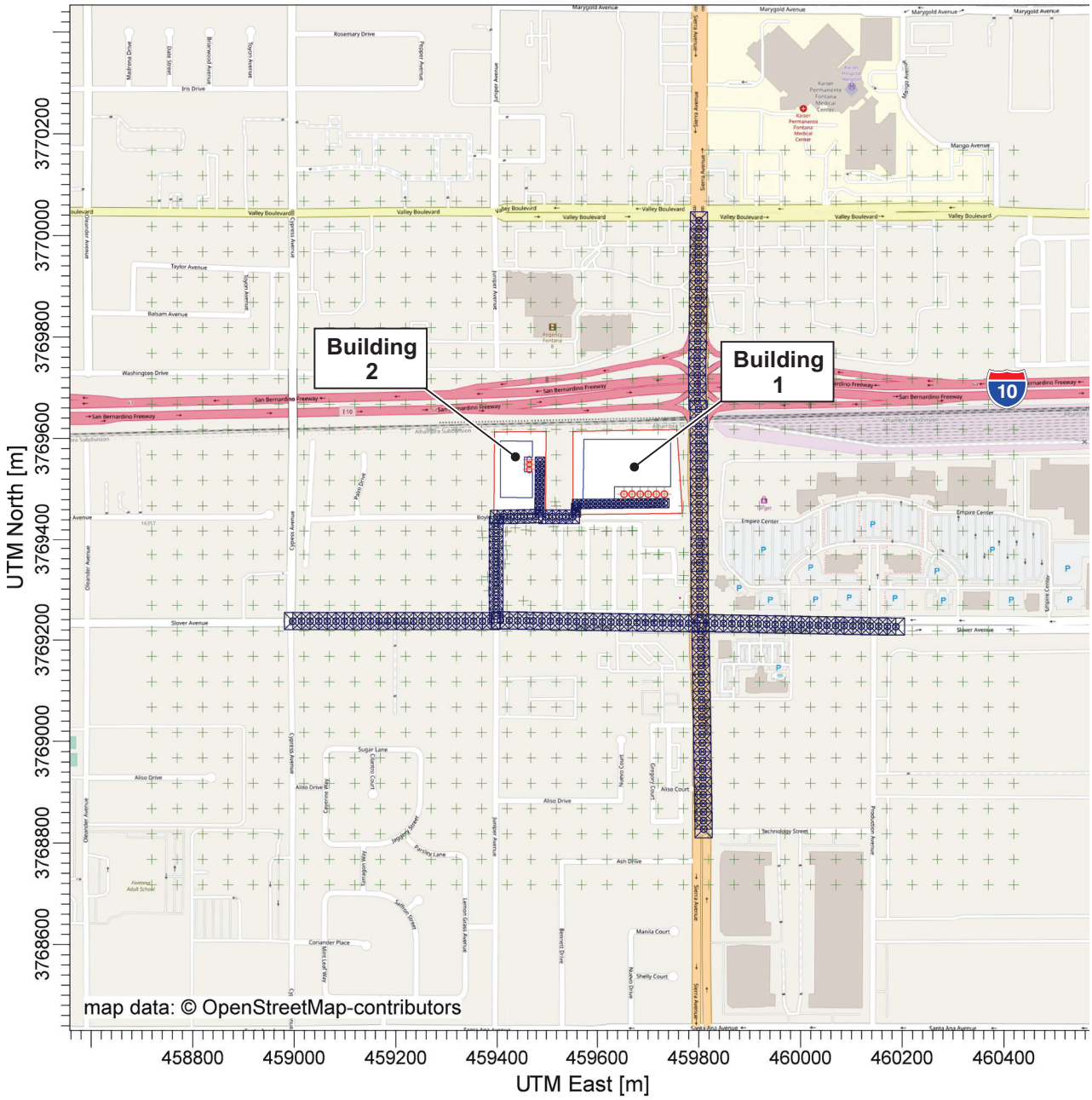



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FIGURE 5

LEGEND

- Volume Sources Along Roads and Driveways
- Truck Idling Locations
- Receptors Around Project Site

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*Transwestern — Boyle Avenue Building 1 Project*

Overall Modeling Layout

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small number of trucks going on any routes other than those identified as the main routes would not add substantial amounts of TACs along those routes. LSA assumed vehicles traveling on site would maneuver slowly, averaging approximately 5 miles per hour (mph), and that vehicles traveling on roadways would average 35 mph. Although the trucks will spend time at higher speeds, their emissions are greater at lower speeds, so using 5 and 35 mph results in a conservative analysis.

The idling emissions of trucks operating on the two project sites were modeled as individual point sources at idling locations along the planned loading docks, shown on Figure 5 as red circles next to each building. While the idling times of the trucks are regulated to be no more than 5 minutes, it is possible the trucks would stop at the loading dock and one or two other areas on site during a single delivery. For the purposes of this HRA, the idling times per delivery were conservatively assumed to be 15 minutes per delivery.

EMFAC2017 was used to determine the emissions factors of idling and operating diesel trucks to determine the total emissions of $PM_{10}$. Although the TAC of concern from diesel trucks is DPM, EMFAC2017 does not include emissions factors for this TAC. DPM is a component of the overall exhaust from the project-related trucks. This HRA conservatively assumes the DPM emissions to be equal to the $PM_{10}$ emissions when actually the DPM is only a portion of the overall $PM_{10}$ in the truck exhaust. While it is expected that the truck emissions rate will continue to reduce over time, an HRA only allows for a single emission rate to represent the entire 25- or 30-year exposure period. The use of emissions factors for the year the proposed project would start operations was selected for this HRA to be conservative. For instance, based on operations starting in 2021, using emissions factors for a 2025 vehicle fleet (the midpoint of the 9-year exposure period) or using emissions for a 2036 vehicle fleet (the midpoint of the 30-year exposure period) could be used; however, either of these would be less conservative.

The tables in Appendix A show the development of the exhaust emission rates for the trucks while operating both on the two project sites and on the roadways as described in the project traffic study. The tables show the average daily traffic for the two projects combined on each stretch of road by vehicle category. Appendix A also shows the percentage within each vehicle category that is diesel powered (from EMFAC2017), the $PM_{10}$, particulate matter 2.5 microns or less in size ($PM_{2.5}$), and ROG emissions factors for each vehicle category at the average vehicle speed of 5 mph on site and 35 mph on roadways. Because the AERMOD dispersion model cannot use emissions in grams per mile, emissions are converted to grams per second. The same derivation is repeated for ROG emissions from gasoline-powered vehicles (the majority of TAC emissions from gasoline exhaust are contained in the ROG emissions).

Table A shows the development of the exhaust emission rates for the trucks while idling on the project site. Building 1 emissions are equally divided among the six point sources at the Building 1 loading dock area. Building 2 emissions are equally divided among the three point sources at the Building 2 loading dock area. These are depicted on Figure 5 as red circles within the loading dock areas, approximately where the truck engine exhaust pipe would be while positioned for unloading or loading. Table A shows emissions data results using the idling emissions factors from EMFAC2017 for these trucks, combined with the total truck count and assuming 15 minutes of idling per trip.

## Table A: Transwestern – Boyle Avenue Building 1 And 2 Truck Idling Emission Rates

| Facility | Hours/ Day | Trucks / Day[1] | Trucks/ Hour | Diesel Idle Exhaust per Vehicle (g/hr)[2] | | Idle Time (min/trip)[3] | Idle Exhaust Diesel (g/hr) | |
|---|---|---|---|---|---|---|---|---|
| | | | | $PM_{10}$ | $PM_{2.5}$ | | $PM_{10}$ | $PM_{2.5}$ |
| Building 1 | 24 | 95 | 4 | 0.0056 | 0.0053 | 15 | 0.0055 | 0.0053 |
| Building 2 | 24 | 41 | 2 | 0.0056 | 0.0053 | 15 | 0.0024 | 0.0023 |

Source: Compiled by LSA Associates, Inc. (2020).

[1] Focused Traffic Impact Analysis (LSA 2020). Note that each truck visit comprises two trips, one to arrive and one to depart.

[2] CARB EMFAC2017 idling emissions factors for 2021 MHDT and HHDT diesel trucks.

[3] This table assumes each truck idles for 15 minutes per trip to account for multiple stops (i.e., at an entry check-in, loading/ unloading, and miscellaneous on-site activities).

CARB = California Air Resources Board
EMFAC2017 = California Emissions Factor Model, Version 2017
g/hr = grams per hour
HHDT = heavy-heavy-duty truck
min/trip = minutes per trip
MHDT = medium heavy-duty truck
$PM_{10}$ = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

It was assumed the trucks would idle using their main engines rather than an auxiliary power unit or plugging in to shore power throughout their time at the project site. This is a very conservative assumption, as the loading docks are required to have electrical hookups and the trucks to have the ability to run their accessories from that electricity, so it is likely that the trucks would only operate on their own power when arriving or departing. CARB has developed plans (CARB 2017) to transition to near-zero-emission technologies and ultimately zero-emission technologies. These will be phased in over time, possibly beginning in the 2020 decade and extending out to 2050.

### 4.1.2 Toxic Air Contaminant Air Dispersion Modeling

To assess the dispersion of emissions associated with the project, air dispersion modeling was performed using AERMOD. The model is provided by the EPA to estimate the pollutant concentrations associated with emissions sources in simple and complex terrain. The model was used to calculate the annual average and short-duration (e.g., 1-hour) TAC concentrations associated with project operations. Details of these inputs are shown in Appendix B.

In addition to the idling point sources described above, a series of volume sources were used to represent vehicle activity along nearby roadways. The volume dimensions used were based on the EPA guidance for trucks. For all the truck idling sources, the release height was set to the approximate truck exhaust stack height of 12 feet, a temperature of 200° Fahrenheit, a flow rate of 50 meters (164 feet) per second, and an exhaust pipe diameter of 4 inches. Because building wake effects (building downwash) influences can significantly increase concentrations for receptors downwind of the building close to the emissions source, the two proposed new two-story buildings were included with a building height of 55 feet.

The model requires additional input parameters, including local meteorology. Due to the model's sensitivity to individual parameters (e.g., wind speed, temperature, and direction), the EPA recommends meteorological data used as input into dispersion models be selected on the basis of relative spatial and temporal conditions that exist in the area of concern. As such, 5 years of

meteorological data from SCAQMD's Fontana Monitoring Station[1] (the nearest available) was used to represent local weather conditions and prevailing winds.

Receptors were placed in an approximately 1-mile square grid, as shown on Figure 5, from west of Cypress Avenue to east of Sierra Avenue, and from north of Valley Boulevard to south of Slover Avenue to characterize the regional risk levels. Additionally, discrete receptors were placed at the locations of all sensitive receptors near to the two proposed project sites.

### 4.1.3 Hot Spots Analysis and Reporting Program Modeling

CARB's HARP model is a tool that assists with the programmatic requirements of the Air Toxics "Hot Spots" Program (AB 2588). HARP was used to translate the TAC concentrations from AERMOD into long-term carcinogenic and chronic, and short-term acute health risk levels following the guidance in the SCAQMD risk assessment guidelines (2003) for residents and workers. These guidelines specify a minimum set of TAC pathways and HARP modeling options[2] for the carcinogenic assessment. To estimate chronic noncancer risks at residential receptors, the "OEHHA-Derived Method" risk-calculation option was used. Following the OEHHA guidance (2015), an 8-hour chronic noncancer risk was calculated for residential receptors because the project could potentially operate more than 8 hours per day.

The dose-response relationship for a specific pollutant describes the association between exposure and the observed response (health effect). In other words, the relationship estimates how different levels of exposure to a pollutant change the likelihood and severity of health effects. The dose-response relationship (the response occurring with increasing doses) varies with each pollutant, individual sensitivity, and type of health effect. Combining the results of the emission characterization and dispersion modeling described above with the dose-response assessment gives an estimate of the increased health risk for an individual exposed to the maximum predicted long-term concentrations of TACs.

Appendix A contains the HRA emissions worksheet and EMFAC data, Appendix B contains select pages from the AERMOD output and the HARP report files for this HRA.

### 4.1.4 Acute Project-Related Emission Impacts

Exposure to TACs from vehicle exhaust can result in immediate health effects. However, according to the rulemaking in CARB's *Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant* (1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute noncancer health risk guidance value.

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1 South Coast Air Quality Management District (SCAQMD). Meteorological Data for AERMOD. Website: http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod (accessed May 2020).

2 The SCAQMD guidelines specify that residential cancer risks assume a 30-year exposure and must include, at a minimum, the following pathways: inhalation, homegrown produce, dermal absorption, soil ingestion, and mother's milk; a deposition rate of 0.02 meter per second for the non-inhalation pathways; the dermal pathway should assume a "warm" climate; and the "Risk Management Policy Using the Derived Method" risk calculation option should be used.

Emissions from gasoline-powered vehicles do contain TACs with short-term acute health effects. Table B shows the acute health risks from the combined operation of the two proposed projects.

### Table B: Health Risk Levels for Existing Residents and Workers from the Combined Operation of the Two Projects

| Location | Maximum Cancer Risk | Maximum Noncancer Chronic Risk (Hazard Index) | Maximum Noncancer Acute Risk (Hazard Index) |
|---|---|---|---|
| Residential Risks | 2.4 in 1 million | 0.0006 | 0.0001 |
| Worker Risks | 0.3 in 1 million | 0.0009 | 0.0001 |
| **SCAQMD Significance Threshold** | **10 in 1 million** | **1.0** | **1.0** |
| **Significant?** | **No** | **No** | **No** |

Source: Compiled by LSA Associates, Inc. (2020).
SCAQMD = South Coast Air Quality Management District

The Acute HI would be 0.0001 for both the residential MEI and worker MEI; less than the threshold of 1.0.

### 4.1.5 Carcinogenic and Chronic Project-Related Emission Impacts

Table B shows the carcinogenic and chronic health risks from the combined operation of the two proposed projects. The residential risk incorporates both the risk for a child living in a nearby residence for 9 years (the standard period of time for child risk) and an adult living in a nearby residence for 30 years (considered a conservative period of time for an individual to live in any one residence). The maximum cancer risk for the residential MEI would be 2.4 in 1 million, less than the threshold of 10 in 1 million. Figure 6, 30-Year Residential Cancer Risk Levels, shows the extent of the risk levels. The maximum cancer risk for the worker MEI would be 0.3 in 1 million, also less than the threshold of 10 in 1 million. The chronic health risks from the combined operation of the two proposed projects are also shown in Table B.

As these results show, all health risk levels to nearby residents and workers from project-related emissions of TAC from the concurrent operation of both Building 1 and Building 2 would be below SCAQMD's HRA thresholds. No significant health risk would occur from the operation of these two projects, and no mitigation is necessary. Appendix B provides the HARP modeling reports and AERMOD information.

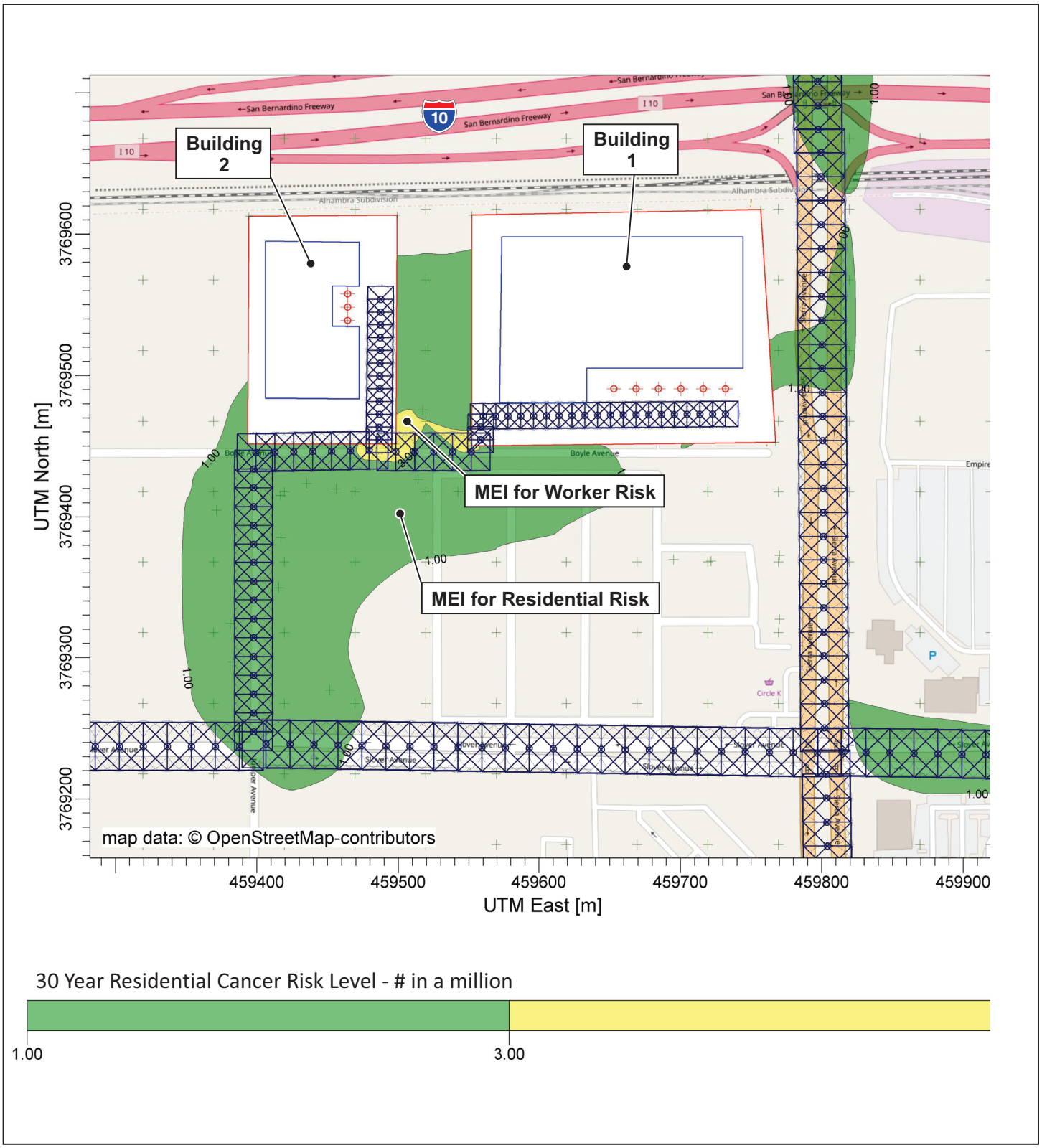


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FIGURE 6

LEGEND

- Volume Sources Along Roads and Driveways
- Truck Idling Locations
- Receptors Around Project Site

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*Transwestern — Boyle Avenue Building 1 Project*

30-Year Residential Cancer Risk Levels

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# APPENDIX A

# EMISSION FACTORS FOR VEHICLES AND HEALTH RISK ASSESSMENT EMISSION RATES

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN BERNARDINO
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

| Region | Calenda | Vehicle Ca | Model Year | Speed | Fuel | VMT | ROG_RUNEX | PM10_RUNEX | PM2_5_RUNEX | Fuel % |
|---|---|---|---|---|---|---|---|---|---|---|
| SAN BERNARDINO | 2021 | LDA | Aggregated | 5 | GAS | 22,415 | 0.073784898 | 0.010347304 | 0.009514076 | |
| SAN BERNARDINO | 2021 | LDA | Aggregated | 5 | DSL | 185 | 0.199689443 | 0.026335048 | 0.025195805 | |
| SAN BERNARDINO | 2021 | LDA | Aggregated | 35 | GAS | 4,566,473 | 0.010668284 | 0.001448955 | 0.001332286 | 99.18% |
| SAN BERNARDINO | 2021 | LDA | Aggregated | 35 | DSL | 37,901 | 0.014916411 | 0.007793331 | 0.007456195 | 0.82% |
| SAN BERNARDINO | 2021 | MDV | Aggregated | 5 | GAS | 5,210 | 0.183596499 | 0.011029746 | 0.010145963 | |
| SAN BERNARDINO | 2021 | MDV | Aggregated | 5 | DSL | 110 | 0.198162264 | 0.017867423 | 0.017094486 | |
| SAN BERNARDINO | 2021 | MDV | Aggregated | 35 | GAS | 1,064,098 | 0.029134767 | 0.001590504 | 0.001463443 | 97.92% |
| SAN BERNARDINO | 2021 | MDV | Aggregated | 35 | DSL | 22,621 | 0.012731231 | 0.006009035 | 0.005749087 | 2.08% |
| SAN BERNARDINO | 2021 | MHDT | Aggregated | 5 | GAS | 54 | 0.459851134 | 0.007203841 | 0.006623666 | |
| SAN BERNARDINO | 2021 | MHDT | Aggregated | 5 | DSL | 445 | 1.199403271 | 0.165719257 | 0.158550315 | |
| SAN BERNARDINO | 2021 | MHDT | Aggregated | 35 | GAS | 8,093 | 0.068119471 | 0.001019502 | 0.000937394 | 8.93% |
| SAN BERNARDINO | 2021 | MHDT | Aggregated | 35 | DSL | 82,504 | 0.117701131 | 0.055840882 | 0.053425231 | 91.07% |
| SAN BERNARDINO | 2021 | HHDT | Aggregated | 5 | GAS | 0 | 5.015069496 | 0.011723276 | 0.01077912 | |
| SAN BERNARDINO | 2021 | HHDT | Aggregated | 5 | DSL | 10,140 | 1.008420698 | 0.053205961 | 0.050904295 | |
| SAN BERNARDINO | 2021 | HHDT | Aggregated | 5 | NG | 2,475 | 1.410008043 | 0.012507495 | 0.011966426 | |
| SAN BERNARDINO | 2021 | HHDT | Aggregated | 35 | GAS | 46 | 0.831162474 | 0.001938748 | 0.001782607 | 0.027% |
| SAN BERNARDINO | 2021 | HHDT | Aggregated | 35 | DSL | 163,621 | 0.106866683 | 0.035628213 | 0.034086952 | 94.21% |
| SAN BERNARDINO | 2021 | HHDT | Aggregated | 35 | NG | 10,017 | 0.186524836 | 0.004910617 | 0.004698185 | 5.77% |

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN BERNARDINO
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: g/vehicle/day for IDLEX, RESTL and DIURN

| Region | Calend | Vehicle Ca | Model Year | Speed | Fuel | ROG_IDLEX | PM10_IDLEX | PM2_5_IDLEX |
|---|---|---|---|---|---|---|---|---|
| SAN BERNARDINO | 2021 | MHDT | Aggregated | Aggregated | DSL | 0.1127 | 0.0252 | 0.0242 |
| SAN BERNARDINO | 2021 | HHDT | Aggregated | Aggregated | DSL | 7.0727 | 0.1336 | 0.1278 |

**Transwestern Buildings**

# Project Trip Generation

| Land Uses | Units | | Daily |
|---|---|---|---|
| **Building 1** | | | |
| **Warehouse** | 176.22 | TSF | |
| Trips/Unit (Cars) | | | 1.201 |
| Trips/Unit (2-Axle Trucks) | | | 0.118 |
| Trips/Unit (3-Axle Trucks) | | | 0.096 |
| Trips/Unit (4+ Axle Trucks) | | | 0.325 |
| Trips/Unit (Total) | | | 1.740 |
| Trip Generation (Cars) | | | 212 |
| Trip Generation (2-Axle Trucks) | | | 21 |
| Trip Generation (3-Axle Trucks) | | | 17 |
| Trip Generation (4+ Axle Trucks) | | | 57 |
| Trip Generation (Total) | | | 307 |
| **Building 2** | | | |
| **Warehouse** | 76.56 | TSF | |
| Trips/Unit (Cars) | | | 1.201 |
| Trips/Unit (2-Axle Trucks) | | | 0.118 |
| Trips/Unit (3-Axle Trucks) | | | 0.096 |
| Trips/Unit (4+ Axle Trucks) | | | 0.325 |
| Trips/Unit (Total) | | | 1.740 |
| Trip Generation (Cars) | | | 92 |
| Trip Generation (2-Axle Trucks) | | | 9 |
| Trip Generation (3-Axle Trucks) | | | 7 |
| Trip Generation (4+ Axle Trucks) | | | 25 |
| Trip Generation (Total) | | | 133 |
| **Summary** | | | |
| Trip Generation (Cars) | | | 304 |
| Trip Generation (2-Axle Trucks) | | | 30 |
| Trip Generation (3-Axle Trucks) | | | 24 |
| Trip Generation (4+ Axle Trucks) | | | 82 |
| Trip Generation (Total) | | | 440 |

Note: From Traffic Scoping Letters (June 2020)
TSF = Thousand Square-Feet

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Onsite travel - along Bldg 1 | | AADT by Truck Category[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **LDV[2]** | **2-Axle[3]** | **3-Axle[4]** | **4+-Axle[5]** | | | | |
| | | 212 | 21 | 17 | 58 | | | | |
| | | % of Vehicles That Are Diesel-Powered[6] | | | | | | | |
| **Average Speed** | | 0.8% | 2% | 91% | 94% | | | | |
| | | **Diesel Exhaust PM10 & PM2.5 Emissions at 5 mph (g/mi)7** | | | | | | | |
| 5 mph | $PM_{10}$ | 0.0263 | 1.79E-02 | 1.66E-01 | 5.32E-02 | | | | |
| | $PM_{2.5}$ | 0.0252 | 1.71E-02 | 1.59E-01 | 5.09E-02 | | | | |
| **Total distance covered by Onsite travel - driveway sources** | | % of Vehicles That Are Gasoline-Powered[6] | | | | | | | |
| | | 99% | 98% | 9% | 5.8% | | | | |
| | | **Gasoline Exhaust ROG Emissions at 5 mph (g/mi)7** | | | | **Number of Sources** | **Emission Rates per source** | | |
| | ROG | 0.074 | 1.84E-01 | 4.60E-01 | 5.02E+00 | | | | |
| | | **$PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)** | | | | | **g/s** | **lb/hr** | **lb/yr** |
| 189 meters | $PM_{10}$ | 6.24E-08 | 1.06E-08 | 3.48E-06 | 3.95E-06 | 22 | 3.4E-07 | 2.7E-06 | 0.0237 |
| | $PM_{2.5}$ | 5.97E-08 | 1.01E-08 | 3.33E-06 | 3.77E-06 | 22 | 3.3E-07 | 2.6E-06 | 0.0227 |
| | ROG | 2.11E-05 | 5.12E-06 | 9.48E-07 | 2.29E-05 | 22 | 2.3E-06 | 1.8E-05 | 0.1581 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 VMT data

[7] Source: EMFAC2017 emission factors for 2021 (model year aggregate).

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 2.37E-02 | 2.71E-06 |
| PM2.5 | -- | 2.27E-02 | 2.59E-06 |
| 1,3-butadiene | 0.0055 | 8.70E-04 | 9.92E-08 |
| benzene | 0.02636 | 4.17E-03 | 4.75E-07 |
| ethylbenzene | 0.01072 | 1.69E-03 | 1.93E-07 |
| MEK | 0.00019 | 3.00E-05 | 3.43E-09 |
| naphthalene | 0.00048 | 7.59E-05 | 8.66E-09 |
| propylene | 0.03127998 | 4.95E-03 | 5.64E-07 |
| styrene | 0.00126 | 1.99E-04 | 2.27E-08 |
| toluene | 0.05879998 | 9.30E-03 | 1.06E-06 |
| m & p-xylene | 0.03639998 | 5.76E-03 | 6.57E-07 |

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Onsite travel - along Bldg 2 | | AADT by Truck Category[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] | | | | |
| | | 92 | 10 | 8 | 25 | | | | |
| | | % of Vehicles That Are Diesel-Powered[6] | | | | | | | |
| Average Speed | | 0.8% | 2% | 91% | 94% | | | | |
| | | Diesel Exhaust PM10 & PM2.5 Emissions at 5 mph (g/mi)7 | | | | | | | |
| 5 mph | $PM_{10}$ | 0.0263 | 1.79E-02 | 1.66E-01 | 5.32E-02 | | | | |
| | $PM_{2.5}$ | 0.0252 | 1.71E-02 | 1.59E-01 | 5.09E-02 | | | | |
| Total distance covered by Onsite travel - driveway sources | | % of Vehicles That Are Gasoline-Powered[6] | | | | | | | |
| | | 99% | 98% | 9% | 5.8% | | | | |
| | | Gasoline Exhaust ROG Emissions at 5 mph (g/mi)7 | | | | Number of Sources | Emission Rates per source | | |
| | ROG | 0.074 | 1.84E-01 | 4.60E-01 | 5.02E+00 | | | | |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | | | g/s | lb/hr | lb/yr |
| 100 meters | $PM_{10}$ | 1.43E-08 | 2.66E-09 | 8.64E-07 | 8.97E-07 | 12 | 1.5E-07 | 1.2E-06 | 0.0103 |
| | $PM_{2.5}$ | 1.37E-08 | 2.55E-09 | 8.27E-07 | 8.58E-07 | 12 | 1.4E-07 | 1.1E-06 | 0.0099 |
| | ROG | 4.82E-06 | 1.29E-06 | 2.35E-07 | 5.20E-06 | 12 | 9.6E-07 | 7.6E-06 | 0.0669 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 1.03E-02 | 1.18E-06 |
| PM2.5 | -- | 9.86E-03 | 1.13E-06 |
| 1,3-butadiene | 0.0055 | 3.68E-04 | 4.20E-08 |
| benzene | 0.02636 | 1.76E-03 | 2.01E-07 |
| ethylbenzene | 0.01072 | 7.17E-04 | 8.18E-08 |
| MEK | 0.00019 | 1.27E-05 | 1.45E-09 |
| naphthalene | 0.00048 | 3.21E-05 | 3.66E-09 |
| propylene | 0.03127998 | 2.09E-03 | 2.39E-07 |
| styrene | 0.00126 | 8.43E-05 | 9.62E-09 |
| toluene | 0.05879998 | 3.93E-03 | 4.49E-07 |
| m & p-xylene | 0.03639998 | 2.44E-03 | 2.78E-07 |

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Boyle Ave. from Bldg. 1 Drwy to Bldg. 2 Drwy | | AADT by Truck Category[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] | | | | |
| | | 212 | 21 | 17 | 58 | | | | |
| | | % of Vehicles That Are Diesel-Powered[6] | | | | | | | |
| Average Speed | | 0.8% | 2% | 91% | 94% | | | | |
| | | Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7 | | | | | | | |
| 35 mph | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 | | | | |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 | | | | |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | | | | | |
| | | 99% | 98% | 9% | 5.8% | | | | |
| Total distance covered by Boyle Ave. from sources | | Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7 | | | | Number of Sources | Emission Rates per source | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 | | | | |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | | | g/s | lb/hr | lb/yr |
| 53 meters | $PM_{10}$ | 5.21E-09 | 1.01E-09 | 3.31E-07 | 7.46E-07 | 5 | 2.2E-07 | 1.7E-06 | 0.0151 |
| | $PM_{2.5}$ | 4.98E-09 | 9.63E-10 | 3.17E-07 | 7.13E-07 | 5 | 2.1E-07 | 1.6E-06 | 0.0144 |
| | ROG | 8.59E-07 | 2.29E-07 | 3.96E-08 | 1.07E-06 | 5 | 4.4E-07 | 3.5E-06 | 0.0306 |

Percent of truck traffic on this road

100%

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 1.51E-02 | 1.72E-06 |
| PM2.5 | -- | 1.44E-02 | 1.64E-06 |
| 1,3-butadiene | 0.0055 | 1.68E-04 | 1.92E-08 |
| benzene | 0.02636 | 8.06E-04 | 9.20E-08 |
| ethylbenzene | 0.01072 | 3.28E-04 | 3.74E-08 |
| MEK | 0.00019 | 5.81E-06 | 6.63E-10 |
| naphthalene | 0.00048 | 1.47E-05 | 1.67E-09 |
| propylene | 0.03127998 | 9.57E-04 | 1.09E-07 |
| styrene | 0.00126 | 3.85E-05 | 4.40E-09 |
| toluene | 0.05879998 | 1.80E-03 | 2.05E-07 |
| m & p-xylene | 0.03639998 | 1.11E-03 | 1.27E-07 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Boyle Ave. from Bldg. 2 Drwy to Juniper Ave. and south to Slover Ave. | | AADT by Truck Category[1] | | | |
|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] |
| | | 304 | 30 | 25 | 83 |
| | | % of Vehicles That Are Diesel-Powered[6] | | | |
| | | 0.8% | 2% | 91% | 94% |
| Average Speed 35 mph | | Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7 | | | |
| | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | |
| | | 99% | 98% | 9% | 5.8% |
| Total distance covered by Boyle Ave. from sources | | Gasoline Exhaust ROG Emissions at Speed mph (g/mi)7 | | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | |
| 278 meters | $PM_{10}$ | 3.90E-08 | 7.50E-09 | 2.54E-06 | 5.57E-06 |
| | $PM_{2.5}$ | 3.73E-08 | 7.18E-09 | 2.43E-06 | 5.33E-06 |
| | ROG | 6.43E-06 | 1.71E-06 | 3.04E-07 | 7.99E-06 |

Percent of truck traffic on this road
100%

| Number of Sources | Emission Rates per source | | |
|---|---|---|---|
| | g/s | lb/hr | lb/yr |
| 22 | 3.7E-07 | 2.9E-06 | 0.0258 |
| 22 | 3.5E-07 | 2.8E-06 | 0.0247 |
| 22 | 7.5E-07 | 5.9E-06 | 0.0520 |

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 2.58E-02 | 2.94E-06 |
| PM2.5 | -- | 2.47E-02 | 2.82E-06 |
| 1,3-butadiene | 0.0055 | 2.86E-04 | 3.26E-08 |
| benzene | 0.02636 | 1.37E-03 | 1.56E-07 |
| ethylbenzene | 0.01072 | 5.57E-04 | 6.36E-08 |
| MEK | 0.00019 | 9.88E-06 | 1.13E-09 |
| naphthalene | 0.00048 | 2.50E-05 | 2.85E-09 |
| propylene | 0.03127998 | 1.63E-03 | 1.85E-07 |
| styrene | 0.00126 | 6.55E-05 | 7.47E-09 |
| toluene | 0.05879998 | 3.06E-03 | 3.49E-07 |
| m & p-xylene | 0.03639998 | 1.89E-03 | 2.16E-07 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Slover Ave. west of Juniper Ave. | | AADT by Truck Category[1] | | | |
|---|---|---|---|---|---|
| | | **LDV[2]** | **2-Axle[3]** | **3-Axle[4]** | **4+-Axle[5]** |
| | | 92 | 9 | 8 | 25 |
| | | % of Vehicles That Are Diesel-Powered[6] | | | |
| **Average Speed** | | 0.8% | 2% | 91% | 94% |
| | | **Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7** | | | |
| 35 mph | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | |
| | | 99% | 98% | 9% | 5.8% |
| | | **Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7** | | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 |
| **Total distance covered by Slover Ave. sources** | | **$PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)** | | | |
| 390 meters | $PM_{10}$ | 1.66E-08 | 3.16E-09 | 1.14E-06 | 2.36E-06 |
| | $PM_{2.5}$ | 1.59E-08 | 3.02E-09 | 1.09E-06 | 2.25E-06 |
| | ROG | 2.73E-06 | 7.21E-07 | 1.37E-07 | 3.38E-06 |

Percent of truck traffic on this road

30%

| Number of Sources | Emission Rates per source | | |
|---|---|---|---|
| | **g/s** | **lb/hr** | **lb/yr** |
| 24 | 1.5E-07 | 1.2E-06 | 0.0102 |
| 24 | 1.4E-07 | 1.1E-06 | 0.0098 |
| 24 | 2.9E-07 | 2.3E-06 | 0.0202 |

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 1.02E-02 | 1.16E-06 |
| PM2.5 | -- | 9.76E-03 | 1.11E-06 |
| 1,3-butadiene | 0.0055 | 1.11E-04 | 1.27E-08 |
| benzene | 0.02636 | 5.33E-04 | 6.08E-08 |
| ethylbenzene | 0.01072 | 2.17E-04 | 2.47E-08 |
| MEK | 0.00019 | 3.84E-06 | 4.38E-10 |
| naphthalene | 0.00048 | 9.70E-06 | 1.11E-09 |
| propylene | 0.03127998 | 6.32E-04 | 7.21E-08 |
| styrene | 0.00126 | 2.55E-05 | 2.90E-09 |
| toluene | 0.05879998 | 1.19E-03 | 1.36E-07 |
| m & p-xylene | 0.03639998 | 7.36E-04 | 8.39E-08 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Slover Ave. from Juniper Ave. to Sierra Ave. | | AADT by Truck Category[1] | | | |
|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] |
| | | 213 | 21 | 17 | 58 |
| | | % of Vehicles That Are Diesel-Powered[6] | | | |
| Average Speed | | 0.8% | 2% | 91% | 94% |
| | | Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7 | | | |
| 35 mph | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | |
| | | 99% | 98% | 9% | 5.8% |
| Total distance covered by Slover Ave. sources | | Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7 | | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | |
| 373 meters | $PM_{10}$ | 3.67E-08 | 7.05E-09 | 2.32E-06 | 5.23E-06 |
| | $PM_{2.5}$ | 3.51E-08 | 6.75E-09 | 2.22E-06 | 5.00E-06 |
| | ROG | 6.05E-06 | 1.61E-06 | 2.78E-07 | 7.50E-06 |

Percent of truck traffic on this road
70%

| Number of Sources | Emission Rates per source | | |
|---|---|---|---|
| | g/s | lb/hr | lb/yr |
| 24 | 3.2E-07 | 2.5E-06 | 0.0220 |
| 24 | 3.0E-07 | 2.4E-06 | 0.0211 |
| 24 | 6.4E-07 | 5.1E-06 | 0.0448 |

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 2.20E-02 | 2.51E-06 |
| PM2.5 | -- | 2.11E-02 | 2.40E-06 |
| 1,3-butadiene | 0.0055 | 2.46E-04 | 2.81E-08 |
| benzene | 0.02636 | 1.18E-03 | 1.35E-07 |
| ethylbenzene | 0.01072 | 4.80E-04 | 5.47E-08 |
| MEK | 0.00019 | 8.50E-06 | 9.70E-10 |
| naphthalene | 0.00048 | 2.15E-05 | 2.45E-09 |
| propylene | 0.03127998 | 1.40E-03 | 1.60E-07 |
| styrene | 0.00126 | 5.64E-05 | 6.43E-09 |
| toluene | 0.05879998 | 2.63E-03 | 3.00E-07 |
| m & p-xylene | 0.03639998 | 1.63E-03 | 1.86E-07 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Slover Ave. east of Sierra Ave. | | AADT by Truck Category[1] | | | |
|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] |
| | | 16 | 2 | 2 | 5 |
| | | % of Vehicles That Are Diesel-Powered[6] | | | |
| Average Speed | | 0.8% | 2% | 91% | 94% |
| | | Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7 | | | |
| 35 mph | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | |
| | | 99% | 98% | 9% | 5.8% |
| Total distance covered by Slover Ave. sources | | Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7 | | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | |
| 373 meters | $PM_{10}$ | 2.76E-09 | 6.72E-10 | 2.73E-07 | 4.51E-07 |
| | $PM_{2.5}$ | 2.64E-09 | 6.43E-10 | 2.61E-07 | 4.31E-07 |
| | ROG | 4.55E-07 | 1.53E-07 | 3.27E-08 | 6.47E-07 |

Percent of truck traffic on this road

5%

| Number of Sources | Emission Rates per source | | |
|---|---|---|---|
| | g/s | lb/hr | lb/yr |
| 23 | 3.2E-08 | 2.5E-07 | 0.0022 |
| 23 | 3.0E-08 | 2.4E-07 | 0.0021 |
| 23 | 5.6E-08 | 4.4E-07 | 0.0039 |

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 2.20E-03 | 2.51E-07 |
| PM2.5 | -- | 2.10E-03 | 2.40E-07 |
| 1,3-butadiene | 0.0055 | 2.14E-05 | 2.44E-09 |
| benzene | 0.02636 | 1.03E-04 | 1.17E-08 |
| ethylbenzene | 0.01072 | 4.17E-05 | 4.76E-09 |
| MEK | 0.00019 | 7.40E-07 | 8.44E-11 |
| naphthalene | 0.00048 | 1.87E-06 | 2.13E-10 |
| propylene | 0.03127998 | 1.22E-04 | 1.39E-08 |
| styrene | 0.00126 | 4.91E-06 | 5.60E-10 |
| toluene | 0.05879998 | 2.29E-04 | 2.61E-08 |
| m & p-xylene | 0.03639998 | 1.42E-04 | 1.62E-08 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Sierra Ave. south of Slover Ave. | | AADT by Truck Category[1] | | | |
|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] |
| | | 0 | 0 | 0 | 0 |
| | | % of Vehicles That Are Diesel-Powered[6] | | | |
| Average Speed | | 0.8% | 2% | 91% | 94% |
| | | Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7 | | | |
| 35 mph | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | |
| | | 99% | 98% | 9% | 5.8% |
| Total distance covered by Sierra Ave. sources | | Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7 | | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | |
| 390 meters | $PM_{10}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| | $PM_{2.5}$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| | ROG | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

Percent of truck traffic on this road

0%

| Number of Sources | Emission Rates per source | | |
|---|---|---|---|
| | g/s | lb/hr | lb/yr |
| 24 | 0.0E+00 | 0.0E+00 | 0.0000 |
| 24 | 0.0E+00 | 0.0E+00 | 0.0000 |
| 24 | 0.0E+00 | 0.0E+00 | 0.0000 |

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 0.00E+00 | 0.00E+00 |
| PM2.5 | -- | 0.00E+00 | 0.00E+00 |
| 1,3-butadiene | 0.0055 | 0.00E+00 | 0.00E+00 |
| benzene | 0.02636 | 0.00E+00 | 0.00E+00 |
| ethylbenzene | 0.01072 | 0.00E+00 | 0.00E+00 |
| MEK | 0.00019 | 0.00E+00 | 0.00E+00 |
| naphthalene | 0.00048 | 0.00E+00 | 0.00E+00 |
| propylene | 0.03127998 | 0.00E+00 | 0.00E+00 |
| styrene | 0.00126 | 0.00E+00 | 0.00E+00 |
| toluene | 0.05879998 | 0.00E+00 | 0.00E+00 |
| m & p-xylene | 0.03639998 | 0.00E+00 | 0.00E+00 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Sierra Ave. from Slover Ave. to EB I-10 ramps | | AADT by Truck Category[1] | | | |
|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] |
| | | 198 | 20 | 16 | 54 |
| | | % of Vehicles That Are Diesel-Powered[6] | | | |
| Average Speed | | 0.8% | 2% | 91% | 94% |
| | | Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7 | | | |
| 35 mph | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | |
| | | 99% | 98% | 9% | 5.8% |
| Total distance covered by Sierra Ave. sources | | Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7 | | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | |
| 407 meters | $PM_{10}$ | 3.72E-08 | 7.33E-09 | 2.38E-06 | 5.31E-06 |
| | $PM_{2.5}$ | 3.56E-08 | 7.01E-09 | 2.28E-06 | 5.08E-06 |
| | ROG | 6.14E-06 | 1.67E-06 | 2.85E-07 | 7.62E-06 |

Percent of truck traffic on this road

65%

| Number of Sources | Emission Rates per source | | |
|---|---|---|---|
| | g/s | lb/hr | lb/yr |
| 25 | 3.1E-07 | 2.5E-06 | 0.0215 |
| 25 | 3.0E-07 | 2.4E-06 | 0.0206 |
| 25 | 6.3E-07 | 5.0E-06 | 0.0437 |

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 2.15E-02 | 2.46E-06 |
| PM2.5 | -- | 2.06E-02 | 2.35E-06 |
| 1,3-butadiene | 0.0055 | 2.41E-04 | 2.74E-08 |
| benzene | 0.02636 | 1.15E-03 | 1.31E-07 |
| ethylbenzene | 0.01072 | 4.69E-04 | 5.35E-08 |
| MEK | 0.00019 | 8.31E-06 | 9.48E-10 |
| naphthalene | 0.00048 | 2.10E-05 | 2.39E-09 |
| propylene | 0.03127998 | 1.37E-03 | 1.56E-07 |
| styrene | 0.00126 | 5.51E-05 | 6.29E-09 |
| toluene | 0.05879998 | 2.57E-03 | 2.93E-07 |
| m & p-xylene | 0.03639998 | 1.59E-03 | 1.82E-07 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Sierra Ave. from EB I-10 ramps to WB I-10 ramps | | AADT by Truck Category[1] | | | |
|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] |
| | | 122 | 12 | 10 | 33 |
| | | % of Vehicles That Are Diesel-Powered[6] | | | |
| Average Speed | | 0.8% | 2% | 91% | 94% |
| | | Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7 | | | |
| 35 mph | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | |
| | | 99% | 98% | 9% | 5.8% |
| Total distance covered by Sierra Ave. sources | | Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7 | | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | |
| 85 meters | $PM_{10}$ | 4.78E-09 | 9.16E-10 | 3.10E-07 | 6.76E-07 |
| | $PM_{2.5}$ | 4.57E-09 | 8.76E-10 | 2.97E-07 | 6.47E-07 |
| | ROG | 7.88E-07 | 2.09E-07 | 3.71E-08 | 9.70E-07 |

Percent of truck traffic on this road

40%

| Number of Sources | Emission Rates per source | | |
|---|---|---|---|
| | g/s | lb/hr | lb/yr |
| 6 | 1.7E-07 | 1.3E-06 | 0.0115 |
| 6 | 1.6E-07 | 1.3E-06 | 0.0110 |
| 6 | 3.3E-07 | 2.7E-06 | 0.0232 |

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 1.15E-02 | 1.31E-06 |
| PM2.5 | -- | 1.10E-02 | 1.26E-06 |
| 1,3-butadiene | 0.0055 | 1.28E-04 | 1.46E-08 |
| benzene | 0.02636 | 6.13E-04 | 6.99E-08 |
| ethylbenzene | 0.01072 | 2.49E-04 | 2.84E-08 |
| MEK | 0.00019 | 4.41E-06 | 5.04E-10 |
| naphthalene | 0.00048 | 1.12E-05 | 1.27E-09 |
| propylene | 0.03127998 | 7.27E-04 | 8.29E-08 |
| styrene | 0.00126 | 2.93E-05 | 3.34E-09 |
| toluene | 0.05879998 | 1.37E-03 | 1.56E-07 |
| m & p-xylene | 0.03639998 | 8.46E-04 | 9.65E-08 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Vehicle Exhaust Worksheet

**Transwestern - Boyle Ave Building 1**

| Sierra Ave. north of WB I-10 ramps | | AADT by Truck Category[1] | | | |
|---|---|---|---|---|---|
| | | LDV[2] | 2-Axle[3] | 3-Axle[4] | 4+-Axle[5] |
| | | 13 | 2 | 1 | 4 |
| | | % of Vehicles That Are Diesel-Powered[6] | | | |
| Average Speed | | 0.8% | 2% | 91% | 94% |
| | | Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7 | | | |
| 35 mph | $PM_{10}$ | 0.0078 | 6.01E-03 | 5.58E-02 | 3.56E-02 |
| | $PM_{2.5}$ | 0.0075 | 5.75E-03 | 5.34E-02 | 3.41E-02 |
| | | % of Vehicles That Are Gasoline-Powered[6] | | | |
| | | 99% | 98% | 9% | 5.8% |
| Total distance covered by Sierra Ave. sources | | Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7 | | | |
| | ROG | 0.011 | 2.91E-02 | 6.81E-02 | 8.31E-01 |
| | | $PM_{10}$, $PM_{2.5}$ & ROG Exhaust Emissions (g/s) | | | |
| 255 meters | $PM_{10}$ | 1.53E-09 | 4.58E-10 | 9.31E-08 | 2.46E-07 |
| | $PM_{2.5}$ | 1.46E-09 | 4.38E-10 | 8.91E-08 | 2.35E-07 |
| | ROG | 2.52E-07 | 1.04E-07 | 1.11E-08 | 3.53E-07 |

Percent of truck traffic on this road

4%

| Number of Sources | Emission Rates per source | | |
|---|---|---|---|
| | g/s | lb/hr | lb/yr |
| 16 | 2.1E-08 | 1.7E-07 | 0.0015 |
| 16 | 2.0E-08 | 1.6E-07 | 0.0014 |
| 16 | 4.5E-08 | 3.6E-07 | 0.0031 |

**Speciated Emissions Rates**

| | | lb/yr | lb/hr |
|---|---|---|---|
| diesel part. | -- | 1.48E-03 | 1.69E-07 |
| PM2.5 | -- | 1.42E-03 | 1.62E-07 |
| 1,3-butadiene | 0.0055 | 1.72E-05 | 1.96E-09 |
| benzene | 0.02636 | 8.25E-05 | 9.42E-09 |
| ethylbenzene | 0.01072 | 3.36E-05 | 3.83E-09 |
| MEK | 0.00019 | 5.95E-07 | 6.79E-11 |
| naphthalene | 0.00048 | 1.50E-06 | 1.71E-10 |
| propylene | 0.03127998 | 9.80E-05 | 1.12E-08 |
| styrene | 0.00126 | 3.95E-06 | 4.50E-10 |
| toluene | 0.05879998 | 1.84E-04 | 2.10E-08 |
| m & p-xylene | 0.03639998 | 1.14E-04 | 1.30E-08 |

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

# Idling Truck Exhaust Worksheet



**Transwestern - Boyle Ave Building 1**

| Facility | Hour per day | Deliveries per day[1] | Trips per Hour | Diesel Idle Exhaust $PM_{10}$ (gm/vh-hr)[2] | Diesel Idle Exhaust $PM_{2.5}$ (gm/vh-hr)[2] | Idle Time (min/trip)[3] | Idle Exhaust Diesel $PM_{10}$ (gm/hr) | Idle Exhaust Diesel $PM_{2.5}$ (gm/hr) |
|---|---|---|---|---|---|---|---|---|
| Building 1 | 24 | 95 | 4.0 | 0.0056 | 0.0053 | 15 | 0.0055 | 0.0053 |
| Building 2 | 24 | 41 | 1.7 | 0.0056 | 0.0053 | 15 | 0.0024 | 0.0023 |

| Number of Sources | Diesel PM10 lb/hr | Diesel PM10 lb/yr | Diesel PM2.5 lb/hr | Diesel PM2.5 lb/yr |
|---|---|---|---|---|
| 6 | 2.0E-06 | 0.0177 | 1.9E-06 | 0.0170 |
| 3 | 1.7E-06 | 0.0152 | 1.7E-06 | 0.0145 |

[1] AADT from project traffic study. Note that each truck visit comprises two trips, one to arrive and one to leave.

[2] Source: EMFAC2017 2021 idling emission factors for HHDT diesel trucks.

[3] It is assumed that each truck idles for 15 minute per trip to account for multiple stops, i.e. at an entry check-in, loading/unloading and miscellaneous tasks.

# APPENDIX B

# AERMOD OUTPUT AND HARP RESULTS

```
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  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 URBAN Dispersion Algorithm for the SBL for   212 Source(s),
  for Total of    1 Urban Area(s):
  Urban Population =    213739.0 ;  Urban Roughness Length =  1.000 m

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of:  TOXICS

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    212 Source(s);     212 Source Group(s); and    1061 Receptor(s)

               with:      9 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:    203 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:  16216

**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) =   397.00 ;  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 =     14.1 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**File for Summary of Results:   CFN1601.SUM
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** POINT SOURCE DATA ***

| SOURCE ID | NUMBER PART. CATS. | EMISSION RATE (GRAMS/SEC) | X (METERS) | Y (METERS) | BASE ELEV. (METERS) | STACK HEIGHT (METERS) | STACK TEMP. (DEG.K) | STACK EXIT VEL. (M/SEC) | STACK DIAMETER (METERS) | BLDG EXISTS | URBAN SOURCE | CAP/ HOR | EMIS RATE SCALAR VARY BY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IDLE01 | 0 | 0.10000E+01 | 459652.9 | 3769490.6 | 335.0 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |
| IDLE02 | 0 | 0.10000E+01 | 459668.7 | 3769490.6 | 335.0 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |
| IDLE03 | 0 | 0.10000E+01 | 459684.5 | 3769490.6 | 335.0 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |
| IDLE04 | 0 | 0.10000E+01 | 459700.3 | 3769490.6 | 335.0 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |
| IDLE05 | 0 | 0.10000E+01 | 459716.1 | 3769490.6 | 335.1 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |
| IDLE06 | 0 | 0.10000E+01 | 459731.9 | 3769490.6 | 335.4 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |
| IDLE07 | 0 | 0.10000E+01 | 459464.3 | 3769557.8 | 336.1 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |
| IDLE08 | 0 | 0.10000E+01 | 459464.3 | 3769548.4 | 336.0 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |
| IDLE09 | 0 | 0.10000E+01 | 459464.3 | 3769539.1 | 336.0 | 3.80 | 366.00 | 50.00 | 0.10 | YES | YES | NO | |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| ONSIT101 | 0 | 0.10000E+01 | 459732.0 | 3769472.7 | 335.4 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT102 | 0 | 0.10000E+01 | 459722.9 | 3769472.6 | 335.2 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT103 | 0 | 0.10000E+01 | 459713.9 | 3769472.5 | 335.0 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT104 | 0 | 0.10000E+01 | 459704.8 | 3769472.4 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT105 | 0 | 0.10000E+01 | 459695.8 | 3769472.4 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT106 | 0 | 0.10000E+01 | 459686.7 | 3769472.3 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT107 | 0 | 0.10000E+01 | 459677.7 | 3769472.2 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT108 | 0 | 0.10000E+01 | 459668.6 | 3769472.1 | 334.8 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT109 | 0 | 0.10000E+01 | 459659.6 | 3769472.0 | 334.8 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT110 | 0 | 0.10000E+01 | 459650.5 | 3769471.9 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT111 | 0 | 0.10000E+01 | 459641.5 | 3769471.9 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT112 | 0 | 0.10000E+01 | 459632.4 | 3769471.8 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT113 | 0 | 0.10000E+01 | 459623.4 | 3769471.7 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT114 | 0 | 0.10000E+01 | 459614.3 | 3769471.6 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT115 | 0 | 0.10000E+01 | 459605.3 | 3769471.5 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT116 | 0 | 0.10000E+01 | 459596.2 | 3769471.4 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT117 | 0 | 0.10000E+01 | 459587.2 | 3769471.4 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT118 | 0 | 0.10000E+01 | 459578.1 | 3769471.3 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT119 | 0 | 0.10000E+01 | 459569.1 | 3769471.2 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT120 | 0 | 0.10000E+01 | 459560.0 | 3769471.1 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT121 | 0 | 0.10000E+01 | 459558.4 | 3769463.6 | 334.8 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT122 | 0 | 0.10000E+01 | 459558.2 | 3769454.5 | 334.7 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT201 | 0 | 0.10000E+01 | 459487.6 | 3769553.9 | 336.4 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT202 | 0 | 0.10000E+01 | 459487.5 | 3769544.8 | 336.3 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT203 | 0 | 0.10000E+01 | 459487.4 | 3769535.8 | 336.2 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT204 | 0 | 0.10000E+01 | 459487.3 | 3769526.8 | 336.2 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT205 | 0 | 0.10000E+01 | 459487.2 | 3769517.7 | 336.1 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT206 | 0 | 0.10000E+01 | 459487.1 | 3769508.7 | 336.1 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT207 | 0 | 0.10000E+01 | 459487.0 | 3769499.6 | 336.0 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT208 | 0 | 0.10000E+01 | 459486.9 | 3769490.6 | 336.0 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT209 | 0 | 0.10000E+01 | 459486.8 | 3769481.5 | 335.8 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT210 | 0 | 0.10000E+01 | 459486.7 | 3769472.5 | 335.7 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT211 | 0 | 0.10000E+01 | 459486.6 | 3769463.4 | 335.4 | 3.11 | 4.21 | 2.89 | YES | |
| ONSIT212 | 0 | 0.10000E+01 | 459486.5 | 3769454.4 | 334.9 | 3.11 | 4.21 | 2.89 | YES | |
| BOYLE01 | 0 | 0.10000E+01 | 459551.7 | 3769446.0 | 334.5 | 3.11 | 6.19 | 2.89 | YES | |
| BOYLE02 | 0 | 0.10000E+01 | 459538.4 | 3769446.0 | 334.5 | 3.11 | 6.19 | 2.89 | YES | |
| BOYLE03 | 0 | 0.10000E+01 | 459525.0 | 3769446.0 | 334.4 | 3.11 | 6.19 | 2.89 | YES | |
| BOYLE04 | 0 | 0.10000E+01 | 459511.7 | 3769446.0 | 334.4 | 3.11 | 6.19 | 2.89 | YES | |
| BOYLE05 | 0 | 0.10000E+01 | 459498.4 | 3769446.0 | 334.4 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE01 | 0 | 0.10000E+01 | 459479.4 | 3769447.1 | 334.5 | 3.11 | 6.19 | 2.89 | YES | |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| BJAVE02 | 0 | 0.10000E+01 | 459466.1 | 3769446.8 | 334.5 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE03 | 0 | 0.10000E+01 | 459452.8 | 3769446.5 | 334.5 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE04 | 0 | 0.10000E+01 | 459439.5 | 3769446.2 | 334.4 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE05 | 0 | 0.10000E+01 | 459426.1 | 3769445.9 | 334.3 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE06 | 0 | 0.10000E+01 | 459412.8 | 3769445.7 | 334.2 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE07 | 0 | 0.10000E+01 | 459399.5 | 3769445.4 | 334.1 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE08 | 0 | 0.10000E+01 | 459397.7 | 3769433.9 | 334.0 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE09 | 0 | 0.10000E+01 | 459397.7 | 3769420.5 | 333.8 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE10 | 0 | 0.10000E+01 | 459397.7 | 3769407.2 | 333.6 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE11 | 0 | 0.10000E+01 | 459397.7 | 3769393.9 | 333.4 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE12 | 0 | 0.10000E+01 | 459397.7 | 3769380.6 | 333.1 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE13 | 0 | 0.10000E+01 | 459397.7 | 3769367.3 | 332.8 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE14 | 0 | 0.10000E+01 | 459397.7 | 3769354.0 | 332.5 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE15 | 0 | 0.10000E+01 | 459397.7 | 3769340.7 | 332.3 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE16 | 0 | 0.10000E+01 | 459397.7 | 3769327.3 | 332.1 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE17 | 0 | 0.10000E+01 | 459397.7 | 3769314.0 | 331.9 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE18 | 0 | 0.10000E+01 | 459397.7 | 3769300.7 | 331.7 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE19 | 0 | 0.10000E+01 | 459397.7 | 3769287.4 | 331.4 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE20 | 0 | 0.10000E+01 | 459397.7 | 3769274.1 | 331.2 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE21 | 0 | 0.10000E+01 | 459397.7 | 3769260.8 | 330.9 | 3.11 | 6.19 | 2.89 | YES | |
| BJAVE22 | 0 | 0.10000E+01 | 459397.7 | 3769247.4 | 330.7 | 3.11 | 6.19 | 2.89 | YES | |
| SLVRW01 | 0 | 0.10000E+01 | 459387.7 | 3769237.1 | 330.5 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW02 | 0 | 0.10000E+01 | 459370.7 | 3769237.1 | 330.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW03 | 0 | 0.10000E+01 | 459353.7 | 3769237.1 | 330.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW04 | 0 | 0.10000E+01 | 459336.7 | 3769237.1 | 330.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW05 | 0 | 0.10000E+01 | 459319.8 | 3769237.1 | 330.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW06 | 0 | 0.10000E+01 | 459302.8 | 3769237.1 | 330.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW07 | 0 | 0.10000E+01 | 459285.8 | 3769237.1 | 330.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW08 | 0 | 0.10000E+01 | 459268.8 | 3769237.1 | 330.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW09 | 0 | 0.10000E+01 | 459251.9 | 3769237.1 | 330.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW10 | 0 | 0.10000E+01 | 459234.9 | 3769237.1 | 330.5 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW11 | 0 | 0.10000E+01 | 459217.9 | 3769237.1 | 330.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW12 | 0 | 0.10000E+01 | 459201.0 | 3769237.1 | 330.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW13 | 0 | 0.10000E+01 | 459184.0 | 3769237.1 | 330.7 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW14 | 0 | 0.10000E+01 | 459167.0 | 3769237.1 | 330.7 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW15 | 0 | 0.10000E+01 | 459150.0 | 3769237.1 | 330.7 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW16 | 0 | 0.10000E+01 | 459133.1 | 3769237.1 | 330.7 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW17 | 0 | 0.10000E+01 | 459116.1 | 3769237.1 | 330.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW18 | 0 | 0.10000E+01 | 459099.1 | 3769237.1 | 330.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW19 | 0 | 0.10000E+01 | 459082.1 | 3769237.1 | 330.6 | 3.11 | 7.89 | 2.89 | YES | |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| SLVRW20 | 0 | 0.10000E+01 | 459065.2 | 3769237.1 | 330.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW21 | 0 | 0.10000E+01 | 459048.2 | 3769237.1 | 330.5 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW22 | 0 | 0.10000E+01 | 459031.2 | 3769237.1 | 330.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW23 | 0 | 0.10000E+01 | 459014.2 | 3769237.1 | 330.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRW24 | 0 | 0.10000E+01 | 458997.3 | 3769237.1 | 330.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM01 | 0 | 0.10000E+01 | 459406.5 | 3769238.8 | 330.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM02 | 0 | 0.10000E+01 | 459423.5 | 3769238.6 | 330.7 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM03 | 0 | 0.10000E+01 | 459440.4 | 3769238.3 | 330.8 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM04 | 0 | 0.10000E+01 | 459457.4 | 3769238.0 | 331.0 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM05 | 0 | 0.10000E+01 | 459474.4 | 3769237.8 | 331.1 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM06 | 0 | 0.10000E+01 | 459491.3 | 3769237.5 | 331.2 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM07 | 0 | 0.10000E+01 | 459508.3 | 3769237.2 | 331.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM08 | 0 | 0.10000E+01 | 459525.3 | 3769236.9 | 331.5 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM09 | 0 | 0.10000E+01 | 459542.2 | 3769236.6 | 331.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM10 | 0 | 0.10000E+01 | 459559.2 | 3769236.4 | 331.7 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM11 | 0 | 0.10000E+01 | 459576.2 | 3769236.1 | 331.9 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM12 | 0 | 0.10000E+01 | 459593.2 | 3769235.8 | 331.9 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM13 | 0 | 0.10000E+01 | 459610.1 | 3769235.5 | 332.0 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM14 | 0 | 0.10000E+01 | 459627.1 | 3769235.3 | 332.1 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM15 | 0 | 0.10000E+01 | 459644.1 | 3769235.0 | 332.2 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM16 | 0 | 0.10000E+01 | 459661.0 | 3769234.7 | 332.2 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM17 | 0 | 0.10000E+01 | 459678.0 | 3769234.4 | 332.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM18 | 0 | 0.10000E+01 | 459695.0 | 3769234.2 | 332.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM19 | 0 | 0.10000E+01 | 459712.0 | 3769233.9 | 332.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM20 | 0 | 0.10000E+01 | 459728.9 | 3769233.6 | 332.5 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM21 | 0 | 0.10000E+01 | 459745.9 | 3769233.3 | 332.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM22 | 0 | 0.10000E+01 | 459762.9 | 3769233.1 | 332.6 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM23 | 0 | 0.10000E+01 | 459779.8 | 3769232.8 | 332.7 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRM24 | 0 | 0.10000E+01 | 459796.8 | 3769232.5 | 332.8 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE01 | 0 | 0.10000E+01 | 459814.3 | 3769233.3 | 332.8 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE02 | 0 | 0.10000E+01 | 459831.2 | 3769232.9 | 332.8 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE03 | 0 | 0.10000E+01 | 459848.2 | 3769232.6 | 332.9 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE04 | 0 | 0.10000E+01 | 459865.2 | 3769232.3 | 332.9 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE05 | 0 | 0.10000E+01 | 459882.1 | 3769232.0 | 332.9 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE06 | 0 | 0.10000E+01 | 459899.1 | 3769231.7 | 333.0 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE07 | 0 | 0.10000E+01 | 459916.1 | 3769231.4 | 333.0 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE08 | 0 | 0.10000E+01 | 459933.1 | 3769231.0 | 333.1 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE09 | 0 | 0.10000E+01 | 459950.0 | 3769230.7 | 333.1 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE10 | 0 | 0.10000E+01 | 459967.0 | 3769230.4 | 333.1 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE11 | 0 | 0.10000E+01 | 459984.0 | 3769230.1 | 333.2 | 3.11 | 7.89 | 2.89 | YES | |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| SLVRE12 | 0 | 0.10000E+01 | 460000.9 | 3769229.8 | 333.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE13 | 0 | 0.10000E+01 | 460017.9 | 3769229.4 | 333.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE14 | 0 | 0.10000E+01 | 460034.9 | 3769229.1 | 333.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE15 | 0 | 0.10000E+01 | 460051.8 | 3769228.8 | 333.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE16 | 0 | 0.10000E+01 | 460068.8 | 3769228.5 | 333.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE17 | 0 | 0.10000E+01 | 460085.8 | 3769228.2 | 333.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE18 | 0 | 0.10000E+01 | 460102.8 | 3769227.9 | 333.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE19 | 0 | 0.10000E+01 | 460119.7 | 3769227.5 | 333.3 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE20 | 0 | 0.10000E+01 | 460136.7 | 3769227.2 | 333.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE21 | 0 | 0.10000E+01 | 460153.7 | 3769226.9 | 333.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE22 | 0 | 0.10000E+01 | 460170.6 | 3769226.6 | 333.4 | 3.11 | 7.89 | 2.89 | YES | |
| SLVRE23 | 0 | 0.10000E+01 | 460187.6 | 3769226.3 | 333.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN101 | 0 | 0.10000E+01 | 459802.0 | 3769250.2 | 332.9 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN102 | 0 | 0.10000E+01 | 459801.9 | 3769267.2 | 333.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN103 | 0 | 0.10000E+01 | 459801.8 | 3769284.2 | 333.2 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN104 | 0 | 0.10000E+01 | 459801.7 | 3769301.2 | 333.5 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN105 | 0 | 0.10000E+01 | 459801.6 | 3769318.1 | 333.8 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN106 | 0 | 0.10000E+01 | 459801.5 | 3769335.1 | 334.3 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN107 | 0 | 0.10000E+01 | 459801.3 | 3769352.1 | 334.9 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN108 | 0 | 0.10000E+01 | 459801.2 | 3769369.1 | 335.6 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN109 | 0 | 0.10000E+01 | 459801.1 | 3769386.0 | 336.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN110 | 0 | 0.10000E+01 | 459801.0 | 3769403.0 | 337.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN111 | 0 | 0.10000E+01 | 459800.9 | 3769420.0 | 338.5 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN112 | 0 | 0.10000E+01 | 459800.8 | 3769436.9 | 339.6 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN113 | 0 | 0.10000E+01 | 459800.7 | 3769453.9 | 340.9 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN114 | 0 | 0.10000E+01 | 459800.6 | 3769470.9 | 342.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN115 | 0 | 0.10000E+01 | 459800.5 | 3769487.9 | 343.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN116 | 0 | 0.10000E+01 | 459800.3 | 3769504.8 | 344.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN117 | 0 | 0.10000E+01 | 459800.2 | 3769521.8 | 344.8 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN118 | 0 | 0.10000E+01 | 459800.1 | 3769538.8 | 345.5 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN119 | 0 | 0.10000E+01 | 459800.0 | 3769555.8 | 346.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN120 | 0 | 0.10000E+01 | 459799.9 | 3769572.7 | 346.6 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN121 | 0 | 0.10000E+01 | 459799.8 | 3769589.7 | 346.9 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN122 | 0 | 0.10000E+01 | 459799.7 | 3769606.7 | 347.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN123 | 0 | 0.10000E+01 | 459799.5 | 3769623.6 | 341.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN124 | 0 | 0.10000E+01 | 459799.4 | 3769640.6 | 340.8 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN125 | 0 | 0.10000E+01 | 459799.3 | 3769657.6 | 347.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN201 | 0 | 0.10000E+01 | 459797.4 | 3769673.8 | 345.2 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN202 | 0 | 0.10000E+01 | 459797.2 | 3769690.8 | 338.5 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN203 | 0 | 0.10000E+01 | 459797.0 | 3769707.7 | 338.4 | 3.11 | 7.89 | 2.89 | YES | |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

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|---|---|---|---|---|---|---|---|---|---|---|
| SIERN204 | 0 | 0.10000E+01 | 459796.9 | 3769724.7 | 339.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN205 | 0 | 0.10000E+01 | 459796.7 | 3769741.7 | 343.8 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN206 | 0 | 0.10000E+01 | 459796.6 | 3769758.7 | 345.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN301 | 0 | 0.10000E+01 | 459797.5 | 3769774.8 | 344.7 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN302 | 0 | 0.10000E+01 | 459797.7 | 3769791.8 | 343.8 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN303 | 0 | 0.10000E+01 | 459797.9 | 3769808.8 | 343.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN304 | 0 | 0.10000E+01 | 459798.0 | 3769825.7 | 342.3 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN305 | 0 | 0.10000E+01 | 459798.2 | 3769842.7 | 341.8 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN306 | 0 | 0.10000E+01 | 459798.4 | 3769859.7 | 341.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN307 | 0 | 0.10000E+01 | 459798.5 | 3769876.6 | 341.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN308 | 0 | 0.10000E+01 | 459798.7 | 3769893.6 | 341.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN309 | 0 | 0.10000E+01 | 459798.9 | 3769910.6 | 341.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN310 | 0 | 0.10000E+01 | 459799.1 | 3769927.6 | 341.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN311 | 0 | 0.10000E+01 | 459799.2 | 3769944.5 | 341.3 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN312 | 0 | 0.10000E+01 | 459799.4 | 3769961.5 | 341.5 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN313 | 0 | 0.10000E+01 | 459799.6 | 3769978.5 | 341.7 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN314 | 0 | 0.10000E+01 | 459799.8 | 3769995.4 | 342.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN315 | 0 | 0.10000E+01 | 459799.9 | 3770012.4 | 342.3 | 3.11 | 7.89 | 2.89 | YES | |
| SIERN316 | 0 | 0.10000E+01 | 459800.1 | 3770029.4 | 342.6 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS01 | 0 | 0.10000E+01 | 459803.1 | 3769217.5 | 332.6 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS02 | 0 | 0.10000E+01 | 459803.4 | 3769200.5 | 332.5 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS03 | 0 | 0.10000E+01 | 459803.7 | 3769183.6 | 332.3 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS04 | 0 | 0.10000E+01 | 459804.0 | 3769166.6 | 332.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS05 | 0 | 0.10000E+01 | 459804.2 | 3769149.6 | 331.9 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS06 | 0 | 0.10000E+01 | 459804.5 | 3769132.7 | 331.7 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS07 | 0 | 0.10000E+01 | 459804.8 | 3769115.7 | 331.6 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS08 | 0 | 0.10000E+01 | 459805.0 | 3769098.7 | 331.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS09 | 0 | 0.10000E+01 | 459805.3 | 3769081.8 | 331.2 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS10 | 0 | 0.10000E+01 | 459805.6 | 3769064.8 | 331.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS11 | 0 | 0.10000E+01 | 459805.8 | 3769047.8 | 330.9 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS12 | 0 | 0.10000E+01 | 459806.1 | 3769030.8 | 330.6 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS13 | 0 | 0.10000E+01 | 459806.4 | 3769013.9 | 330.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS14 | 0 | 0.10000E+01 | 459806.7 | 3768996.9 | 330.3 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS15 | 0 | 0.10000E+01 | 459806.9 | 3768979.9 | 330.1 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS16 | 0 | 0.10000E+01 | 459807.2 | 3768963.0 | 329.9 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS17 | 0 | 0.10000E+01 | 459807.5 | 3768946.0 | 329.8 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS18 | 0 | 0.10000E+01 | 459807.8 | 3768929.0 | 329.6 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS19 | 0 | 0.10000E+01 | 459808.0 | 3768912.0 | 329.5 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS20 | 0 | 0.10000E+01 | 459808.3 | 3768895.1 | 329.4 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS21 | 0 | 0.10000E+01 | 459808.6 | 3768878.1 | 329.2 | 3.11 | 7.89 | 2.89 | YES | |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| SIERS22 | 0 | 0.10000E+01 | 459808.8 | 3768861.1 | 329.0 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS23 | 0 | 0.10000E+01 | 459809.1 | 3768844.2 | 328.9 | 3.11 | 7.89 | 2.89 | YES | |
| SIERS24 | 0 | 0.10000E+01 | 459809.4 | 3768827.2 | 328.7 | 3.11 | 7.89 | 2.89 | YES | |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 459721.7, | 3769368.2, | 334.1, | 334.1, | 0.0); | ( 459668.3, | 3769419.1, | 334.5, | 334.5, | 0.0); |
| ( 459646.7, | 3769417.8, | 334.4, | 334.4, | 0.0); | ( 459617.4, | 3769417.4, | 334.4, | 334.4, | 0.0); |
| ( 459593.4, | 3769420.7, | 334.2, | 334.2, | 0.0); | ( 459564.5, | 3769418.2, | 334.2, | 334.2, | 0.0); |
| ( 459542.1, | 3769417.8, | 334.1, | 334.1, | 0.0); | ( 459514.0, | 3769426.4, | 334.3, | 334.3, | 0.0); |
| ( 459416.7, | 3769415.0, | 334.1, | 334.1, | 0.0); | ( 459435.4, | 3769423.5, | 334.1, | 334.1, | 0.0); |
| ( 459517.3, | 3769475.7, | 335.0, | 335.0, | 0.0); | ( 459456.2, | 3769419.9, | 333.7, | 333.7, | 0.0); |
| ( 459417.1, | 3769385.3, | 333.4, | 333.4, | 0.0); | ( 459415.5, | 3769349.4, | 332.6, | 332.6, | 0.0); |
| ( 459381.3, | 3769324.2, | 331.8, | 331.8, | 0.0); | ( 459371.5, | 3769404.8, | 333.6, | 333.6, | 0.0); |
| ( 459451.7, | 3769277.0, | 331.9, | 331.9, | 0.0); | ( 459382.9, | 3769296.9, | 331.5, | 331.5, | 0.0); |
| ( 459695.2, | 3769369.4, | 333.8, | 333.8, | 0.0); | ( 459770.1, | 3769372.2, | 334.5, | 334.5, | 0.0); |
| ( 459770.1, | 3769327.0, | 333.7, | 333.7, | 0.0); | ( 458719.4, | 3768717.6, | 323.0, | 323.0, | 0.0); |
| ( 458769.4, | 3768717.6, | 323.2, | 323.2, | 0.0); | ( 458819.4, | 3768717.6, | 324.6, | 324.6, | 0.0); |
| ( 458869.4, | 3768717.6, | 324.7, | 324.7, | 0.0); | ( 458919.4, | 3768717.6, | 324.6, | 324.6, | 0.0); |
| ( 458969.4, | 3768717.6, | 324.0, | 324.0, | 0.0); | ( 459019.4, | 3768717.6, | 323.9, | 323.9, | 0.0); |
| ( 459069.4, | 3768717.6, | 323.5, | 323.5, | 0.0); | ( 459119.4, | 3768717.6, | 323.9, | 323.9, | 0.0); |
| ( 459169.4, | 3768717.6, | 323.9, | 323.9, | 0.0); | ( 459219.4, | 3768717.6, | 324.3, | 324.3, | 0.0); |
| ( 459269.4, | 3768717.6, | 324.6, | 324.6, | 0.0); | ( 459319.4, | 3768717.6, | 325.5, | 325.5, | 0.0); |
| ( 459369.4, | 3768717.6, | 325.7, | 325.7, | 0.0); | ( 459419.4, | 3768717.6, | 326.2, | 326.2, | 0.0); |
| ( 459469.4, | 3768717.6, | 326.2, | 326.2, | 0.0); | ( 459519.4, | 3768717.6, | 325.5, | 325.5, | 0.0); |
| ( 459569.4, | 3768717.6, | 325.9, | 325.9, | 0.0); | ( 459619.4, | 3768717.6, | 326.6, | 326.6, | 0.0); |
| ( 459669.4, | 3768717.6, | 326.9, | 326.9, | 0.0); | ( 459719.4, | 3768717.6, | 327.5, | 327.5, | 0.0); |
| ( 459769.4, | 3768717.6, | 328.1, | 328.1, | 0.0); | ( 459819.4, | 3768717.6, | 327.6, | 327.6, | 0.0); |
| ( 459869.4, | 3768717.6, | 327.0, | 327.0, | 0.0); | ( 459919.4, | 3768717.6, | 326.4, | 326.4, | 0.0); |
| ( 459969.4, | 3768717.6, | 326.2, | 326.2, | 0.0); | ( 460019.4, | 3768717.6, | 326.1, | 326.1, | 0.0); |
| ( 460069.4, | 3768717.6, | 326.4, | 326.4, | 0.0); | ( 460119.4, | 3768717.6, | 326.7, | 326.7, | 0.0); |
| ( 460169.4, | 3768717.6, | 328.0, | 328.0, | 0.0); | ( 460219.4, | 3768717.6, | 328.1, | 328.1, | 0.0); |
| ( 460269.4, | 3768717.6, | 327.7, | 327.7, | 0.0); | ( 460319.4, | 3768717.6, | 327.5, | 327.5, | 0.0); |
| ( 460369.4, | 3768717.6, | 327.6, | 327.6, | 0.0); | ( 460419.4, | 3768717.6, | 327.6, | 327.6, | 0.0); |
| ( 458719.4, | 3768767.6, | 323.3, | 323.3, | 0.0); | ( 458769.4, | 3768767.6, | 323.7, | 323.7, | 0.0); |
| ( 458819.4, | 3768767.6, | 324.7, | 324.7, | 0.0); | ( 458869.4, | 3768767.6, | 324.7, | 324.7, | 0.0); |
| ( 458919.4, | 3768767.6, | 324.7, | 324.7, | 0.0); | ( 458969.4, | 3768767.6, | 324.4, | 324.4, | 0.0); |
| ( 459019.4, | 3768767.6, | 325.1, | 325.1, | 0.0); | ( 459069.4, | 3768767.6, | 325.1, | 325.1, | 0.0); |
| ( 459119.4, | 3768767.6, | 324.6, | 324.6, | 0.0); | ( 459169.4, | 3768767.6, | 325.1, | 325.1, | 0.0); |
| ( 459219.4, | 3768767.6, | 325.5, | 325.5, | 0.0); | ( 459269.4, | 3768767.6, | 325.5, | 325.5, | 0.0); |
| ( 459319.4, | 3768767.6, | 325.6, | 325.6, | 0.0); | ( 459369.4, | 3768767.6, | 326.1, | 326.1, | 0.0); |
| ( 459419.4, | 3768767.6, | 326.4, | 326.4, | 0.0); | ( 459469.4, | 3768767.6, | 326.5, | 326.5, | 0.0); |
| ( 459519.4, | 3768767.6, | 325.8, | 325.8, | 0.0); | ( 459569.4, | 3768767.6, | 325.7, | 325.7, | 0.0); |
| ( 459619.4, | 3768767.6, | 325.9, | 325.9, | 0.0); | ( 459669.4, | 3768767.6, | 326.1, | 326.1, | 0.0); |
| ( 459719.4, | 3768767.6, | 326.6, | 326.6, | 0.0); | ( 459769.4, | 3768767.6, | 328.0, | 328.0, | 0.0); |
| ( 459819.4, | 3768767.6, | 328.1, | 328.1, | 0.0); | ( 459869.4, | 3768767.6, | 327.5, | 327.5, | 0.0); |
| ( 459919.4, | 3768767.6, | 327.4, | 327.4, | 0.0); | ( 459969.4, | 3768767.6, | 327.1, | 327.1, | 0.0); |
| ( 460019.4, | 3768767.6, | 327.3, | 327.3, | 0.0); | ( 460069.4, | 3768767.6, | 327.3, | 327.3, | 0.0); |
| ( 460119.4, | 3768767.6, | 327.4, | 327.4, | 0.0); | ( 460169.4, | 3768767.6, | 328.4, | 328.4, | 0.0); |
| ( 460219.4, | 3768767.6, | 328.6, | 328.6, | 0.0); | ( 460269.4, | 3768767.6, | 328.1, | 328.1, | 0.0); |
| ( 460319.4, | 3768767.6, | 327.7, | 327.7, | 0.0); | ( 460369.4, | 3768767.6, | 327.8, | 327.8, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 460419.4, | 3768767.6, | 327.9, | 327.9, | 0.0); | ( 458719.4, | 3768817.6, | 324.3, | 324.3, | 0.0); |
| ( 458769.4, | 3768817.6, | 324.4, | 324.4, | 0.0); | ( 458819.4, | 3768817.6, | 324.6, | 324.6, | 0.0); |
| ( 458869.4, | 3768817.6, | 324.5, | 324.5, | 0.0); | ( 458919.4, | 3768817.6, | 324.6, | 324.6, | 0.0); |
| ( 458969.4, | 3768817.6, | 324.4, | 324.4, | 0.0); | ( 459019.4, | 3768817.6, | 325.2, | 325.2, | 0.0); |
| ( 459069.4, | 3768817.6, | 324.5, | 324.5, | 0.0); | ( 459119.4, | 3768817.6, | 324.6, | 324.6, | 0.0); |
| ( 459169.4, | 3768817.6, | 324.9, | 324.9, | 0.0); | ( 459219.4, | 3768817.6, | 324.8, | 324.8, | 0.0); |
| ( 459269.4, | 3768817.6, | 325.9, | 325.9, | 0.0); | ( 459319.4, | 3768817.6, | 326.1, | 326.1, | 0.0); |
| ( 459369.4, | 3768817.6, | 326.2, | 326.2, | 0.0); | ( 459419.4, | 3768817.6, | 326.7, | 326.7, | 0.0); |
| ( 459469.4, | 3768817.6, | 326.9, | 326.9, | 0.0); | ( 459519.4, | 3768817.6, | 326.8, | 326.8, | 0.0); |
| ( 459569.4, | 3768817.6, | 326.9, | 326.9, | 0.0); | ( 459619.4, | 3768817.6, | 327.1, | 327.1, | 0.0); |
| ( 459669.4, | 3768817.6, | 327.4, | 327.4, | 0.0); | ( 459719.4, | 3768817.6, | 328.1, | 328.1, | 0.0); |
| ( 459769.4, | 3768817.6, | 328.6, | 328.6, | 0.0); | ( 459819.4, | 3768817.6, | 328.4, | 328.4, | 0.0); |
| ( 459869.4, | 3768817.6, | 328.4, | 328.4, | 0.0); | ( 459919.4, | 3768817.6, | 328.6, | 328.6, | 0.0); |
| ( 459969.4, | 3768817.6, | 328.5, | 328.5, | 0.0); | ( 460019.4, | 3768817.6, | 328.2, | 328.2, | 0.0); |
| ( 460069.4, | 3768817.6, | 327.9, | 327.9, | 0.0); | ( 460119.4, | 3768817.6, | 327.7, | 327.7, | 0.0); |
| ( 460169.4, | 3768817.6, | 328.7, | 328.7, | 0.0); | ( 460219.4, | 3768817.6, | 328.8, | 328.8, | 0.0); |
| ( 460269.4, | 3768817.6, | 328.4, | 328.4, | 0.0); | ( 460319.4, | 3768817.6, | 327.9, | 327.9, | 0.0); |
| ( 460369.4, | 3768817.6, | 328.0, | 328.0, | 0.0); | ( 460419.4, | 3768817.6, | 328.1, | 328.1, | 0.0); |
| ( 458719.4, | 3768867.6, | 324.7, | 324.7, | 0.0); | ( 458769.4, | 3768867.6, | 325.0, | 325.0, | 0.0); |
| ( 458819.4, | 3768867.6, | 325.4, | 325.4, | 0.0); | ( 458869.4, | 3768867.6, | 325.5, | 325.5, | 0.0); |
| ( 458919.4, | 3768867.6, | 325.3, | 325.3, | 0.0); | ( 458969.4, | 3768867.6, | 326.2, | 326.2, | 0.0); |
| ( 459019.4, | 3768867.6, | 325.5, | 325.5, | 0.0); | ( 459069.4, | 3768867.6, | 324.9, | 324.9, | 0.0); |
| ( 459119.4, | 3768867.6, | 327.0, | 327.0, | 0.0); | ( 459169.4, | 3768867.6, | 327.1, | 327.1, | 0.0); |
| ( 459219.4, | 3768867.6, | 326.1, | 326.1, | 0.0); | ( 459269.4, | 3768867.6, | 326.0, | 326.0, | 0.0); |
| ( 459319.4, | 3768867.6, | 326.7, | 326.7, | 0.0); | ( 459369.4, | 3768867.6, | 326.5, | 326.5, | 0.0); |
| ( 459419.4, | 3768867.6, | 327.0, | 327.0, | 0.0); | ( 459469.4, | 3768867.6, | 327.4, | 327.4, | 0.0); |
| ( 459519.4, | 3768867.6, | 327.7, | 327.7, | 0.0); | ( 459569.4, | 3768867.6, | 327.9, | 327.9, | 0.0); |
| ( 459619.4, | 3768867.6, | 328.3, | 328.3, | 0.0); | ( 459669.4, | 3768867.6, | 328.8, | 328.8, | 0.0); |
| ( 459719.4, | 3768867.6, | 329.4, | 329.4, | 0.0); | ( 459769.4, | 3768867.6, | 329.2, | 329.2, | 0.0); |
| ( 459819.4, | 3768867.6, | 329.0, | 329.0, | 0.0); | ( 459869.4, | 3768867.6, | 328.8, | 328.8, | 0.0); |
| ( 459919.4, | 3768867.6, | 328.7, | 328.7, | 0.0); | ( 459969.4, | 3768867.6, | 328.9, | 328.9, | 0.0); |
| ( 460019.4, | 3768867.6, | 328.9, | 328.9, | 0.0); | ( 460069.4, | 3768867.6, | 328.8, | 328.8, | 0.0); |
| ( 460119.4, | 3768867.6, | 328.8, | 328.8, | 0.0); | ( 460169.4, | 3768867.6, | 328.9, | 328.9, | 0.0); |
| ( 460219.4, | 3768867.6, | 328.5, | 328.5, | 0.0); | ( 460269.4, | 3768867.6, | 328.1, | 328.1, | 0.0); |
| ( 460319.4, | 3768867.6, | 328.1, | 328.1, | 0.0); | ( 460369.4, | 3768867.6, | 328.1, | 328.1, | 0.0); |
| ( 460419.4, | 3768867.6, | 328.2, | 328.2, | 0.0); | ( 458719.4, | 3768917.6, | 325.6, | 325.6, | 0.0); |
| ( 458769.4, | 3768917.6, | 325.7, | 325.7, | 0.0); | ( 458819.4, | 3768917.6, | 325.8, | 325.8, | 0.0); |
| ( 458869.4, | 3768917.6, | 326.4, | 326.4, | 0.0); | ( 458919.4, | 3768917.6, | 325.9, | 325.9, | 0.0); |
| ( 458969.4, | 3768917.6, | 326.7, | 326.7, | 0.0); | ( 459019.4, | 3768917.6, | 326.0, | 326.0, | 0.0); |
| ( 459069.4, | 3768917.6, | 325.2, | 325.2, | 0.0); | ( 459119.4, | 3768917.6, | 327.0, | 327.0, | 0.0); |
| ( 459169.4, | 3768917.6, | 326.6, | 326.6, | 0.0); | ( 459219.4, | 3768917.6, | 326.6, | 326.6, | 0.0); |
| ( 459269.4, | 3768917.6, | 326.4, | 326.4, | 0.0); | ( 459319.4, | 3768917.6, | 327.8, | 327.8, | 0.0); |
| ( 459369.4, | 3768917.6, | 327.9, | 327.9, | 0.0); | ( 459419.4, | 3768917.6, | 327.6, | 327.6, | 0.0); |
| ( 459469.4, | 3768917.6, | 327.9, | 327.9, | 0.0); | ( 459519.4, | 3768917.6, | 328.3, | 328.3, | 0.0); |
| ( 459569.4, | 3768917.6, | 328.5, | 328.5, | 0.0); | ( 459619.4, | 3768917.6, | 328.7, | 328.7, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 459669.4, | 3768917.6, | 329.1, | 329.1, | 0.0); | ( 459719.4, | 3768917.6, | 329.4, | 329.4, | 0.0); |
| ( 459769.4, | 3768917.6, | 329.7, | 329.7, | 0.0); | ( 459819.4, | 3768917.6, | 329.4, | 329.4, | 0.0); |
| ( 459869.4, | 3768917.6, | 329.6, | 329.6, | 0.0); | ( 459919.4, | 3768917.6, | 329.3, | 329.3, | 0.0); |
| ( 459969.4, | 3768917.6, | 330.2, | 330.2, | 0.0); | ( 460019.4, | 3768917.6, | 329.4, | 329.4, | 0.0); |
| ( 460069.4, | 3768917.6, | 329.3, | 329.3, | 0.0); | ( 460119.4, | 3768917.6, | 329.4, | 329.4, | 0.0); |
| ( 460169.4, | 3768917.6, | 329.9, | 329.9, | 0.0); | ( 460219.4, | 3768917.6, | 329.4, | 329.4, | 0.0); |
| ( 460269.4, | 3768917.6, | 329.0, | 329.0, | 0.0); | ( 460319.4, | 3768917.6, | 329.1, | 329.1, | 0.0); |
| ( 460369.4, | 3768917.6, | 329.1, | 329.1, | 0.0); | ( 460419.4, | 3768917.6, | 329.1, | 329.1, | 0.0); |
| ( 458719.4, | 3768967.6, | 326.0, | 326.0, | 0.0); | ( 458769.4, | 3768967.6, | 326.1, | 326.1, | 0.0); |
| ( 458819.4, | 3768967.6, | 326.4, | 326.4, | 0.0); | ( 458869.4, | 3768967.6, | 326.6, | 326.6, | 0.0); |
| ( 458919.4, | 3768967.6, | 326.5, | 326.5, | 0.0); | ( 458969.4, | 3768967.6, | 327.4, | 327.4, | 0.0); |
| ( 459019.4, | 3768967.6, | 326.2, | 326.2, | 0.0); | ( 459069.4, | 3768967.6, | 325.5, | 325.5, | 0.0); |
| ( 459119.4, | 3768967.6, | 326.2, | 326.2, | 0.0); | ( 459169.4, | 3768967.6, | 326.3, | 326.3, | 0.0); |
| ( 459219.4, | 3768967.6, | 326.6, | 326.6, | 0.0); | ( 459269.4, | 3768967.6, | 326.7, | 326.7, | 0.0); |
| ( 459319.4, | 3768967.6, | 327.4, | 327.4, | 0.0); | ( 459369.4, | 3768967.6, | 327.5, | 327.5, | 0.0); |
| ( 459419.4, | 3768967.6, | 327.5, | 327.5, | 0.0); | ( 459469.4, | 3768967.6, | 327.9, | 327.9, | 0.0); |
| ( 459519.4, | 3768967.6, | 328.7, | 328.7, | 0.0); | ( 459569.4, | 3768967.6, | 329.1, | 329.1, | 0.0); |
| ( 459619.4, | 3768967.6, | 329.3, | 329.3, | 0.0); | ( 459669.4, | 3768967.6, | 329.3, | 329.3, | 0.0); |
| ( 459719.4, | 3768967.6, | 329.7, | 329.7, | 0.0); | ( 459769.4, | 3768967.6, | 329.9, | 329.9, | 0.0); |
| ( 459819.4, | 3768967.6, | 329.8, | 329.8, | 0.0); | ( 459869.4, | 3768967.6, | 330.1, | 330.1, | 0.0); |
| ( 459919.4, | 3768967.6, | 329.9, | 329.9, | 0.0); | ( 459969.4, | 3768967.6, | 330.6, | 330.6, | 0.0); |
| ( 460019.4, | 3768967.6, | 329.7, | 329.7, | 0.0); | ( 460069.4, | 3768967.6, | 330.0, | 330.0, | 0.0); |
| ( 460119.4, | 3768967.6, | 329.9, | 329.9, | 0.0); | ( 460169.4, | 3768967.6, | 330.4, | 330.4, | 0.0); |
| ( 460219.4, | 3768967.6, | 330.4, | 330.4, | 0.0); | ( 460269.4, | 3768967.6, | 329.8, | 329.8, | 0.0); |
| ( 460319.4, | 3768967.6, | 329.7, | 329.7, | 0.0); | ( 460369.4, | 3768967.6, | 329.8, | 329.8, | 0.0); |
| ( 460419.4, | 3768967.6, | 329.8, | 329.8, | 0.0); | ( 458719.4, | 3769017.6, | 326.1, | 326.1, | 0.0); |
| ( 458769.4, | 3769017.6, | 326.1, | 326.1, | 0.0); | ( 458819.4, | 3769017.6, | 326.4, | 326.4, | 0.0); |
| ( 458869.4, | 3769017.6, | 326.6, | 326.6, | 0.0); | ( 458919.4, | 3769017.6, | 326.8, | 326.8, | 0.0); |
| ( 458969.4, | 3769017.6, | 327.9, | 327.9, | 0.0); | ( 459019.4, | 3769017.6, | 326.6, | 326.6, | 0.0); |
| ( 459069.4, | 3769017.6, | 326.2, | 326.2, | 0.0); | ( 459119.4, | 3769017.6, | 326.5, | 326.5, | 0.0); |
| ( 459169.4, | 3769017.6, | 326.7, | 326.7, | 0.0); | ( 459219.4, | 3769017.6, | 327.0, | 327.0, | 0.0); |
| ( 459269.4, | 3769017.6, | 327.0, | 327.0, | 0.0); | ( 459319.4, | 3769017.6, | 327.5, | 327.5, | 0.0); |
| ( 459369.4, | 3769017.6, | 327.8, | 327.8, | 0.0); | ( 459419.4, | 3769017.6, | 328.1, | 328.1, | 0.0); |
| ( 459469.4, | 3769017.6, | 328.3, | 328.3, | 0.0); | ( 459519.4, | 3769017.6, | 329.2, | 329.2, | 0.0); |
| ( 459569.4, | 3769017.6, | 329.5, | 329.5, | 0.0); | ( 459619.4, | 3769017.6, | 329.7, | 329.7, | 0.0); |
| ( 459669.4, | 3769017.6, | 329.6, | 329.6, | 0.0); | ( 459719.4, | 3769017.6, | 330.0, | 330.0, | 0.0); |
| ( 459769.4, | 3769017.6, | 330.5, | 330.5, | 0.0); | ( 459819.4, | 3769017.6, | 330.3, | 330.3, | 0.0); |
| ( 459869.4, | 3769017.6, | 330.7, | 330.7, | 0.0); | ( 459919.4, | 3769017.6, | 330.4, | 330.4, | 0.0); |
| ( 459969.4, | 3769017.6, | 331.0, | 331.0, | 0.0); | ( 460019.4, | 3769017.6, | 330.3, | 330.3, | 0.0); |
| ( 460069.4, | 3769017.6, | 330.6, | 330.6, | 0.0); | ( 460119.4, | 3769017.6, | 330.5, | 330.5, | 0.0); |
| ( 460169.4, | 3769017.6, | 330.8, | 330.8, | 0.0); | ( 460219.4, | 3769017.6, | 330.8, | 330.8, | 0.0); |
| ( 460269.4, | 3769017.6, | 330.1, | 330.1, | 0.0); | ( 460319.4, | 3769017.6, | 330.0, | 330.0, | 0.0); |
| ( 460369.4, | 3769017.6, | 330.0, | 330.0, | 0.0); | ( 460419.4, | 3769017.6, | 330.0, | 330.0, | 0.0); |
| ( 458719.4, | 3769067.6, | 327.2, | 327.2, | 0.0); | ( 458769.4, | 3769067.6, | 327.5, | 327.5, | 0.0); |
| ( 458819.4, | 3769067.6, | 327.4, | 327.4, | 0.0); | ( 458869.4, | 3769067.6, | 327.9, | 327.9, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 458919.4, | 3769067.6, | 328.0, | 328.0, | 0.0); | ( 458969.4, | 3769067.6, | 328.1, | 328.1, | 0.0); |
| ( 459019.4, | 3769067.6, | 328.4, | 328.4, | 0.0); | ( 459069.4, | 3769067.6, | 328.6, | 328.6, | 0.0); |
| ( 459119.4, | 3769067.6, | 328.6, | 328.6, | 0.0); | ( 459169.4, | 3769067.6, | 328.7, | 328.7, | 0.0); |
| ( 459219.4, | 3769067.6, | 328.1, | 328.1, | 0.0); | ( 459269.4, | 3769067.6, | 328.0, | 328.0, | 0.0); |
| ( 459319.4, | 3769067.6, | 328.1, | 328.1, | 0.0); | ( 459369.4, | 3769067.6, | 328.5, | 328.5, | 0.0); |
| ( 459419.4, | 3769067.6, | 328.7, | 328.7, | 0.0); | ( 459469.4, | 3769067.6, | 329.3, | 329.3, | 0.0); |
| ( 459519.4, | 3769067.6, | 330.1, | 330.1, | 0.0); | ( 459569.4, | 3769067.6, | 330.4, | 330.4, | 0.0); |
| ( 459619.4, | 3769067.6, | 331.6, | 331.6, | 0.0); | ( 459669.4, | 3769067.6, | 330.9, | 330.9, | 0.0); |
| ( 459719.4, | 3769067.6, | 331.8, | 331.8, | 0.0); | ( 459769.4, | 3769067.6, | 331.3, | 331.3, | 0.0); |
| ( 459819.4, | 3769067.6, | 330.8, | 330.8, | 0.0); | ( 459869.4, | 3769067.6, | 331.1, | 331.1, | 0.0); |
| ( 459919.4, | 3769067.6, | 330.9, | 330.9, | 0.0); | ( 459969.4, | 3769067.6, | 330.6, | 330.6, | 0.0); |
| ( 460019.4, | 3769067.6, | 330.9, | 330.9, | 0.0); | ( 460069.4, | 3769067.6, | 331.1, | 331.1, | 0.0); |
| ( 460119.4, | 3769067.6, | 331.2, | 331.2, | 0.0); | ( 460169.4, | 3769067.6, | 331.1, | 331.1, | 0.0); |
| ( 460219.4, | 3769067.6, | 331.2, | 331.2, | 0.0); | ( 460269.4, | 3769067.6, | 330.5, | 330.5, | 0.0); |
| ( 460319.4, | 3769067.6, | 330.3, | 330.3, | 0.0); | ( 460369.4, | 3769067.6, | 330.3, | 330.3, | 0.0); |
| ( 460419.4, | 3769067.6, | 330.3, | 330.3, | 0.0); | ( 458719.4, | 3769117.6, | 327.6, | 327.6, | 0.0); |
| ( 458769.4, | 3769117.6, | 328.0, | 328.0, | 0.0); | ( 458819.4, | 3769117.6, | 327.7, | 327.7, | 0.0); |
| ( 458869.4, | 3769117.6, | 328.3, | 328.3, | 0.0); | ( 458919.4, | 3769117.6, | 328.6, | 328.6, | 0.0); |
| ( 458969.4, | 3769117.6, | 328.8, | 328.8, | 0.0); | ( 459019.4, | 3769117.6, | 329.0, | 329.0, | 0.0); |
| ( 459069.4, | 3769117.6, | 329.1, | 329.1, | 0.0); | ( 459119.4, | 3769117.6, | 329.1, | 329.1, | 0.0); |
| ( 459169.4, | 3769117.6, | 329.8, | 329.8, | 0.0); | ( 459219.4, | 3769117.6, | 328.8, | 328.8, | 0.0); |
| ( 459269.4, | 3769117.6, | 328.7, | 328.7, | 0.0); | ( 459319.4, | 3769117.6, | 328.6, | 328.6, | 0.0); |
| ( 459369.4, | 3769117.6, | 328.9, | 328.9, | 0.0); | ( 459419.4, | 3769117.6, | 329.1, | 329.1, | 0.0); |
| ( 459469.4, | 3769117.6, | 329.5, | 329.5, | 0.0); | ( 459519.4, | 3769117.6, | 329.9, | 329.9, | 0.0); |
| ( 459569.4, | 3769117.6, | 330.7, | 330.7, | 0.0); | ( 459619.4, | 3769117.6, | 331.6, | 331.6, | 0.0); |
| ( 459669.4, | 3769117.6, | 331.4, | 331.4, | 0.0); | ( 459719.4, | 3769117.6, | 332.2, | 332.2, | 0.0); |
| ( 459769.4, | 3769117.6, | 332.2, | 332.2, | 0.0); | ( 459819.4, | 3769117.6, | 331.4, | 331.4, | 0.0); |
| ( 459869.4, | 3769117.6, | 330.9, | 330.9, | 0.0); | ( 459919.4, | 3769117.6, | 331.4, | 331.4, | 0.0); |
| ( 459969.4, | 3769117.6, | 331.3, | 331.3, | 0.0); | ( 460019.4, | 3769117.6, | 331.5, | 331.5, | 0.0); |
| ( 460069.4, | 3769117.6, | 331.8, | 331.8, | 0.0); | ( 460119.4, | 3769117.6, | 331.9, | 331.9, | 0.0); |
| ( 460169.4, | 3769117.6, | 331.4, | 331.4, | 0.0); | ( 460219.4, | 3769117.6, | 331.2, | 331.2, | 0.0); |
| ( 460269.4, | 3769117.6, | 330.8, | 330.8, | 0.0); | ( 460319.4, | 3769117.6, | 330.6, | 330.6, | 0.0); |
| ( 460369.4, | 3769117.6, | 330.6, | 330.6, | 0.0); | ( 460419.4, | 3769117.6, | 330.5, | 330.5, | 0.0); |
| ( 458719.4, | 3769167.6, | 328.4, | 328.4, | 0.0); | ( 458769.4, | 3769167.6, | 328.4, | 328.4, | 0.0); |
| ( 458819.4, | 3769167.6, | 328.2, | 328.2, | 0.0); | ( 458869.4, | 3769167.6, | 329.0, | 329.0, | 0.0); |
| ( 458919.4, | 3769167.6, | 329.2, | 329.2, | 0.0); | ( 458969.4, | 3769167.6, | 329.5, | 329.5, | 0.0); |
| ( 459019.4, | 3769167.6, | 329.5, | 329.5, | 0.0); | ( 459069.4, | 3769167.6, | 329.9, | 329.9, | 0.0); |
| ( 459119.4, | 3769167.6, | 329.6, | 329.6, | 0.0); | ( 459169.4, | 3769167.6, | 330.6, | 330.6, | 0.0); |
| ( 459219.4, | 3769167.6, | 329.4, | 329.4, | 0.0); | ( 459269.4, | 3769167.6, | 329.1, | 329.1, | 0.0); |
| ( 459319.4, | 3769167.6, | 329.2, | 329.2, | 0.0); | ( 459369.4, | 3769167.6, | 329.6, | 329.6, | 0.0); |
| ( 459419.4, | 3769167.6, | 330.0, | 330.0, | 0.0); | ( 459469.4, | 3769167.6, | 330.4, | 330.4, | 0.0); |
| ( 459519.4, | 3769167.6, | 331.2, | 331.2, | 0.0); | ( 459569.4, | 3769167.6, | 331.1, | 331.1, | 0.0); |
| ( 459619.4, | 3769167.6, | 332.2, | 332.2, | 0.0); | ( 459669.4, | 3769167.6, | 332.9, | 332.9, | 0.0); |
| ( 459719.4, | 3769167.6, | 332.8, | 332.8, | 0.0); | ( 459769.4, | 3769167.6, | 332.4, | 332.4, | 0.0); |
| ( 459819.4, | 3769167.6, | 332.0, | 332.0, | 0.0); | ( 459869.4, | 3769167.6, | 331.9, | 331.9, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 459919.4, | 3769167.6, | 332.0, | 332.0, | 0.0); | ( 459969.4, | 3769167.6, | 331.9, | 331.9, | 0.0); |
| ( 460019.4, | 3769167.6, | 332.3, | 332.3, | 0.0); | ( 460069.4, | 3769167.6, | 332.5, | 332.5, | 0.0); |
| ( 460119.4, | 3769167.6, | 332.7, | 332.7, | 0.0); | ( 460169.4, | 3769167.6, | 331.8, | 331.8, | 0.0); |
| ( 460219.4, | 3769167.6, | 330.9, | 330.9, | 0.0); | ( 460269.4, | 3769167.6, | 330.7, | 330.7, | 0.0); |
| ( 460319.4, | 3769167.6, | 330.7, | 330.7, | 0.0); | ( 460369.4, | 3769167.6, | 330.7, | 330.7, | 0.0); |
| ( 460419.4, | 3769167.6, | 330.7, | 330.7, | 0.0); | ( 458719.4, | 3769217.6, | 329.2, | 329.2, | 0.0); |
| ( 458769.4, | 3769217.6, | 329.2, | 329.2, | 0.0); | ( 458819.4, | 3769217.6, | 329.2, | 329.2, | 0.0); |
| ( 458869.4, | 3769217.6, | 329.7, | 329.7, | 0.0); | ( 458919.4, | 3769217.6, | 329.8, | 329.8, | 0.0); |
| ( 458969.4, | 3769217.6, | 330.2, | 330.2, | 0.0); | ( 459019.4, | 3769217.6, | 330.2, | 330.2, | 0.0); |
| ( 459069.4, | 3769217.6, | 330.3, | 330.3, | 0.0); | ( 459119.4, | 3769217.6, | 330.3, | 330.3, | 0.0); |
| ( 459169.4, | 3769217.6, | 330.8, | 330.8, | 0.0); | ( 459219.4, | 3769217.6, | 330.1, | 330.1, | 0.0); |
| ( 459269.4, | 3769217.6, | 330.1, | 330.1, | 0.0); | ( 459319.4, | 3769217.6, | 329.9, | 329.9, | 0.0); |
| ( 459369.4, | 3769217.6, | 330.2, | 330.2, | 0.0); | ( 459419.4, | 3769217.6, | 330.6, | 330.6, | 0.0); |
| ( 459469.4, | 3769217.6, | 331.1, | 331.1, | 0.0); | ( 459519.4, | 3769217.6, | 331.6, | 331.6, | 0.0); |
| ( 459569.4, | 3769217.6, | 331.7, | 331.7, | 0.0); | ( 459619.4, | 3769217.6, | 332.0, | 332.0, | 0.0); |
| ( 459669.4, | 3769217.6, | 332.1, | 332.1, | 0.0); | ( 459719.4, | 3769217.6, | 332.3, | 332.3, | 0.0); |
| ( 459769.4, | 3769217.6, | 332.5, | 332.5, | 0.0); | ( 459819.4, | 3769217.6, | 332.5, | 332.5, | 0.0); |
| ( 459869.4, | 3769217.6, | 332.8, | 332.8, | 0.0); | ( 459919.4, | 3769217.6, | 332.9, | 332.9, | 0.0); |
| ( 459969.4, | 3769217.6, | 333.1, | 333.1, | 0.0); | ( 460019.4, | 3769217.6, | 333.2, | 333.2, | 0.0); |
| ( 460069.4, | 3769217.6, | 333.1, | 333.1, | 0.0); | ( 460119.4, | 3769217.6, | 333.2, | 333.2, | 0.0); |
| ( 460169.4, | 3769217.6, | 333.4, | 333.4, | 0.0); | ( 460219.4, | 3769217.6, | 333.5, | 333.5, | 0.0); |
| ( 460269.4, | 3769217.6, | 333.5, | 333.5, | 0.0); | ( 460319.4, | 3769217.6, | 333.6, | 333.6, | 0.0); |
| ( 460369.4, | 3769217.6, | 333.7, | 333.7, | 0.0); | ( 460419.4, | 3769217.6, | 333.7, | 333.7, | 0.0); |
| ( 458719.4, | 3769267.6, | 330.2, | 330.2, | 0.0); | ( 458769.4, | 3769267.6, | 329.9, | 329.9, | 0.0); |
| ( 458819.4, | 3769267.6, | 329.9, | 329.9, | 0.0); | ( 458869.4, | 3769267.6, | 330.1, | 330.1, | 0.0); |
| ( 458919.4, | 3769267.6, | 330.4, | 330.4, | 0.0); | ( 458969.4, | 3769267.6, | 330.5, | 330.5, | 0.0); |
| ( 459019.4, | 3769267.6, | 330.6, | 330.6, | 0.0); | ( 459069.4, | 3769267.6, | 330.8, | 330.8, | 0.0); |
| ( 459119.4, | 3769267.6, | 330.8, | 330.8, | 0.0); | ( 459169.4, | 3769267.6, | 331.1, | 331.1, | 0.0); |
| ( 459219.4, | 3769267.6, | 331.4, | 331.4, | 0.0); | ( 459269.4, | 3769267.6, | 330.6, | 330.6, | 0.0); |
| ( 459319.4, | 3769267.6, | 330.7, | 330.7, | 0.0); | ( 459369.4, | 3769267.6, | 330.7, | 330.7, | 0.0); |
| ( 459419.4, | 3769267.6, | 331.4, | 331.4, | 0.0); | ( 459469.4, | 3769267.6, | 331.9, | 331.9, | 0.0); |
| ( 459519.4, | 3769267.6, | 331.9, | 331.9, | 0.0); | ( 459569.4, | 3769267.6, | 332.2, | 332.2, | 0.0); |
| ( 459619.4, | 3769267.6, | 332.4, | 332.4, | 0.0); | ( 459669.4, | 3769267.6, | 332.6, | 332.6, | 0.0); |
| ( 459719.4, | 3769267.6, | 333.0, | 333.0, | 0.0); | ( 459769.4, | 3769267.6, | 333.2, | 333.2, | 0.0); |
| ( 459819.4, | 3769267.6, | 333.0, | 333.0, | 0.0); | ( 459869.4, | 3769267.6, | 333.8, | 333.8, | 0.0); |
| ( 459919.4, | 3769267.6, | 333.6, | 333.6, | 0.0); | ( 459969.4, | 3769267.6, | 333.4, | 333.4, | 0.0); |
| ( 460019.4, | 3769267.6, | 333.7, | 333.7, | 0.0); | ( 460069.4, | 3769267.6, | 333.5, | 333.5, | 0.0); |
| ( 460119.4, | 3769267.6, | 333.8, | 333.8, | 0.0); | ( 460169.4, | 3769267.6, | 333.6, | 333.6, | 0.0); |
| ( 460219.4, | 3769267.6, | 333.4, | 333.4, | 0.0); | ( 460269.4, | 3769267.6, | 333.2, | 333.2, | 0.0); |
| ( 460319.4, | 3769267.6, | 333.3, | 333.3, | 0.0); | ( 460369.4, | 3769267.6, | 333.3, | 333.3, | 0.0); |
| ( 460419.4, | 3769267.6, | 333.4, | 333.4, | 0.0); | ( 458719.4, | 3769317.6, | 330.6, | 330.6, | 0.0); |
| ( 458769.4, | 3769317.6, | 330.9, | 330.9, | 0.0); | ( 458819.4, | 3769317.6, | 330.7, | 330.7, | 0.0); |
| ( 458869.4, | 3769317.6, | 330.9, | 330.9, | 0.0); | ( 458919.4, | 3769317.6, | 331.0, | 331.0, | 0.0); |
| ( 458969.4, | 3769317.6, | 331.3, | 331.3, | 0.0); | ( 459019.4, | 3769317.6, | 331.3, | 331.3, | 0.0); |
| ( 459069.4, | 3769317.6, | 331.3, | 331.3, | 0.0); | ( 459119.4, | 3769317.6, | 331.4, | 331.4, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 459169.4, | 3769317.6, | 331.4, | 331.4, | 0.0); | ( 459219.4, | 3769317.6, | 331.7, | 331.7, | 0.0); |
| ( 459269.4, | 3769317.6, | 331.6, | 331.6, | 0.0); | ( 459319.4, | 3769317.6, | 331.1, | 331.1, | 0.0); |
| ( 459369.4, | 3769317.6, | 331.6, | 331.6, | 0.0); | ( 459419.4, | 3769317.6, | 332.1, | 332.1, | 0.0); |
| ( 459469.4, | 3769317.6, | 332.7, | 332.7, | 0.0); | ( 459519.4, | 3769317.6, | 332.7, | 332.7, | 0.0); |
| ( 459569.4, | 3769317.6, | 333.0, | 333.0, | 0.0); | ( 459619.4, | 3769317.6, | 333.2, | 333.2, | 0.0); |
| ( 459669.4, | 3769317.6, | 333.0, | 333.0, | 0.0); | ( 459719.4, | 3769317.6, | 333.2, | 333.2, | 0.0); |
| ( 459769.4, | 3769317.6, | 333.6, | 333.6, | 0.0); | ( 459819.4, | 3769317.6, | 333.6, | 333.6, | 0.0); |
| ( 459869.4, | 3769317.6, | 333.6, | 333.6, | 0.0); | ( 459919.4, | 3769317.6, | 333.2, | 333.2, | 0.0); |
| ( 459969.4, | 3769317.6, | 333.2, | 333.2, | 0.0); | ( 460019.4, | 3769317.6, | 333.3, | 333.3, | 0.0); |
| ( 460069.4, | 3769317.6, | 333.4, | 333.4, | 0.0); | ( 460119.4, | 3769317.6, | 333.7, | 333.7, | 0.0); |
| ( 460169.4, | 3769317.6, | 333.6, | 333.6, | 0.0); | ( 460219.4, | 3769317.6, | 333.4, | 333.4, | 0.0); |
| ( 460269.4, | 3769317.6, | 333.3, | 333.3, | 0.0); | ( 460319.4, | 3769317.6, | 333.2, | 333.2, | 0.0); |
| ( 460369.4, | 3769317.6, | 333.5, | 333.5, | 0.0); | ( 460419.4, | 3769317.6, | 333.4, | 333.4, | 0.0); |
| ( 458719.4, | 3769367.6, | 331.0, | 331.0, | 0.0); | ( 458769.4, | 3769367.6, | 331.7, | 331.7, | 0.0); |
| ( 458819.4, | 3769367.6, | 331.8, | 331.8, | 0.0); | ( 458869.4, | 3769367.6, | 331.6, | 331.6, | 0.0); |
| ( 458919.4, | 3769367.6, | 331.7, | 331.7, | 0.0); | ( 458969.4, | 3769367.6, | 332.2, | 336.1, | 0.0); |
| ( 459019.4, | 3769367.6, | 332.4, | 336.1, | 0.0); | ( 459069.4, | 3769367.6, | 332.2, | 332.2, | 0.0); |
| ( 459119.4, | 3769367.6, | 331.9, | 331.9, | 0.0); | ( 459169.4, | 3769367.6, | 331.8, | 331.8, | 0.0); |
| ( 459219.4, | 3769367.6, | 332.2, | 332.2, | 0.0); | ( 459269.4, | 3769367.6, | 332.4, | 332.4, | 0.0); |
| ( 459319.4, | 3769367.6, | 332.4, | 332.4, | 0.0); | ( 459369.4, | 3769367.6, | 332.4, | 332.4, | 0.0); |
| ( 459419.4, | 3769367.6, | 332.9, | 332.9, | 0.0); | ( 459469.4, | 3769367.6, | 333.2, | 333.2, | 0.0); |
| ( 459519.4, | 3769367.6, | 333.4, | 333.4, | 0.0); | ( 459569.4, | 3769367.6, | 333.7, | 333.7, | 0.0); |
| ( 459619.4, | 3769367.6, | 333.9, | 333.9, | 0.0); | ( 459669.4, | 3769367.6, | 333.8, | 333.8, | 0.0); |
| ( 459719.4, | 3769367.6, | 334.1, | 334.1, | 0.0); | ( 459769.4, | 3769367.6, | 334.4, | 334.4, | 0.0); |
| ( 459819.4, | 3769367.6, | 335.1, | 335.1, | 0.0); | ( 459869.4, | 3769367.6, | 334.1, | 334.1, | 0.0); |
| ( 459919.4, | 3769367.6, | 334.1, | 334.1, | 0.0); | ( 459969.4, | 3769367.6, | 333.9, | 333.9, | 0.0); |
| ( 460019.4, | 3769367.6, | 333.6, | 333.6, | 0.0); | ( 460069.4, | 3769367.6, | 333.8, | 333.8, | 0.0); |
| ( 460119.4, | 3769367.6, | 333.8, | 333.8, | 0.0); | ( 460169.4, | 3769367.6, | 333.8, | 333.8, | 0.0); |
| ( 460219.4, | 3769367.6, | 333.8, | 333.8, | 0.0); | ( 460269.4, | 3769367.6, | 333.6, | 333.6, | 0.0); |
| ( 460319.4, | 3769367.6, | 333.8, | 333.8, | 0.0); | ( 460369.4, | 3769367.6, | 334.2, | 334.2, | 0.0); |
| ( 460419.4, | 3769367.6, | 334.1, | 334.1, | 0.0); | ( 458719.4, | 3769417.6, | 331.8, | 331.8, | 0.0); |
| ( 458769.4, | 3769417.6, | 332.2, | 332.2, | 0.0); | ( 458819.4, | 3769417.6, | 332.6, | 332.6, | 0.0); |
| ( 458869.4, | 3769417.6, | 332.3, | 332.3, | 0.0); | ( 458919.4, | 3769417.6, | 332.4, | 332.4, | 0.0); |
| ( 458969.4, | 3769417.6, | 333.2, | 340.7, | 0.0); | ( 459019.4, | 3769417.6, | 333.6, | 340.2, | 0.0); |
| ( 459069.4, | 3769417.6, | 332.7, | 332.7, | 0.0); | ( 459119.4, | 3769417.6, | 332.5, | 332.5, | 0.0); |
| ( 459169.4, | 3769417.6, | 332.4, | 332.4, | 0.0); | ( 459219.4, | 3769417.6, | 332.6, | 332.6, | 0.0); |
| ( 459269.4, | 3769417.6, | 333.0, | 333.0, | 0.0); | ( 459319.4, | 3769417.6, | 333.1, | 333.1, | 0.0); |
| ( 459369.4, | 3769417.6, | 333.7, | 333.7, | 0.0); | ( 459419.4, | 3769417.6, | 334.1, | 334.1, | 0.0); |
| ( 459469.4, | 3769417.6, | 333.8, | 333.8, | 0.0); | ( 459519.4, | 3769417.6, | 334.1, | 334.1, | 0.0); |
| ( 459569.4, | 3769417.6, | 334.2, | 334.2, | 0.0); | ( 459619.4, | 3769417.6, | 334.4, | 334.4, | 0.0); |
| ( 459669.4, | 3769417.6, | 334.5, | 334.5, | 0.0); | ( 459719.4, | 3769417.6, | 334.8, | 334.8, | 0.0); |
| ( 459769.4, | 3769417.6, | 335.2, | 343.5, | 0.0); | ( 459819.4, | 3769417.6, | 337.6, | 337.6, | 0.0); |
| ( 459869.4, | 3769417.6, | 334.8, | 334.8, | 0.0); | ( 459919.4, | 3769417.6, | 334.8, | 334.8, | 0.0); |
| ( 459969.4, | 3769417.6, | 334.8, | 334.8, | 0.0); | ( 460019.4, | 3769417.6, | 334.4, | 334.4, | 0.0); |
| ( 460069.4, | 3769417.6, | 334.1, | 334.1, | 0.0); | ( 460119.4, | 3769417.6, | 334.0, | 334.0, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 460169.4, | 3769417.6, | 334.0, | 334.0, | 0.0); | ( 460219.4, | 3769417.6, | 334.1, | 334.1, | 0.0); |
| ( 460269.4, | 3769417.6, | 334.4, | 334.4, | 0.0); | ( 460319.4, | 3769417.6, | 334.4, | 334.4, | 0.0); |
| ( 460369.4, | 3769417.6, | 334.8, | 334.8, | 0.0); | ( 460419.4, | 3769417.6, | 334.7, | 334.7, | 0.0); |
| ( 458719.4, | 3769467.6, | 332.4, | 332.4, | 0.0); | ( 458769.4, | 3769467.6, | 332.9, | 332.9, | 0.0); |
| ( 458819.4, | 3769467.6, | 333.2, | 333.2, | 0.0); | ( 458869.4, | 3769467.6, | 333.2, | 333.2, | 0.0); |
| ( 458919.4, | 3769467.6, | 333.1, | 342.2, | 0.0); | ( 458969.4, | 3769467.6, | 334.6, | 343.4, | 0.0); |
| ( 459019.4, | 3769467.6, | 335.3, | 343.0, | 0.0); | ( 459069.4, | 3769467.6, | 333.5, | 342.2, | 0.0); |
| ( 459119.4, | 3769467.6, | 333.3, | 333.3, | 0.0); | ( 459169.4, | 3769467.6, | 333.3, | 333.3, | 0.0); |
| ( 459219.4, | 3769467.6, | 333.2, | 333.2, | 0.0); | ( 459269.4, | 3769467.6, | 333.5, | 333.5, | 0.0); |
| ( 459319.4, | 3769467.6, | 333.3, | 333.3, | 0.0); | ( 459369.4, | 3769467.6, | 333.8, | 333.8, | 0.0); |
| ( 459519.4, | 3769467.6, | 334.9, | 334.9, | 0.0); | ( 459769.4, | 3769467.6, | 337.5, | 345.6, | 0.0); |
| ( 459819.4, | 3769467.6, | 341.2, | 341.2, | 0.0); | ( 459869.4, | 3769467.6, | 335.4, | 345.7, | 0.0); |
| ( 459919.4, | 3769467.6, | 335.4, | 335.4, | 0.0); | ( 459969.4, | 3769467.6, | 335.5, | 335.5, | 0.0); |
| ( 460019.4, | 3769467.6, | 335.4, | 335.4, | 0.0); | ( 460069.4, | 3769467.6, | 335.1, | 335.1, | 0.0); |
| ( 460119.4, | 3769467.6, | 334.9, | 334.9, | 0.0); | ( 460169.4, | 3769467.6, | 334.9, | 334.9, | 0.0); |
| ( 460219.4, | 3769467.6, | 335.1, | 335.1, | 0.0); | ( 460269.4, | 3769467.6, | 335.4, | 335.4, | 0.0); |
| ( 460319.4, | 3769467.6, | 335.5, | 335.5, | 0.0); | ( 460369.4, | 3769467.6, | 335.5, | 335.5, | 0.0); |
| ( 460419.4, | 3769467.6, | 335.2, | 335.2, | 0.0); | ( 458719.4, | 3769517.6, | 332.9, | 332.9, | 0.0); |
| ( 458769.4, | 3769517.6, | 333.5, | 333.5, | 0.0); | ( 458819.4, | 3769517.6, | 334.1, | 334.1, | 0.0); |
| ( 458869.4, | 3769517.6, | 333.8, | 333.8, | 0.0); | ( 458919.4, | 3769517.6, | 333.8, | 344.0, | 0.0); |
| ( 458969.4, | 3769517.6, | 336.2, | 344.0, | 0.0); | ( 459019.4, | 3769517.6, | 337.4, | 344.0, | 0.0); |
| ( 459069.4, | 3769517.6, | 334.1, | 344.0, | 0.0); | ( 459119.4, | 3769517.6, | 333.9, | 333.9, | 0.0); |
| ( 459169.4, | 3769517.6, | 333.8, | 333.8, | 0.0); | ( 459219.4, | 3769517.6, | 334.0, | 334.0, | 0.0); |
| ( 459269.4, | 3769517.6, | 334.0, | 334.0, | 0.0); | ( 459319.4, | 3769517.6, | 333.6, | 333.6, | 0.0); |
| ( 459369.4, | 3769517.6, | 334.2, | 334.2, | 0.0); | ( 459519.4, | 3769517.6, | 335.6, | 335.6, | 0.0); |
| ( 459769.4, | 3769517.6, | 341.3, | 346.1, | 0.0); | ( 459819.4, | 3769517.6, | 343.9, | 343.9, | 0.0); |
| ( 459869.4, | 3769517.6, | 335.4, | 347.2, | 0.0); | ( 459919.4, | 3769517.6, | 335.4, | 335.4, | 0.0); |
| ( 459969.4, | 3769517.6, | 335.4, | 335.4, | 0.0); | ( 460019.4, | 3769517.6, | 335.2, | 335.2, | 0.0); |
| ( 460069.4, | 3769517.6, | 335.6, | 335.6, | 0.0); | ( 460119.4, | 3769517.6, | 335.5, | 335.5, | 0.0); |
| ( 460169.4, | 3769517.6, | 335.6, | 335.6, | 0.0); | ( 460219.4, | 3769517.6, | 335.5, | 335.5, | 0.0); |
| ( 460269.4, | 3769517.6, | 335.5, | 335.5, | 0.0); | ( 460319.4, | 3769517.6, | 335.5, | 335.5, | 0.0); |
| ( 460369.4, | 3769517.6, | 335.5, | 335.5, | 0.0); | ( 460419.4, | 3769517.6, | 335.2, | 335.2, | 0.0); |
| ( 458719.4, | 3769567.6, | 333.6, | 333.6, | 0.0); | ( 458769.4, | 3769567.6, | 334.1, | 334.1, | 0.0); |
| ( 458819.4, | 3769567.6, | 334.7, | 334.7, | 0.0); | ( 458869.4, | 3769567.6, | 334.6, | 334.6, | 0.0); |
| ( 458919.4, | 3769567.6, | 334.5, | 344.0, | 0.0); | ( 458969.4, | 3769567.6, | 337.3, | 344.0, | 0.0); |
| ( 459019.4, | 3769567.6, | 338.9, | 344.0, | 0.0); | ( 459069.4, | 3769567.6, | 334.7, | 344.0, | 0.0); |
| ( 459119.4, | 3769567.6, | 334.4, | 334.4, | 0.0); | ( 459169.4, | 3769567.6, | 334.3, | 334.3, | 0.0); |
| ( 459219.4, | 3769567.6, | 334.5, | 334.5, | 0.0); | ( 459269.4, | 3769567.6, | 334.6, | 334.6, | 0.0); |
| ( 459319.4, | 3769567.6, | 333.9, | 333.9, | 0.0); | ( 459369.4, | 3769567.6, | 334.5, | 334.5, | 0.0); |
| ( 459519.4, | 3769567.6, | 336.4, | 336.4, | 0.0); | ( 459769.4, | 3769567.6, | 343.4, | 346.9, | 0.0); |
| ( 459819.4, | 3769567.6, | 345.7, | 345.7, | 0.0); | ( 459869.4, | 3769567.6, | 336.4, | 347.2, | 0.0); |
| ( 459919.4, | 3769567.6, | 336.2, | 346.5, | 0.0); | ( 459969.4, | 3769567.6, | 336.2, | 336.2, | 0.0); |
| ( 460019.4, | 3769567.6, | 336.1, | 336.1, | 0.0); | ( 460069.4, | 3769567.6, | 336.2, | 337.3, | 0.0); |
| ( 460119.4, | 3769567.6, | 336.2, | 337.3, | 0.0); | ( 460169.4, | 3769567.6, | 336.2, | 337.3, | 0.0); |
| ( 460219.4, | 3769567.6, | 335.9, | 337.9, | 0.0); | ( 460269.4, | 3769567.6, | 335.8, | 337.8, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 460319.4, | 3769567.6, | 336.2, | 336.2, | 0.0); | ( 460369.4, | 3769567.6, | 335.5, | 338.3, | 0.0); |
| ( 460419.4, | 3769567.6, | 335.3, | 338.2, | 0.0); | ( 458719.4, | 3769617.6, | 334.9, | 334.9, | 0.0); |
| ( 458769.4, | 3769617.6, | 335.1, | 335.1, | 0.0); | ( 458819.4, | 3769617.6, | 335.3, | 335.3, | 0.0); |
| ( 458869.4, | 3769617.6, | 335.4, | 335.4, | 0.0); | ( 458919.4, | 3769617.6, | 335.6, | 335.6, | 0.0); |
| ( 458969.4, | 3769617.6, | 335.8, | 344.0, | 0.0); | ( 459019.4, | 3769617.6, | 336.0, | 344.0, | 0.0); |
| ( 459069.4, | 3769617.6, | 336.1, | 336.1, | 0.0); | ( 459119.4, | 3769617.6, | 336.2, | 336.2, | 0.0); |
| ( 459169.4, | 3769617.6, | 336.3, | 336.3, | 0.0); | ( 459219.4, | 3769617.6, | 336.5, | 336.5, | 0.0); |
| ( 459269.4, | 3769617.6, | 336.5, | 336.5, | 0.0); | ( 459319.4, | 3769617.6, | 336.6, | 336.6, | 0.0); |
| ( 459369.4, | 3769617.6, | 336.7, | 336.7, | 0.0); | ( 459419.4, | 3769617.6, | 336.9, | 336.9, | 0.0); |
| ( 459469.4, | 3769617.6, | 337.2, | 337.2, | 0.0); | ( 459519.4, | 3769617.6, | 337.3, | 337.3, | 0.0); |
| ( 459569.4, | 3769617.6, | 337.3, | 337.3, | 0.0); | ( 459619.4, | 3769617.6, | 337.2, | 337.2, | 0.0); |
| ( 459669.4, | 3769617.6, | 337.3, | 346.4, | 0.0); | ( 459719.4, | 3769617.6, | 337.5, | 347.3, | 0.0); |
| ( 459769.4, | 3769617.6, | 341.5, | 347.3, | 0.0); | ( 459819.4, | 3769617.6, | 344.1, | 347.2, | 0.0); |
| ( 459869.4, | 3769617.6, | 337.7, | 347.3, | 0.0); | ( 459919.4, | 3769617.6, | 338.0, | 346.4, | 0.0); |
| ( 459969.4, | 3769617.6, | 338.4, | 338.4, | 0.0); | ( 460019.4, | 3769617.6, | 338.5, | 338.5, | 0.0); |
| ( 460069.4, | 3769617.6, | 338.6, | 338.6, | 0.0); | ( 460119.4, | 3769617.6, | 338.8, | 338.8, | 0.0); |
| ( 460169.4, | 3769617.6, | 338.9, | 338.9, | 0.0); | ( 460219.4, | 3769617.6, | 339.0, | 339.0, | 0.0); |
| ( 460269.4, | 3769617.6, | 339.1, | 339.1, | 0.0); | ( 460319.4, | 3769617.6, | 339.1, | 339.1, | 0.0); |
| ( 460369.4, | 3769617.6, | 339.1, | 339.1, | 0.0); | ( 460419.4, | 3769617.6, | 339.0, | 339.0, | 0.0); |
| ( 458719.4, | 3769667.6, | 335.7, | 335.7, | 0.0); | ( 458769.4, | 3769667.6, | 335.9, | 335.9, | 0.0); |
| ( 458819.4, | 3769667.6, | 336.0, | 336.0, | 0.0); | ( 458869.4, | 3769667.6, | 336.1, | 336.1, | 0.0); |
| ( 458919.4, | 3769667.6, | 336.2, | 336.2, | 0.0); | ( 458969.4, | 3769667.6, | 336.4, | 336.4, | 0.0); |
| ( 459019.4, | 3769667.6, | 336.5, | 336.5, | 0.0); | ( 459069.4, | 3769667.6, | 336.6, | 336.6, | 0.0); |
| ( 459119.4, | 3769667.6, | 336.6, | 336.6, | 0.0); | ( 459169.4, | 3769667.6, | 336.5, | 336.5, | 0.0); |
| ( 459219.4, | 3769667.6, | 336.5, | 336.5, | 0.0); | ( 459269.4, | 3769667.6, | 336.5, | 336.5, | 0.0); |
| ( 459319.4, | 3769667.6, | 336.7, | 336.7, | 0.0); | ( 459369.4, | 3769667.6, | 336.9, | 336.9, | 0.0); |
| ( 459419.4, | 3769667.6, | 337.3, | 337.3, | 0.0); | ( 459469.4, | 3769667.6, | 337.6, | 337.6, | 0.0); |
| ( 459519.4, | 3769667.6, | 337.9, | 337.9, | 0.0); | ( 459569.4, | 3769667.6, | 338.1, | 338.1, | 0.0); |
| ( 459619.4, | 3769667.6, | 339.3, | 340.4, | 0.0); | ( 459669.4, | 3769667.6, | 342.0, | 343.2, | 0.0); |
| ( 459719.4, | 3769667.6, | 344.9, | 344.9, | 0.0); | ( 459769.4, | 3769667.6, | 346.7, | 346.7, | 0.0); |
| ( 459819.4, | 3769667.6, | 347.0, | 347.0, | 0.0); | ( 459869.4, | 3769667.6, | 345.5, | 345.5, | 0.0); |
| ( 459919.4, | 3769667.6, | 342.5, | 342.5, | 0.0); | ( 459969.4, | 3769667.6, | 340.1, | 340.1, | 0.0); |
| ( 460019.4, | 3769667.6, | 339.0, | 339.0, | 0.0); | ( 460069.4, | 3769667.6, | 338.8, | 338.8, | 0.0); |
| ( 460119.4, | 3769667.6, | 338.8, | 338.8, | 0.0); | ( 460169.4, | 3769667.6, | 338.9, | 338.9, | 0.0); |
| ( 460219.4, | 3769667.6, | 339.0, | 339.0, | 0.0); | ( 460269.4, | 3769667.6, | 339.1, | 339.1, | 0.0); |
| ( 460319.4, | 3769667.6, | 339.0, | 339.0, | 0.0); | ( 460369.4, | 3769667.6, | 338.9, | 338.9, | 0.0); |
| ( 460419.4, | 3769667.6, | 339.0, | 339.0, | 0.0); | ( 458719.4, | 3769717.6, | 335.7, | 335.7, | 0.0); |
| ( 458769.4, | 3769717.6, | 335.8, | 335.8, | 0.0); | ( 458819.4, | 3769717.6, | 335.9, | 335.9, | 0.0); |
| ( 458869.4, | 3769717.6, | 335.9, | 335.9, | 0.0); | ( 458919.4, | 3769717.6, | 335.9, | 335.9, | 0.0); |
| ( 458969.4, | 3769717.6, | 336.3, | 343.3, | 0.0); | ( 459019.4, | 3769717.6, | 336.3, | 343.3, | 0.0); |
| ( 459069.4, | 3769717.6, | 336.2, | 336.2, | 0.0); | ( 459119.4, | 3769717.6, | 336.0, | 336.0, | 0.0); |
| ( 459169.4, | 3769717.6, | 335.9, | 335.9, | 0.0); | ( 459219.4, | 3769717.6, | 336.0, | 336.0, | 0.0); |
| ( 459269.4, | 3769717.6, | 336.2, | 336.2, | 0.0); | ( 459319.4, | 3769717.6, | 336.1, | 336.1, | 0.0); |
| ( 459369.4, | 3769717.6, | 336.3, | 336.3, | 0.0); | ( 459419.4, | 3769717.6, | 336.9, | 336.9, | 0.0); |
| ( 459469.4, | 3769717.6, | 337.6, | 337.6, | 0.0); | ( 459519.4, | 3769717.6, | 337.8, | 337.8, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 459569.4, | 3769717.6, | 337.9, | 337.9, | 0.0); | ( 459619.4, | 3769717.6, | 338.4, | 338.4, | 0.0); |
| ( 459669.4, | 3769717.6, | 338.7, | 338.7, | 0.0); | ( 459719.4, | 3769717.6, | 338.6, | 347.2, | 0.0); |
| ( 459769.4, | 3769717.6, | 338.6, | 347.3, | 0.0); | ( 459819.4, | 3769717.6, | 338.7, | 347.3, | 0.0); |
| ( 459869.4, | 3769717.6, | 338.8, | 347.2, | 0.0); | ( 459919.4, | 3769717.6, | 338.9, | 338.9, | 0.0); |
| ( 459969.4, | 3769717.6, | 338.9, | 338.9, | 0.0); | ( 460019.4, | 3769717.6, | 338.9, | 338.9, | 0.0); |
| ( 460069.4, | 3769717.6, | 338.9, | 338.9, | 0.0); | ( 460119.4, | 3769717.6, | 339.0, | 339.0, | 0.0); |
| ( 460169.4, | 3769717.6, | 339.1, | 339.1, | 0.0); | ( 460219.4, | 3769717.6, | 339.3, | 339.3, | 0.0); |
| ( 460269.4, | 3769717.6, | 339.4, | 339.4, | 0.0); | ( 460319.4, | 3769717.6, | 339.5, | 339.5, | 0.0); |
| ( 460369.4, | 3769717.6, | 339.6, | 339.6, | 0.0); | ( 460419.4, | 3769717.6, | 339.5, | 339.5, | 0.0); |
| ( 458719.4, | 3769767.6, | 336.2, | 336.2, | 0.0); | ( 458769.4, | 3769767.6, | 336.3, | 336.3, | 0.0); |
| ( 458819.4, | 3769767.6, | 336.3, | 336.3, | 0.0); | ( 458869.4, | 3769767.6, | 336.7, | 336.7, | 0.0); |
| ( 458919.4, | 3769767.6, | 336.7, | 336.7, | 0.0); | ( 458969.4, | 3769767.6, | 337.5, | 343.3, | 0.0); |
| ( 459019.4, | 3769767.6, | 338.8, | 343.3, | 0.0); | ( 459069.4, | 3769767.6, | 337.4, | 337.4, | 0.0); |
| ( 459119.4, | 3769767.6, | 336.9, | 336.9, | 0.0); | ( 459169.4, | 3769767.6, | 336.9, | 336.9, | 0.0); |
| ( 459219.4, | 3769767.6, | 337.7, | 337.7, | 0.0); | ( 459269.4, | 3769767.6, | 337.5, | 337.5, | 0.0); |
| ( 459319.4, | 3769767.6, | 337.3, | 337.3, | 0.0); | ( 459369.4, | 3769767.6, | 337.7, | 337.7, | 0.0); |
| ( 459419.4, | 3769767.6, | 337.8, | 337.8, | 0.0); | ( 459469.4, | 3769767.6, | 339.2, | 339.2, | 0.0); |
| ( 459519.4, | 3769767.6, | 339.4, | 339.4, | 0.0); | ( 459569.4, | 3769767.6, | 339.3, | 339.3, | 0.0); |
| ( 459619.4, | 3769767.6, | 339.0, | 339.0, | 0.0); | ( 459669.4, | 3769767.6, | 338.7, | 338.7, | 0.0); |
| ( 459719.4, | 3769767.6, | 341.2, | 344.4, | 0.0); | ( 459769.4, | 3769767.6, | 344.6, | 344.6, | 0.0); |
| ( 459819.4, | 3769767.6, | 344.8, | 344.8, | 0.0); | ( 459869.4, | 3769767.6, | 342.7, | 344.4, | 0.0); |
| ( 459919.4, | 3769767.6, | 339.7, | 343.1, | 0.0); | ( 459969.4, | 3769767.6, | 339.7, | 339.7, | 0.0); |
| ( 460019.4, | 3769767.6, | 339.9, | 339.9, | 0.0); | ( 460069.4, | 3769767.6, | 340.2, | 340.2, | 0.0); |
| ( 460119.4, | 3769767.6, | 340.3, | 340.3, | 0.0); | ( 460169.4, | 3769767.6, | 340.5, | 340.5, | 0.0); |
| ( 460219.4, | 3769767.6, | 340.3, | 340.3, | 0.0); | ( 460269.4, | 3769767.6, | 340.0, | 340.0, | 0.0); |
| ( 460319.4, | 3769767.6, | 339.9, | 339.9, | 0.0); | ( 460369.4, | 3769767.6, | 340.2, | 340.2, | 0.0); |
| ( 460419.4, | 3769767.6, | 339.5, | 339.5, | 0.0); | ( 458719.4, | 3769817.6, | 336.3, | 336.3, | 0.0); |
| ( 458769.4, | 3769817.6, | 336.8, | 336.8, | 0.0); | ( 458819.4, | 3769817.6, | 336.7, | 336.7, | 0.0); |
| ( 458869.4, | 3769817.6, | 337.4, | 337.4, | 0.0); | ( 458919.4, | 3769817.6, | 337.1, | 337.1, | 0.0); |
| ( 458969.4, | 3769817.6, | 337.2, | 343.2, | 0.0); | ( 459019.4, | 3769817.6, | 338.2, | 342.3, | 0.0); |
| ( 459069.4, | 3769817.6, | 337.9, | 337.9, | 0.0); | ( 459119.4, | 3769817.6, | 337.6, | 337.6, | 0.0); |
| ( 459169.4, | 3769817.6, | 337.5, | 337.5, | 0.0); | ( 459219.4, | 3769817.6, | 338.2, | 338.2, | 0.0); |
| ( 459269.4, | 3769817.6, | 337.9, | 337.9, | 0.0); | ( 459319.4, | 3769817.6, | 337.9, | 337.9, | 0.0); |
| ( 459369.4, | 3769817.6, | 337.8, | 337.8, | 0.0); | ( 459419.4, | 3769817.6, | 338.4, | 338.4, | 0.0); |
| ( 459469.4, | 3769817.6, | 339.8, | 339.8, | 0.0); | ( 459519.4, | 3769817.6, | 339.9, | 339.9, | 0.0); |
| ( 459569.4, | 3769817.6, | 339.7, | 339.7, | 0.0); | ( 459619.4, | 3769817.6, | 339.5, | 339.5, | 0.0); |
| ( 459669.4, | 3769817.6, | 340.4, | 340.4, | 0.0); | ( 459719.4, | 3769817.6, | 340.4, | 340.4, | 0.0); |
| ( 459769.4, | 3769817.6, | 340.7, | 343.1, | 0.0); | ( 459819.4, | 3769817.6, | 342.0, | 342.0, | 0.0); |
| ( 459869.4, | 3769817.6, | 340.9, | 340.9, | 0.0); | ( 459919.4, | 3769817.6, | 340.2, | 340.2, | 0.0); |
| ( 459969.4, | 3769817.6, | 339.7, | 339.7, | 0.0); | ( 460019.4, | 3769817.6, | 340.3, | 340.3, | 0.0); |
| ( 460069.4, | 3769817.6, | 340.1, | 340.1, | 0.0); | ( 460119.4, | 3769817.6, | 340.0, | 340.0, | 0.0); |
| ( 460169.4, | 3769817.6, | 340.6, | 340.6, | 0.0); | ( 460219.4, | 3769817.6, | 340.5, | 340.5, | 0.0); |
| ( 460269.4, | 3769817.6, | 341.1, | 341.1, | 0.0); | ( 460319.4, | 3769817.6, | 340.4, | 340.4, | 0.0); |
| ( 460369.4, | 3769817.6, | 340.7, | 340.7, | 0.0); | ( 460419.4, | 3769817.6, | 340.1, | 340.1, | 0.0); |
| ( 458719.4, | 3769867.6, | 336.9, | 336.9, | 0.0); | ( 458769.4, | 3769867.6, | 337.1, | 337.1, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 458819.4, | 3769867.6, | 337.5, | 337.5, | 0.0); | ( 458869.4, | 3769867.6, | 337.8, | 337.8, | 0.0); |
| ( 458919.4, | 3769867.6, | 337.9, | 337.9, | 0.0); | ( 458969.4, | 3769867.6, | 337.9, | 337.9, | 0.0); |
| ( 459019.4, | 3769867.6, | 338.6, | 338.6, | 0.0); | ( 459069.4, | 3769867.6, | 339.4, | 339.4, | 0.0); |
| ( 459119.4, | 3769867.6, | 339.2, | 339.2, | 0.0); | ( 459169.4, | 3769867.6, | 338.6, | 338.6, | 0.0); |
| ( 459219.4, | 3769867.6, | 338.5, | 338.5, | 0.0); | ( 459269.4, | 3769867.6, | 338.4, | 338.4, | 0.0); |
| ( 459319.4, | 3769867.6, | 338.3, | 338.3, | 0.0); | ( 459369.4, | 3769867.6, | 338.6, | 338.6, | 0.0); |
| ( 459419.4, | 3769867.6, | 338.8, | 338.8, | 0.0); | ( 459469.4, | 3769867.6, | 339.7, | 339.7, | 0.0); |
| ( 459519.4, | 3769867.6, | 339.7, | 339.7, | 0.0); | ( 459569.4, | 3769867.6, | 339.2, | 339.2, | 0.0); |
| ( 459619.4, | 3769867.6, | 339.6, | 339.6, | 0.0); | ( 459669.4, | 3769867.6, | 339.9, | 339.9, | 0.0); |
| ( 459719.4, | 3769867.6, | 340.4, | 340.4, | 0.0); | ( 459769.4, | 3769867.6, | 340.8, | 340.8, | 0.0); |
| ( 459819.4, | 3769867.6, | 341.0, | 341.0, | 0.0); | ( 459869.4, | 3769867.6, | 341.2, | 341.2, | 0.0); |
| ( 459919.4, | 3769867.6, | 339.9, | 339.9, | 0.0); | ( 459969.4, | 3769867.6, | 340.1, | 340.1, | 0.0); |
| ( 460019.4, | 3769867.6, | 340.2, | 340.2, | 0.0); | ( 460069.4, | 3769867.6, | 340.1, | 340.1, | 0.0); |
| ( 460119.4, | 3769867.6, | 340.5, | 340.5, | 0.0); | ( 460169.4, | 3769867.6, | 341.2, | 341.2, | 0.0); |
| ( 460219.4, | 3769867.6, | 341.2, | 341.2, | 0.0); | ( 460269.4, | 3769867.6, | 341.7, | 341.7, | 0.0); |
| ( 460319.4, | 3769867.6, | 341.0, | 341.0, | 0.0); | ( 460369.4, | 3769867.6, | 341.3, | 341.3, | 0.0); |
| ( 460419.4, | 3769867.6, | 340.5, | 340.5, | 0.0); | ( 458719.4, | 3769917.6, | 337.2, | 337.2, | 0.0); |
| ( 458769.4, | 3769917.6, | 337.7, | 337.7, | 0.0); | ( 458819.4, | 3769917.6, | 338.0, | 338.0, | 0.0); |
| ( 458869.4, | 3769917.6, | 338.3, | 338.3, | 0.0); | ( 458919.4, | 3769917.6, | 338.4, | 338.4, | 0.0); |
| ( 458969.4, | 3769917.6, | 338.9, | 338.9, | 0.0); | ( 459019.4, | 3769917.6, | 338.8, | 338.8, | 0.0); |
| ( 459069.4, | 3769917.6, | 339.6, | 339.6, | 0.0); | ( 459119.4, | 3769917.6, | 339.5, | 339.5, | 0.0); |
| ( 459169.4, | 3769917.6, | 339.1, | 339.1, | 0.0); | ( 459219.4, | 3769917.6, | 339.2, | 339.2, | 0.0); |
| ( 459269.4, | 3769917.6, | 339.1, | 339.1, | 0.0); | ( 459319.4, | 3769917.6, | 338.9, | 338.9, | 0.0); |
| ( 459369.4, | 3769917.6, | 338.9, | 338.9, | 0.0); | ( 459419.4, | 3769917.6, | 339.6, | 339.6, | 0.0); |
| ( 459469.4, | 3769917.6, | 339.7, | 339.7, | 0.0); | ( 459519.4, | 3769917.6, | 339.7, | 339.7, | 0.0); |
| ( 459569.4, | 3769917.6, | 339.0, | 339.0, | 0.0); | ( 459619.4, | 3769917.6, | 339.7, | 339.7, | 0.0); |
| ( 459669.4, | 3769917.6, | 340.6, | 340.6, | 0.0); | ( 459719.4, | 3769917.6, | 341.2, | 341.2, | 0.0); |
| ( 459769.4, | 3769917.6, | 341.4, | 341.4, | 0.0); | ( 459819.4, | 3769917.6, | 341.1, | 341.1, | 0.0); |
| ( 459869.4, | 3769917.6, | 341.0, | 341.0, | 0.0); | ( 459919.4, | 3769917.6, | 340.5, | 340.5, | 0.0); |
| ( 459969.4, | 3769917.6, | 340.3, | 340.3, | 0.0); | ( 460019.4, | 3769917.6, | 340.5, | 340.5, | 0.0); |
| ( 460069.4, | 3769917.6, | 340.8, | 340.8, | 0.0); | ( 460119.4, | 3769917.6, | 341.1, | 341.1, | 0.0); |
| ( 460169.4, | 3769917.6, | 342.0, | 342.0, | 0.0); | ( 460219.4, | 3769917.6, | 341.9, | 341.9, | 0.0); |
| ( 460269.4, | 3769917.6, | 342.1, | 342.1, | 0.0); | ( 460319.4, | 3769917.6, | 341.6, | 341.6, | 0.0); |
| ( 460369.4, | 3769917.6, | 341.7, | 341.7, | 0.0); | ( 460419.4, | 3769917.6, | 341.1, | 341.1, | 0.0); |
| ( 458719.4, | 3769967.6, | 337.6, | 337.6, | 0.0); | ( 458769.4, | 3769967.6, | 338.2, | 338.2, | 0.0); |
| ( 458819.4, | 3769967.6, | 338.3, | 338.3, | 0.0); | ( 458869.4, | 3769967.6, | 338.7, | 338.7, | 0.0); |
| ( 458919.4, | 3769967.6, | 339.2, | 339.2, | 0.0); | ( 458969.4, | 3769967.6, | 339.7, | 339.7, | 0.0); |
| ( 459019.4, | 3769967.6, | 339.2, | 339.2, | 0.0); | ( 459069.4, | 3769967.6, | 339.4, | 339.4, | 0.0); |
| ( 459119.4, | 3769967.6, | 339.3, | 339.3, | 0.0); | ( 459169.4, | 3769967.6, | 339.6, | 339.6, | 0.0); |
| ( 459219.4, | 3769967.6, | 340.0, | 340.0, | 0.0); | ( 459269.4, | 3769967.6, | 339.7, | 339.7, | 0.0); |
| ( 459319.4, | 3769967.6, | 339.9, | 339.9, | 0.0); | ( 459369.4, | 3769967.6, | 339.9, | 339.9, | 0.0); |
| ( 459419.4, | 3769967.6, | 340.4, | 340.4, | 0.0); | ( 459469.4, | 3769967.6, | 340.1, | 340.1, | 0.0); |
| ( 459519.4, | 3769967.6, | 340.2, | 340.2, | 0.0); | ( 459569.4, | 3769967.6, | 340.6, | 340.6, | 0.0); |
| ( 459619.4, | 3769967.6, | 340.9, | 340.9, | 0.0); | ( 459669.4, | 3769967.6, | 341.2, | 341.2, | 0.0); |
| ( 459719.4, | 3769967.6, | 341.5, | 341.5, | 0.0); | ( 459769.4, | 3769967.6, | 341.7, | 341.7, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 459819.4, | 3769967.6, | 341.6, | 341.6, | 0.0); | ( 459869.4, | 3769967.6, | 341.6, | 341.6, | 0.0); |
| ( 459919.4, | 3769967.6, | 341.4, | 341.4, | 0.0); | ( 459969.4, | 3769967.6, | 341.2, | 341.2, | 0.0); |
| ( 460019.4, | 3769967.6, | 341.4, | 341.4, | 0.0); | ( 460069.4, | 3769967.6, | 341.5, | 341.5, | 0.0); |
| ( 460119.4, | 3769967.6, | 341.4, | 341.4, | 0.0); | ( 460169.4, | 3769967.6, | 342.4, | 342.4, | 0.0); |
| ( 460219.4, | 3769967.6, | 342.3, | 342.3, | 0.0); | ( 460269.4, | 3769967.6, | 342.3, | 342.3, | 0.0); |
| ( 460319.4, | 3769967.6, | 342.4, | 342.4, | 0.0); | ( 460369.4, | 3769967.6, | 342.2, | 342.2, | 0.0); |
| ( 460419.4, | 3769967.6, | 341.5, | 341.5, | 0.0); | ( 458719.4, | 3770017.6, | 339.1, | 339.1, | 0.0); |
| ( 458769.4, | 3770017.6, | 339.3, | 339.3, | 0.0); | ( 458819.4, | 3770017.6, | 339.6, | 339.6, | 0.0); |
| ( 458869.4, | 3770017.6, | 339.8, | 339.8, | 0.0); | ( 458919.4, | 3770017.6, | 340.2, | 340.2, | 0.0); |
| ( 458969.4, | 3770017.6, | 340.4, | 340.4, | 0.0); | ( 459019.4, | 3770017.6, | 340.3, | 340.3, | 0.0); |
| ( 459069.4, | 3770017.6, | 340.2, | 340.2, | 0.0); | ( 459119.4, | 3770017.6, | 340.3, | 340.3, | 0.0); |
| ( 459169.4, | 3770017.6, | 340.8, | 340.8, | 0.0); | ( 459219.4, | 3770017.6, | 340.7, | 340.7, | 0.0); |
| ( 459269.4, | 3770017.6, | 340.3, | 340.3, | 0.0); | ( 459319.4, | 3770017.6, | 340.7, | 340.7, | 0.0); |
| ( 459369.4, | 3770017.6, | 340.8, | 340.8, | 0.0); | ( 459419.4, | 3770017.6, | 341.2, | 341.2, | 0.0); |
| ( 459469.4, | 3770017.6, | 341.7, | 341.7, | 0.0); | ( 459519.4, | 3770017.6, | 341.8, | 341.8, | 0.0); |
| ( 459569.4, | 3770017.6, | 341.5, | 341.5, | 0.0); | ( 459619.4, | 3770017.6, | 342.5, | 342.5, | 0.0); |
| ( 459669.4, | 3770017.6, | 342.4, | 342.4, | 0.0); | ( 459719.4, | 3770017.6, | 342.7, | 342.7, | 0.0); |
| ( 459769.4, | 3770017.6, | 342.4, | 342.4, | 0.0); | ( 459819.4, | 3770017.6, | 342.3, | 342.3, | 0.0); |
| ( 459869.4, | 3770017.6, | 342.4, | 342.4, | 0.0); | ( 459919.4, | 3770017.6, | 342.2, | 342.2, | 0.0); |
| ( 459969.4, | 3770017.6, | 341.8, | 341.8, | 0.0); | ( 460019.4, | 3770017.6, | 342.2, | 342.2, | 0.0); |
| ( 460069.4, | 3770017.6, | 342.3, | 342.3, | 0.0); | ( 460119.4, | 3770017.6, | 342.2, | 342.2, | 0.0); |
| ( 460169.4, | 3770017.6, | 342.3, | 342.3, | 0.0); | ( 460219.4, | 3770017.6, | 342.6, | 342.6, | 0.0); |
| ( 460269.4, | 3770017.6, | 343.2, | 343.2, | 0.0); | ( 460319.4, | 3770017.6, | 343.2, | 343.2, | 0.0); |
| ( 460369.4, | 3770017.6, | 343.2, | 343.2, | 0.0); | ( 460419.4, | 3770017.6, | 342.5, | 342.5, | 0.0); |
| ( 458719.4, | 3770067.6, | 339.4, | 339.4, | 0.0); | ( 458769.4, | 3770067.6, | 339.7, | 339.7, | 0.0); |
| ( 458819.4, | 3770067.6, | 339.9, | 339.9, | 0.0); | ( 458869.4, | 3770067.6, | 340.0, | 340.0, | 0.0); |
| ( 458919.4, | 3770067.6, | 340.4, | 340.4, | 0.0); | ( 458969.4, | 3770067.6, | 340.6, | 340.6, | 0.0); |
| ( 459019.4, | 3770067.6, | 340.9, | 340.9, | 0.0); | ( 459069.4, | 3770067.6, | 340.9, | 340.9, | 0.0); |
| ( 459119.4, | 3770067.6, | 340.9, | 340.9, | 0.0); | ( 459169.4, | 3770067.6, | 341.6, | 341.6, | 0.0); |
| ( 459219.4, | 3770067.6, | 341.4, | 341.4, | 0.0); | ( 459269.4, | 3770067.6, | 341.2, | 341.2, | 0.0); |
| ( 459319.4, | 3770067.6, | 341.9, | 341.9, | 0.0); | ( 459369.4, | 3770067.6, | 341.7, | 341.7, | 0.0); |
| ( 459419.4, | 3770067.6, | 341.9, | 341.9, | 0.0); | ( 459469.4, | 3770067.6, | 342.0, | 342.0, | 0.0); |
| ( 459519.4, | 3770067.6, | 342.4, | 342.4, | 0.0); | ( 459569.4, | 3770067.6, | 342.7, | 342.7, | 0.0); |
| ( 459619.4, | 3770067.6, | 342.7, | 342.7, | 0.0); | ( 459669.4, | 3770067.6, | 342.7, | 342.7, | 0.0); |
| ( 459719.4, | 3770067.6, | 343.0, | 343.0, | 0.0); | ( 459769.4, | 3770067.6, | 343.1, | 343.1, | 0.0); |
| ( 459819.4, | 3770067.6, | 342.9, | 342.9, | 0.0); | ( 459869.4, | 3770067.6, | 343.0, | 343.0, | 0.0); |
| ( 459919.4, | 3770067.6, | 343.0, | 343.0, | 0.0); | ( 459969.4, | 3770067.6, | 343.1, | 343.1, | 0.0); |
| ( 460019.4, | 3770067.6, | 343.5, | 343.5, | 0.0); | ( 460069.4, | 3770067.6, | 343.2, | 343.2, | 0.0); |
| ( 460119.4, | 3770067.6, | 343.5, | 343.5, | 0.0); | ( 460169.4, | 3770067.6, | 343.7, | 343.7, | 0.0); |
| ( 460219.4, | 3770067.6, | 343.8, | 343.8, | 0.0); | ( 460269.4, | 3770067.6, | 344.1, | 344.1, | 0.0); |
| ( 460319.4, | 3770067.6, | 344.1, | 344.1, | 0.0); | ( 460369.4, | 3770067.6, | 343.8, | 343.8, | 0.0); |
| ( 460419.4, | 3770067.6, | 343.8, | 343.8, | 0.0); | ( 458719.4, | 3770117.6, | 339.8, | 339.8, | 0.0); |
| ( 458769.4, | 3770117.6, | 340.3, | 340.3, | 0.0); | ( 458819.4, | 3770117.6, | 340.6, | 340.6, | 0.0); |
| ( 458869.4, | 3770117.6, | 340.7, | 340.7, | 0.0); | ( 458919.4, | 3770117.6, | 341.1, | 341.1, | 0.0); |
| ( 458969.4, | 3770117.6, | 341.3, | 341.3, | 0.0); | ( 459019.4, | 3770117.6, | 341.7, | 341.7, | 0.0); |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ( 459069.4, | 3770117.6, | 341.6, | 341.6, | 0.0); | ( 459119.4, | 3770117.6, | 341.6, | 341.6, | 0.0); |
| ( 459169.4, | 3770117.6, | 342.3, | 342.3, | 0.0); | ( 459219.4, | 3770117.6, | 342.3, | 342.3, | 0.0); |
| ( 459269.4, | 3770117.6, | 342.5, | 342.5, | 0.0); | ( 459319.4, | 3770117.6, | 342.8, | 342.8, | 0.0); |
| ( 459369.4, | 3770117.6, | 342.4, | 342.4, | 0.0); | ( 459419.4, | 3770117.6, | 342.3, | 342.3, | 0.0); |
| ( 459469.4, | 3770117.6, | 343.0, | 343.0, | 0.0); | ( 459519.4, | 3770117.6, | 343.0, | 343.0, | 0.0); |
| ( 459569.4, | 3770117.6, | 342.9, | 342.9, | 0.0); | ( 459619.4, | 3770117.6, | 343.4, | 343.4, | 0.0); |
| ( 459669.4, | 3770117.6, | 343.2, | 343.2, | 0.0); | ( 459719.4, | 3770117.6, | 343.6, | 343.6, | 0.0); |
| ( 459769.4, | 3770117.6, | 343.7, | 343.7, | 0.0); | ( 459819.4, | 3770117.6, | 343.4, | 343.4, | 0.0); |
| ( 459869.4, | 3770117.6, | 343.7, | 343.7, | 0.0); | ( 459919.4, | 3770117.6, | 343.3, | 343.3, | 0.0); |
| ( 459969.4, | 3770117.6, | 343.5, | 343.5, | 0.0); | ( 460019.4, | 3770117.6, | 342.9, | 344.6, | 0.0); |
| ( 460069.4, | 3770117.6, | 346.2, | 346.2, | 0.0); | ( 460119.4, | 3770117.6, | 346.4, | 346.4, | 0.0); |
| ( 460169.4, | 3770117.6, | 346.2, | 346.2, | 0.0); | ( 460219.4, | 3770117.6, | 344.9, | 344.9, | 0.0); |
| ( 460269.4, | 3770117.6, | 344.7, | 344.7, | 0.0); | ( 460319.4, | 3770117.6, | 344.5, | 344.5, | 0.0); |
| ( 460369.4, | 3770117.6, | 344.1, | 344.1, | 0.0); | ( 460419.4, | 3770117.6, | 344.3, | 344.3, | 0.0); |
| ( 458719.4, | 3770167.6, | 340.6, | 340.6, | 0.0); | ( 458769.4, | 3770167.6, | 340.8, | 340.8, | 0.0); |
| ( 458819.4, | 3770167.6, | 341.0, | 341.0, | 0.0); | ( 458869.4, | 3770167.6, | 341.2, | 341.2, | 0.0); |
| ( 458919.4, | 3770167.6, | 341.9, | 341.9, | 0.0); | ( 458969.4, | 3770167.6, | 341.8, | 341.8, | 0.0); |
| ( 459019.4, | 3770167.6, | 342.6, | 342.6, | 0.0); | ( 459069.4, | 3770167.6, | 342.8, | 342.8, | 0.0); |
| ( 459119.4, | 3770167.6, | 342.8, | 342.8, | 0.0); | ( 459169.4, | 3770167.6, | 343.3, | 343.3, | 0.0); |
| ( 459219.4, | 3770167.6, | 343.2, | 343.2, | 0.0); | ( 459269.4, | 3770167.6, | 343.1, | 343.1, | 0.0); |
| ( 459319.4, | 3770167.6, | 343.4, | 343.4, | 0.0); | ( 459369.4, | 3770167.6, | 343.3, | 343.3, | 0.0); |
| ( 459419.4, | 3770167.6, | 343.4, | 343.4, | 0.0); | ( 459469.4, | 3770167.6, | 343.5, | 343.5, | 0.0); |
| ( 459519.4, | 3770167.6, | 343.9, | 343.9, | 0.0); | ( 459569.4, | 3770167.6, | 343.4, | 343.4, | 0.0); |
| ( 459619.4, | 3770167.6, | 343.9, | 343.9, | 0.0); | ( 459669.4, | 3770167.6, | 344.1, | 344.1, | 0.0); |
| ( 459719.4, | 3770167.6, | 344.7, | 344.7, | 0.0); | ( 459769.4, | 3770167.6, | 344.2, | 344.2, | 0.0); |
| ( 459819.4, | 3770167.6, | 344.1, | 344.1, | 0.0); | ( 459869.4, | 3770167.6, | 344.3, | 344.3, | 0.0); |
| ( 459919.4, | 3770167.6, | 344.0, | 344.0, | 0.0); | ( 459969.4, | 3770167.6, | 344.1, | 344.1, | 0.0); |
| ( 460019.4, | 3770167.6, | 342.5, | 345.7, | 0.0); | ( 460069.4, | 3770167.6, | 340.9, | 346.7, | 0.0); |
| ( 460119.4, | 3770167.6, | 344.1, | 346.5, | 0.0); | ( 460169.4, | 3770167.6, | 346.6, | 346.6, | 0.0); |
| ( 460219.4, | 3770167.6, | 345.4, | 345.4, | 0.0); | ( 460269.4, | 3770167.6, | 345.1, | 345.1, | 0.0); |
| ( 460319.4, | 3770167.6, | 344.9, | 344.9, | 0.0); | ( 460369.4, | 3770167.6, | 344.6, | 344.6, | 0.0); |
| ( 460419.4, | 3770167.6, | 344.7, | 344.7, | 0.0); | ( 459499.2, | 3769613.6, | 337.3, | 337.3, | 0.0); |
| ( 459498.4, | 3769451.5, | 334.6, | 334.6, | 0.0); | ( 459393.5, | 3769451.5, | 334.1, | 334.1, | 0.0); |
| ( 459394.3, | 3769612.7, | 336.2, | 337.0, | 0.0); | ( 459552.1, | 3769613.6, | 337.2, | 337.2, | 0.0); |
| ( 459756.8, | 3769617.4, | 338.7, | 347.3, | 0.0); | ( 459767.4, | 3769452.8, | 336.3, | 345.4, | 0.0); |
| ( 459552.1, | 3769450.2, | 334.6, | 334.6, | 0.0); | | | | | |

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: FONT_v9.SFC Met Version: 16216
Profile file: FONT_v9.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN
Year: 2011 Year: 2011

First 24 hours of scalar data

| YR | MO | DY | JDY | HR | H0 | U* | W* | DT/DZ | ZICNV | ZIMCH | M-O LEN | Z0 | BOWEN | ALBEDO | REF WS | WD | HT | REF TA | HT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 01 | 01 | 1 | 01 | -18.5 | 0.194 | -9.000 | -9.000 | -999. | 204. | 41.2 | 0.25 | 2.82 | 1.00 | 1.80 | 69. | 9.1 | 276.4 | 5.5 |
| 11 | 01 | 01 | 1 | 02 | -23.8 | 0.239 | -9.000 | -9.000 | -999. | 281. | 63.0 | 0.25 | 2.82 | 1.00 | 2.20 | 52. | 9.1 | 275.4 | 5.5 |
| 11 | 01 | 01 | 1 | 03 | -18.5 | 0.194 | -9.000 | -9.000 | -999. | 205. | 41.2 | 0.25 | 2.82 | 1.00 | 1.80 | 32. | 9.1 | 275.4 | 5.5 |
| 11 | 01 | 01 | 1 | 04 | -1.4 | 0.067 | -9.000 | -9.000 | -999. | 57. | 18.3 | 0.25 | 2.82 | 1.00 | 0.40 | 27. | 9.1 | 274.2 | 5.5 |
| 11 | 01 | 01 | 1 | 05 | -18.6 | 0.194 | -9.000 | -9.000 | -999. | 204. | 41.2 | 0.25 | 2.82 | 1.00 | 1.80 | 51. | 9.1 | 274.2 | 5.5 |
| 11 | 01 | 01 | 1 | 06 | -29.7 | 0.296 | -9.000 | -9.000 | -999. | 387. | 96.6 | 0.25 | 2.82 | 1.00 | 2.70 | 53. | 9.1 | 274.2 | 5.5 |
| 11 | 01 | 01 | 1 | 07 | -24.0 | 0.239 | -9.000 | -9.000 | -999. | 282. | 63.0 | 0.25 | 2.82 | 1.00 | 2.20 | 70. | 9.1 | 274.2 | 5.5 |
| 11 | 01 | 01 | 1 | 08 | -8.4 | 0.138 | -9.000 | -9.000 | -999. | 127. | 27.3 | 0.25 | 2.82 | 0.54 | 1.30 | 72. | 9.1 | 275.4 | 5.5 |
| 11 | 01 | 01 | 1 | 09 | 44.3 | 0.280 | 0.571 | 0.005 | 147. | 356. | -43.5 | 0.25 | 2.82 | 0.32 | 2.20 | 67. | 9.1 | 277.5 | 5.5 |
| 11 | 01 | 01 | 1 | 10 | 122.7 | 0.264 | 0.952 | 0.005 | 247. | 326. | -13.2 | 0.25 | 2.82 | 0.25 | 1.80 | 83. | 9.1 | 279.9 | 5.5 |
| 11 | 01 | 01 | 1 | 11 | 179.8 | 0.316 | 1.733 | 0.005 | 1017. | 426. | -15.4 | 0.25 | 2.82 | 0.22 | 2.20 | 58. | 9.1 | 282.0 | 5.5 |
| 11 | 01 | 01 | 1 | 12 | 206.0 | 0.320 | 1.940 | 0.008 | 1244. | 435. | -14.0 | 0.25 | 2.82 | 0.21 | 2.20 | 115. | 9.1 | 283.1 | 5.5 |
| 11 | 01 | 01 | 1 | 13 | 132.6 | 0.214 | 1.733 | 0.009 | 1377. | 243. | -6.5 | 0.25 | 2.82 | 0.21 | 1.30 | 147. | 9.1 | 284.2 | 5.5 |
| 11 | 01 | 01 | 1 | 14 | 147.0 | 0.216 | 1.818 | 0.009 | 1431. | 242. | -6.0 | 0.25 | 2.82 | 0.23 | 1.30 | 219. | 9.1 | 284.9 | 5.5 |
| 11 | 01 | 01 | 1 | 15 | 104.0 | 0.208 | 1.633 | 0.009 | 1468. | 228. | -7.6 | 0.25 | 2.82 | 0.26 | 1.30 | 126. | 9.1 | 285.4 | 5.5 |
| 11 | 01 | 01 | 1 | 16 | 26.4 | 0.140 | 1.037 | 0.009 | 1477. | 127. | -9.1 | 0.25 | 2.82 | 0.35 | 0.90 | 151. | 9.1 | 284.9 | 5.5 |
| 11 | 01 | 01 | 1 | 17 | -9.0 | 0.137 | -9.000 | -9.000 | -999. | 121. | 24.9 | 0.25 | 2.82 | 0.63 | 1.30 | 69. | 9.1 | 283.1 | 5.5 |
| 11 | 01 | 01 | 1 | 18 | -33.4 | 0.342 | -9.000 | -9.000 | -999. | 481. | 129.0 | 0.25 | 2.82 | 1.00 | 3.10 | 81. | 9.1 | 281.4 | 5.5 |
| 11 | 01 | 01 | 1 | 19 | -33.6 | 0.342 | -9.000 | -9.000 | -999. | 481. | 128.9 | 0.25 | 2.82 | 1.00 | 3.10 | 51. | 9.1 | 279.9 | 5.5 |
| 11 | 01 | 01 | 1 | 20 | -23.6 | 0.239 | -9.000 | -9.000 | -999. | 287. | 63.1 | 0.25 | 2.82 | 1.00 | 2.20 | 77. | 9.1 | 278.8 | 5.5 |
| 11 | 01 | 01 | 1 | 21 | -18.5 | 0.194 | -9.000 | -9.000 | -999. | 205. | 41.2 | 0.25 | 2.82 | 1.00 | 1.80 | 53. | 9.1 | 277.5 | 5.5 |
| 11 | 01 | 01 | 1 | 22 | -23.7 | 0.239 | -9.000 | -9.000 | -999. | 281. | 63.0 | 0.25 | 2.82 | 1.00 | 2.20 | 58. | 9.1 | 277.5 | 5.5 |
| 11 | 01 | 01 | 1 | 23 | -18.5 | 0.194 | -9.000 | -9.000 | -999. | 205. | 41.2 | 0.25 | 2.82 | 1.00 | 1.80 | 64. | 9.1 | 277.5 | 5.5 |
| 11 | 01 | 01 | 1 | 24 | -4.5 | 0.094 | -9.000 | -9.000 | -999. | 74. | 16.3 | 0.25 | 2.82 | 1.00 | 0.90 | 52. | 9.1 | 277.0 | 5.5 |

First hour of profile data

| YR | MO | DY | HR | HEIGHT | F | WDIR | WSPD | AMB_TMP | sigmaA | sigmaW | sigmaV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 01 | 01 | 01 | 5.5 | 0 | -999. | -99.00 | 276.5 | 99.0 | -99.00 | -99.00 |
| 11 | 01 | 01 | 01 | 9.1 | 1 | 69. | 1.80 | -999.0 | 99.0 | -99.00 | -99.00 |

F indicates top of profile (=1) or below (=0)

```
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of          361 Warning Message(s)
A Total of          838 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of           40 Calm Hours Identified

A Total of          798 Missing Hours Identified (  1.82 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186    2080       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
ME W187    2080       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
OU W565    2161       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2162       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2163       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2164       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2165       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2166       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2167       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2168       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2169       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2170       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2171       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2172       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2173       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2174       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2175       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2176       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2177       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
OU W565    2178       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE


    ************************************
    *** AERMOD Finishes Successfully ***
    ************************************
```

HARP Project Summary Report 5/13/2020 9:22:23 AM

***PROJECT INFORMATION***
HARP Version: 19121
Project Name: HARP
Project Output Directory: P:\CFN1702.24\HRA\Modeling\HARP
HARP Database: NA

***POLLUTANT HEALTH INFORMATION***
Health Database: C:\HARP2\Tables\HEALTH17320.mdb
Health Table Version: HEALTH19252
Official: True

| PolID | PolAbbrev | InhCancer | OralCancer | AcuteREL | InhChronicREL | OralChronicREL | InhChronic8HRREL |
|---|---|---|---|---|---|---|---|
| 9901 | DieselExhPM | 1.1 | | | 5 | | |
| 88101 | PM25 | | | | | | |
| 106990 | 1,3-Butadiene | 0.6 | | 660 | 2 | | 9 |
| 71432 | Benzene | 0.1 | | 27 | 3 | | 3 |
| 100414 | Ethyl Benzene | 0.0087 | | | 2000 | | |
| 78933 | MEK | | | 13000 | | | |
| 91203 | Naphthalene | 0.12 | | | 9 | | |
| 115071 | Propylene | | | | 3000 | | |
| 100425 | Styrene | | | 21000 | 900 | | |
| 108883 | Toluene | | | 37000 | 300 | | |
| 1330207 | Xylenes | | | 22000 | 700 | | |

HARP2 - HRACalc (dated 19044) 5/13/2020 9:00:42 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

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: 14
16 to 70 Years Bin: 0

**********
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: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: RMP

**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): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Warm

**********
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137

```
Fraction protected: 0.137
Fraction root: 0.137

**********************************
TIER 2 SETTINGS
Tier2 not used.

**********************************

Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\30-
Yr-CancerRisk.csv
Cancer risk total by receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\30-Yr-
CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\30-
Yr-NCChronicRisk.csv
Chronic risk total by receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\30-Yr-
NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\30-Yr-
NCAcuteRisk.csv
Acute risk total by receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\30-Yr-
NCAcuteRiskSumByRec.csv
HRA ran successfully
```

HARP2 - HRACalc (dated 19044) 5/13/2020 9:20:01 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCChronic8HR
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: RMP

**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 8hr risk
Chronic 8-hr risk breakdown by pollutant and receptor saved to:
P:\CFN1702.24\HRA\Modeling\HARP\hra\8-Hr-NCChronic8HrRisk.csv
Chronic 8-hr risk total by receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\8-Hr-NCChronic8HrRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 19044) 5/13/2020 9:20:54 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS
Receptor Type: Worker
Scenario: All
Calculation Method: HighEnd
**********
EXPOSURE DURATION PARAMETERS FOR CANCER
Start Age: 16
Total Exposure Duration: 25
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: 25
**********
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: RMP
**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
**********
TIER 2 SETTINGS
Tier2 not used.
**********
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\25-Yr-CancerRisk.csv
Cancer risk total by receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\25-Yr-CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\25-Yr-NCChronicRisk.csv
Chronic risk total by receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\25-Yr-NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\25-Yr-NCAcuteRisk.csv
Acute risk total by receptor saved to: P:\CFN1702.24\HRA\Modeling\HARP\hra\25-Yr-NCAcuteRiskSumByRec.csv
HRA ran successfully

# APPENDIX C

# BIOLOGICAL RESOURCES ASSESSMENT

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

May 14, 2020

Ms. Cecily Session-Goins, Assistant Planner
City of Fontana
8353 Sierra Avenue
Fontana, California 92335

Subject: Biological Resources Assessment for the Transwestern Boyle Avenue Warehouse Building 1 Project (Case Numbers MCN 19-133, DRP 19-043, TPM 19-021) and Transwestern Boyle Avenue Warehouse Building 2 Project (Case Numbers MCN 19-135, DRP 19-044, TPM 19-022) in Fontana, San Bernardino County, California (LSA Project Nos. CFN1702.24 and CFN1702.25)

Dear Ms. Session-Goins:

LSA conducted a general biological resources assessment for the Transwestern Boyle Avenue Warehouse Building 1 Project (Case Numbers MCN 19-133, DRP 19-043, TPM 19-021) and Transwestern Boyle Avenue Warehouse Building 2 Project (Case Numbers MCN 19-135, DRP 19-044, TPM 19-022). The approximately 8-acre Building 1 Project site and the approximately 4-acre Building 2 Project site are adjacent to each other at 16796 Boyle Avenue and 16748 Boyle Avenue, respectively, in Fontana, San Bernardino County, California (Figure 1; all figures attached). The project area assessed (Figure 2) includes the area of construction for the Building 1 Project on Assessor's Parcel Numbers (APNs) 0251-202-05, 06, 07, and 0193-381-01, the area of construction for the Building 2 Project on APNs 0251-202-12 and 15, and adjacent improvements of Juniper Avenue and Boyle Avenue. The project area is surrounded by residential and commercial development.

The assessment was conducted for the identification of potential jurisdictional waters and to address California Environmental Quality Act (CEQA) requirements regarding biological resources. The results of the assessment are summarized below.

- There are no features on the site subject to jurisdiction of the U.S. Army Corps of Engineers (USACE) as waters of the U.S. or wetlands or to jurisdiction of the California Department of Fish and Wildlife (CDFW) as rivers, lakes, or streams.
- No threatened or endangered species are expected to inhabit the project site. The site is not within designated critical habitat of any species.
- No substantial project impacts to other special-status species are anticipated.
- There are no sensitive natural communities on the project site.
- A few trees in the study area may be considered Heritage Trees or Significant under the City's tree protection ordinance.



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*LSA is a business name of LSA Associates, Inc.*

# METHODS

## Literature Review

A literature review was conducted to determine the existence or potential occurrence of special-status plant and animal species on or in the vicinity of the project. Database records for the *Fontana, Guasti,* and *San Bernardino South, California* U.S. Geological Survey (USGS) 7.5-minute quadrangles for locations from 900 to 1,200 feet elevation were searched on May 5, 2020, using the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base application *Rarefind 5* (version 5.2.14, https://www.wildlife.ca.gov/Data/CNDDB/). Current and historic aerial photographs were reviewed using *Google Earth* (https://www.google.com/earth). U.S. Fish and Wildlife Service (USFWS) listed species and designated critical habitat information was used to determine the locations of any listed species sightings and critical habitat boundaries on and in the vicinity of the project. Soil types were determined using the California Soil Resources Lab application *SoilWeb Earth* (https://casoilresource.lawr.ucdavis.edu/soilweb-apps/).

## Reconnaissance Field Survey

A general reconnaissance-level field survey was conducted on May 2, 2020, by LSA biologist Stan Spencer from 10:00 a.m. to 5:30 p.m. Weather conditions consisted of 30 percent cloud cover, temperatures from 60 to 69 degrees Fahrenheit, and winds of 1 to 8 miles per hour. Notes were made on general site conditions, vegetation, wildlife, potential jurisdictional waters, and suitability of habitat for various special-status species. The project area was surveyed on foot. Plant and animal species observed during the field survey were noted and are listed in attached Table A. Trees with a diameter at breast height (DBH) of 3 inches or greater were mapped.

# ENVIRONMENTAL SETTING

## Existing and Adjacent Land Use

The project site consists of residences and vacant land and is bounded by a railway, Sierra Avenue, and commercial development to the north and east, and by residential development with scattered vacant lots to the south and west.

Figure 2 shows the assessed project area and photograph locations. Site photographs are provided in Figure 3.

## Elevation, Topography, and Soils

The project site is generally flat and level with an average elevation of approximately 1,080 to 1,110 feet above mean sea level.

Mapped soil on the site is Tujunga loamy sand. Soils observed on the site appeared consistent with this designations. The site is highly disturbed and devoid of natural vegetation. A review of historical aerial photographs (Google Earth 1994, 2002–2019) confirms that the site has been subjected to regular disking and other disturbances.

### Vegetation and Wildlife Observed

Vegetation on the site is ornamental (planted trees, shrubs, and lawns) and ruderal. Ruderal vegetation is dominated by ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), and common fiddleneck (*Amsinckia intermedia*). There are no natural communities present. A complete list of plant species observed on the site, excluding ornamental plantings, is included in attached Table A. Tree locations are shown in Figure 4. No special-status plant species were observed.

Wildlife species detected during the survey include common side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), Eurasian collared dove (*Streptopelia decaocto*), European starling (*Sturnus vulgaris*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), red-tailed hawk (*Buteo jamaicensis*), rock pigeon (*Columba livia*), western kingbird (*Tyrannus verticalis),* western scrub-jay (*Aphelocoma californica*), white-crowned sparrow (*Zonotrichia leucophrys*), yellow-rumped warbler (*Dendroica coronata*), and Botta's pocket gopher (*Thomomys bottae*). No special-status animal species were observed.

## RESULTS AND DISCUSSION

### Wetlands and Other Jurisdictional Waters

The USACE, under Section 404 of the Federal Clean Water Act (CWA), regulates discharges of dredged or fill material into "waters of the United States." These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a connection to interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or it may be indirect (through a connection identified in USACE regulations). The USACE typically regulates as non-wetland waters of the U.S. any body of water displaying an "ordinary high water mark" (OHWM). In order to be considered a "jurisdictional wetland" under Section 404, an area must possess hydrophytic vegetation, hydric soils, and wetland hydrology. The CDFW, under Sections 1600 et seq. of the California Fish and Game Code, regulates alterations to lakes, rivers, and streams. A stream is defined by the presence of a channel bed and banks and at least an occasional flow of water. The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA, through water quality certification of any activity that may result in a discharge to jurisdictional waters of the U.S. The RWQCB may also regulate discharges to "waters of the State," including wetlands, under the California Porter-Cologne Water Quality Control Act.

No drainage features, ponded areas, wetlands, or riparian habitat subject to jurisdiction of the CDFW, USACE, and/or RWQCB were found within the project area.

### Special-Status Species

Species in danger of extinction or that may soon be in danger of extinction may be listed as endangered or threatened under the Federal and State Endangered Species Acts. The USFWS can also designate critical habitat areas that are essential to the conservation of a listed species. In addition to threatened and endangered species, the CDFW maintains lists of plant species

considered rare and animal species designated as Species of Special Concern, as well as other species that it considers to be in need of monitoring.

Threatened and endangered species, plant species considered rare, and Species of Special Concern that have been reported from the general project vicinity are included in attached Table B, along with assessments of habitat suitability on the project site.

### *Threatened and Endangered Species and Critical Habitats*

The results of the literature search indicated the potential occurrence of 13 threatened, endangered, or candidate species in the project vicinity:

- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*);
- Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*);
- Marsh sandwort (*Arenaria paludicola*);
- Gambel's water cress (*Nasturtium gambelii*);
- Quino checkerspot butterfly (*Euphydryas editha quino*);
- Crotch bumble bee (*Bombus crotchii*);
- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*);
- Tricolored blackbird (*Agelaius tricolor*);
- Swainson's hawk (*Buteo swainsoni*);
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*);
- California black rail (*Laterallus jamaicensis coturniculus*);
- Coastal California gnatcatcher (*Polioptila californica californica*); and
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*).

All of these species are considered to be absent from the project site based on lack of suitable habitat (Table B).

The site is not within designated critical habitat of any species.

### *Burrowing Owl*

Burrowing owl, a California Species of Special Concern, occurs in open habitats with low vegetation throughout the region. This special-status species requires special consideration at proposed construction sites because its habit of nesting underground makes it vulnerable to grading and other project-related soil disturbance.

The project area does not provide suitable habitat for burrowing owls because of its small size and isolation from open habitats due to the surrounding dense urban development, combined with a history of regular and intense soil disturbance. Moreover, the site is unsuitable due to the absence of ground squirrel burrows or other features that could provide nesting habitat for this species.

Because of the lack of suitable habitat, no surveys or other measures are required for this species at the project site.

### *Other Non-listed Special-Status Species*

Besides the species discussed above, the literature search indicated the potential presence of 12 rare plants and 15 animal Species of Special Concern in the project vicinity. As explained in Table B, two of these, coastal western whiptail (*Aspidoscelis tigris stejnegeri*) and western yellow bat (*Lasiurus xanthinus*), have only a low probability of inhabiting the site, and the remainder are determined absent due to lack of suitable habitat.

## Natural Communities of Concern

There are no sensitive natural communities on the project site.

## Wildlife Movement, Corridors, and Nursery Sites

The project site is not in a wildlife corridor and does not contain nursery sites. The project would not substantially limit wildlife movement.

## Local Policies and Ordinances Protecting Biological Resources

City and County General Plans and development ordinances may include regulations or policies governing biological resources. For example, policies may include tree preservation, locally designated species survey areas, local species of interest, and significant ecological areas.

The City of Fontana's tree protection ordinance (City Municipal Code Chapter 28: Vegetation, Article III) provides for the protection of Heritage, Significant, and Specimen Trees.

A deodar cedar (*Cedrus deodora*) overhanging Juniper Avenue within the project study area (Photograph 2 in Figure 3; Tree 177 in Figure 4) may be a Significant tree under the ordinance, which defines deodar cedars as Significant trees. However, this definition excludes "any tree located on a private parcel of property of less than one acre zoned for residential use." Based on field observation, this tree appears to be on residential property, although overhanging the street. If this tree is to be pruned or removed, additional investigation or coordination with the City may be required to determine if it would be considered a Significant tree.

The ordinance's definition of Heritage tree includes windrows, which it defines as "a series of trees (minimum of four), usually a variety of eucalyptus, planted in a closely spaced line no more than ten feet apart to provide a windbreak for the protection of property and/or agricultural crops." The project site contains remnants of a windrow, although most of the trees planted in the windrow have since been removed or are now dead. The windrow remnants no longer function as a windrow due to the loss of most of the trees and are devoid of historic context. The remaining trees are also in generally poor health except for a few young trees that probably came up on their own rather than being planted as part of the windrow. There is only one series of four trees that may meet the City's definition of windrow. It consists of Trees 34–37 (Figure 3: Photograph 5; Figure 4). Additional evaluation and coordination with the City will be required if these four trees are to be removed.

## Adopted Habitat Conservation Plans

The project is not within an adopted Habitat Conservation Plan area.

## Nesting/Migratory Birds

Most birds and their active nests are protected from "take" (meaning destruction, pursuit, possession, etc.) under Sections 3503–3801 of California Fish and Game Code. Some protection is also provided under the Migratory Bird Treaty Act. Activities that cause destruction of active nests, or that cause nest abandonment and subsequent death of eggs or young, may constitute violations of one or both of these laws.

The project site has trees and large shrubs that are suitable for nesting. If clearing of vegetation is conducted during the nesting season (approximately February through August), a nesting bird survey may be required prior to clearing.

Sincerely,

**LSA ASSOCIATES, INC.**

Stan Spencer, PhD
Associate/Senior Biologist

Attachments: Table A: Species Observed
Table B: Special-Status Species Summary
Table C: Trees
Figure 1: Regional and Project Location
Figure 2: Project Area
Figure 3: Site Photographs
Figure 4: Tree Locations

## Table A: Plant Species Observed

| Scientific Name | Common Name |
|---|---|
| **EUDICOT FLOWERING PLANTS** | |
| **Asteraceae** | **Sunflower family** |
| *Ambrosia acanthicarpa* | Annual bur-sage |
| *Cotula australis* (non-native species) | Australian brass-buttons |
| *Erigeron canadensis* | Canadian horseweed |
| *Heterotheca grandiflora* | Telegraph weed |
| *Lactuca serriola* (non-native species) | Prickly lettuce |
| *Oncosiphon pilulifer* (non-native species) | Stinknet |
| *Senecio vulgaris* (non-native species) | Common groundsel |
| *Sonchus oleraceus* (non-native species) | Common sow thistle |
| *Verbesina encelioides* (non-native species) | Golden crownbeard |
| **Boraginaceae** | **Borage family** |
| *Amsinckia intermedia* | Common fiddleneck |
| **Brassicaceae** | **Mustard family** |
| *Brassica tournefortii* (non-native species) | Sahara mustard |
| *Hirschfeldia incana* (non-native species) | Shortpod mustard |
| *Sisymbrium irio* (non-native species) | London rocket |
| *Sisymbrium orientale* (non-native species) | Indian hedgemustard |
| **Chenopodiaceae** | **Saltbush family** |
| *Salsola tragus* (non-native species) | Russian thistle |
| **Crassulaceae** | **Stonecrop family** |
| *Crassula connata* | Sand pygmyweed |
| **Cucurbitaceae** | **Gourd family** |
| *Cucurbita foetidissima* | Calabazilla |
| **Geraniaceae** | **Geranium family** |
| *Erodium brachycarpum* (non-native species) | Shortfruit stork's bill |
| *Erodium cicutarium* (non-native species) | Redstem stork's bill |
| **Malvaceae** | **Mallow family** |
| *Malva parviflora* (non-native species) | Cheeseweed mallow |
| **Solanaceae** | **Nightshade family** |
| *Datura wrightii* | Sacred thorn-apple |
| **MONOCOTS FLOWERING PLANTS** | |
| **Poaceae** | **Grass family** |
| *Arundo donax* (non-native species) | Giant reed |
| *Avena fatua* (non-native species) | Wild oat |
| *Bromus diandrus* (non-native species) | Ripgut brome |
| *Bromus madritensis* (non-native species) | Foxtail chess |
| *Hordeum murinum* (non-native species) | Mouse barley |
| *Schismus barbatus* (non-native species) | Common Mediterranean grass |

## Table B: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| **PLANTS** | | | |
| *Arenaria paludicola*<br><br>**Marsh sandwort** | US: FE<br>CA: SE/1B | Boggy areas in freshwater marshes and swamps below 170 meters (560 feet) elevation (formerly higher). Known to presently occur only in San Luis Obispo County (at Oso Flaco Lake and Morro Bay). Believed extirpated from Los Angeles, San Francisco, Santa Cruz, Riverside, and San Bernardino Counties, and from the State of Washington. The last known record of this species in Riverside, San Bernardino, or Los Angeles Counties is from 1900. | **Absent.** Site lacks suitable plant communities. |
| *Astragalus hornii* var. *hornii*<br><br>**Horn's milk-vetch** | US: –<br>CA: 1B | Alkaline playas and lake margins from 60 to 850 meters (200 to 2,800 feet) elevation. In California, known only from Inyo and Kern Counties. Believed extirpated from San Bernardino County. Also occurs in Nevada. | **Absent.** Site lacks suitable wet areas. |
| *Carex comosa*<br><br>**Bristly sedge** | US: –<br>CA: 2B | Bogs and fens, freshwater marshes and swamps, and lake margins below 425 meters (1,400 feet). Known from Lake, Santa Cruz, San Francisco, Shasta, San Joaquin, and Sonoma Counties; and Idaho, Oregon, and Washington. Believed extirpated from San Bernardino County (last known occurrence was in 1882). | **Absent.** Site lacks suitable wet areas. |
| *Centromadia pungens* ssp. *laevis*<br><br>**Smooth tarplant** | US: –<br>CA: 1B | Generally alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 480 meters (1,600 feet) elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County. | **Absent**. Site lacks alkaline areas and typical plant communities. |
| *Chloropyron maritimum* spp. *maritimum*<br><br>**Salt marsh bird's-beak** | US: FE<br>CA: SE/1B | Coastal dunes and salt marshes. In California, known from Los Angeles, Orange, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, and Ventura Counties. Historical collections referred to this taxon from alkaline meadow in vicinity of San Bernardino Valley and from interior San Diego County are intermediate to *C. maritimus* ssp. *canescens*. Also occurs in Mexico. | **Absent.** Site lacks dunes and marsh habitat. |
| *Chorizanthe parryi* var. *parryi*<br><br>**Parry's spineflower** | US: –<br>CA: 1B | Sandy or rocky soils in chaparral, coastal scrub, oak woodlands, and grassland at 40 to 1,705 meters (100 to 5,600 feet) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties. | **Absent.** Site lacks suitable plant communities. |
| *Eriastrum densifolium* ssp. *sanctorum*<br><br>**Santa Ana River woollystar** | US: FE<br>CA: SE/1B | Riversidean alluvial fan sage scrub and chaparral in sandy or gravelly soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks) at 90 to 625 meters (300 to 2,100 feet) elevation in San Bernardino and Riverside Counties. | **Absent.** Site lacks suitable plant communities. |

## Table B: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| *Helianthus nuttallii* ssp. *parishii*<br><br>**Los Angeles sunflower** | US: –<br>CA: 1A | Marshes and swamps (coastal salt and freshwater) at 10 to 500 meters (30 to 1,600 feet) elevation. This species is historically known from Los Angeles, Orange and San Bernardino Counties, California. Last seen in 1937. Presumed extinct. Plants found in 2002 at Castaic Spring along the Santa Clara River in Los Angeles County were initially reported as possibly this taxon, but instead appear to be hybrids or evolutionary intermediates between *H. nuttallii* and *H. californicus*, based on chromosome counts and pollen morphology (*A Quantitative Analysis of Pollen Variation in Two Southern California Perennial* Helianthus *(Heliantheae: Asteraceae)*, J.M. Porter and N. Fraga, 2004). | **Absent.** Site lacks suitable wet areas. |
| *Malacothamnus parishii*<br><br>**Parish's bush mallow** | US: –<br>CA: 1A | Known only from one occurrence in 1895, in chaparral and coastal sage scrub at 490 meters (1,600 feet) elevation in vicinity of San Bernardino. Presumed extinct. | **Absent.** Site lacks suitable plant communities. |
| *Monardella pringlei*<br><br>**Pringle's monardella** | US: –<br>CA: 1A | Sandy hills in coastal sage scrub at 300 to 400 meters (980 to 1,300 feet) elevation. Known only from two occurrences west of Colton. Last seen in 1941. Habitat lost to urbanization. Presumed extinct. | **Absent.** Site lacks suitable plant communities. |
| *Nasturtium (Rorippa) gambelii*<br><br>**Gambel's watercress** | US: FE<br>CA: ST/1B | Marshes from 5 to 330 meters (20 to 1,100 feet) elevation. Currently believed to occur in California only in Santa Barbara and San Luis Obispo Counties. There are historical records from Los Angeles, Orange, and San Bernardino Counties. A historical report from San Diego County likely constitutes a misidentification. Also occurs in Baja California. | **Absent.** Site lacks suitable wet areas. |
| *Phacelia stellaris*<br><br>**Brand's star phacelia** | US: –<br>CA: 1B | Dunes and sandy openings in coastal scrub communities at 5 to 400 meters (20 to 1,300 feet) elevation. In western Riverside County, this species appears to be restricted to sandy washes and benches in alluvial floodplains. Known only from Los Angeles (believed extirpated), Riverside and San Diego Counties, California. The most recent record of this species from Los Angeles County was in 1943. | **Absent.** Site lacks suitable plant communities. |
| *Ribes divericatum* var. *parishii*<br><br>**Parish's gooseberry** | US: –<br>CA: 1A | Deciduous shrub of willow swales in riparian habitats at 60 to 300 meters (200 to 1,000 feet) elevation. Believed to be extinct. Historical collections from Los Angeles and San Bernardino Counties. | **Absent.** Site lacks suitable plant communities. |
| *Sidalcea neomexicana*<br><br>**Salt Spring checkerbloom** | US: –<br>CA: 2B | Alkaline springs and brackish marshes below 1,530 meters (5,000 feet) elevation. In California, known only from Kern, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Believed extirpated from Los Angeles County. Also known from Arizona, New Mexico, Nevada, Utah, and Mexico. | **Absent.** Site lacks suitable wet areas. |

## Table B: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| *Sphenopholis obtusata*<br><br>**Prairie wedge grass** | US: –<br>CA: 2B | Wet meadows, stream banks, and ponds at 300 to 2,000 meters (1,000 to 6,600 feet) elevation. Widely distributed. In Southern California, known only from San Bernardino, Riverside (Santa Ana River), and perhaps San Diego Counties. | **Absent.** Site lacks suitable wet areas. |
| *Symphyotrichum defoliatum*<br><br>**San Bernardino aster** | US: –<br>CA: 1B | Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 2,040 meters (6,700 feet) elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. May also occur in San Luis Obispo County. In the western Riverside County area, this species is scarce, and documented only from Temescal and San Timoteo Canyons (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004). | **Absent.** Site lacks suitable wet areas. |
| **INVERTEBRATES** | | | |
| *Bombus crotchii*<br><br>**Crotch bumble bee** | US: –<br>CA: SCE | Inhabits open scrub and grassland from coastal California to crest of Sierra-Cascade and in desert edge areas, south into Mexico. Suitable bumble bee habitat requires the availability of flowers on which to forage throughout the duration of the colony (spring through fall), colony nest sites, and overwintering sites for the queens. | **Absent:** Site is regularly subject to intense disturbance, including disking, lacks sufficient variation in flowering vegetation, and is isolated from better habitat. |
| *Euphydryas editha quino*<br><br>**Quino checkerspot butterfly** | US: FE<br>CA: SA | Meadows or openings within coastal sage scrub or chaparral below about 5,000 feet where food plants (*Plantago erecta* and/or *Orthocarpus purpurascens*) are present. Historically known from Santa Monica Mountains to northwest Baja California; currently known only from southwestern Riverside County, southern San Diego County, and northern Baja California. | **Absent.** Site lacks suitable plant communities. |
| *Rhaphiomidas terminatus abdominalis*<br><br>**Delhi Sands flower-loving fly** | US: FE<br>CA: SA | Restricted to Delhi series sands in western Riverside and San Bernardino Counties. | **Absent**. Site lacks suitable open soils. |
| **AMPHIBIANS** | | | |
| *Spea hammondii*<br><br>**Western spadefoot** | US: –<br>CA: SSC | Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least three weeks for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and Baja California. | **Absent.** Site lacks suitable wet areas. |

## Table B: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| **REPTILES** | | | |
| *Anniella stebbinsi*<br><br>**Southern California legless lizard** | US: –<br>CA: SSC | Inhabits sandy or loose loamy soils with high moisture content under sparse vegetation in Southern California. | **Absent**. No loose, moist soils present on site. |
| *Arizona elegans occidentalis*<br><br>**California glossy snake** | US: –<br>CA: SSC | Scrub and grassland habitats, often with loose or sandy soils. Patchily distributed from the eastern portion of San Francisco Bay to southern San Joaquin Valley and in non-desert areas of southern California. Also occurs in Baja California, Mexico. | **Absent**. No scrub or grassland present on site. |
| *Aspidoscelis tigris stejnegeri*<br><br>**Coastal western whiptail** | US: –<br>CA: SSC | Woodlands, riparian areas, and sparsely vegetated areas in a wide variety of habitats including coastal sage scrub and sparse grassland. Occurs in valleys and foothills from Ventura County to Baja California. | **Low**. Site is too disturbed and isolated from better habitat to provide typical habitat conditions. |
| *Coleonyx variegatus abbotti*<br><br>**San Diego banded gecko** | US: –<br>CA: SSC | Often associated with rocks. Coastal sage scrub and chaparral, most often on granite or rocky outcrops in these habitats. Interior Ventura County south. | **Absent.** Site lacks suitable rocky areas or plant communities. |
| *Phrynosoma blainvillii (coronatum)*<br><br>**Coast horned lizard** | US: –<br>CA: SSC | Primarily in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation. | **Absent**. Site lacks suitable open sandy areas and is isolated in an urban context. |
| **BIRDS** | | | |
| *Agelaius tricolor* (nesting colony)<br><br>**Tricolored blackbird** | US: –<br>CA: ST/SSC | Open country. Forages in grassland and cropland habitats. Nests in large groups near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, or tall herbs. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs. Occurs in western Oregon, California, and northwestern Baja California. | **Absent.** Site lacks suitable wet areas. |
| *Athene cunicularia* (burrow sites)<br><br>**Burrowing owl** | US: –<br>CA: SSC | Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent. | **Absent.** Site is too small, disturbed, and isolated by urban development; without ground squirrel burrows or other suitable nesting locations. |

## Table B: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| *Buteo swainsoni* (nesting)<br><br>**Swainson's hawk** | US: –<br>CA: ST | Open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Breeds and nests in western North America; winters in South America. Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. In Southern California, now mostly limited to spring and fall transient. Formerly abundant in California with wider breeding range. | **Absent.** Site lacks open habitat and is isolated in an urban context. |
| *Coccyzus americanus occidentalis* (nesting)<br><br>**Western yellow-billed cuckoo** | US: FT<br>CA: SE | Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America. | **Absent.** Site lacks riparian habitat. |
| *Laterallus jamaicensis coturniculus*<br><br>**California black rail** | US: –<br>CA: ST/CFP | Requires shallow water in salt marshes, freshwater marshes, wet meadows, or flooded grassy vegetation. Prefers areas of moist soil vegetated by fine-stemmed emergent plants, rushes, grasses, or sedges, with scattered small pools. Known from coastal California, northwestern Baja California, the lower Imperial Valley, and the lower Colorado River of Arizona and California. Now extirpated from virtually all of coastal Southern California. | **Absent.** Site lacks suitable wet areas. |
| *Polioptila californica californica*<br><br>**Coastal California gnatcatcher** | US: FT<br>CA: SSC | Inhabits coastal sage scrub in low-lying foothills and valleys up to about 500 meters (1,640 feet) elevation in cismontane southwestern California and Baja California. | **Absent.** Site lacks coastal sage scrub habitat. |
| *Vireo bellii pusillus*<br><br>**Least Bell's vireo** | US: FE<br>CA: SE | Riparian forests and willow thickets. The most critical structural component of least Bell's vireo habitat in California is a dense shrub layer 2 to 10 feet (0.6–3.0 meter) above ground. Willows usually dominant. Nests from central California to northern Baja California. Winters in southern Baja California. | **Absent.** Site lacks riparian habitat. |

## Table B: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| **MAMMALS** | | | |
| *Lasiurus xanthinus*<br><br>**Western yellow bat** | US: –<br>CA: SSC | Found mostly in desert and desert riparian areas of the southwest US, but also expanding its range with the increased usage of native and non-native ornamental palms in landscaping. Individuals typically roost amid dead fronds of palms in desert oases, but have also been documented roosting in cottonwood trees. Forage over many habitats. | **Low**. Site has little potential nesting habitat; but bats may occasionally forage over site. |
| *Nyctinomops femorosaccus*<br><br>**Pocketed free-tailed bat** | US: –<br>CA: SSC | Usually associated with cliffs, rock outcrops, or slopes. May roost in buildings (including roof tiles) or caves. Rare in California, where it is found in Riverside, San Diego, Imperial, and possibly Los Angeles Counties. More common in Mexico. | **Absent**. Site lacks nesting habitat; but may occasionally forage over site. |
| *Lepus californicus bennettii*<br><br>**San Diego black-tailed jackrabbit** | US: –<br>CA: SSC | Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California. | **Absent**. Site is too small and isolated, with little open ground. |
| *Chaetodipus fallax fallax*<br><br>**Northwestern San Diego pocket mouse** | US: –<br>CA: SSC | Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California. | **Absent**. Site is too small and isolated, without typical plant communities. |
| *Dipodomys merriami parvus*<br><br>**San Bernardino kangaroo rat** | US: FE<br>CA: SSC | Gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County). In San Bernardino County, this species occurs primarily in the Santa Ana River and its tributaries north of Interstate 10, with small remnant populations in the Etiwanda alluvial fan, the northern portion of the Jurupa Mountains in the south Bloomington area, and in Reche Canyon. In Riverside County, this species occurs along the San Jacinto River east of approximately Sanderson Avenue, and along Bautista Creek. Remnant populations may also occur within Riverside County in Reche Canyon, San Timoteo Canyon, Laborde Canyon, the Jurupa Mountains, and the Santa Ana River Wash north of State Route 60. | **Absent**. No alluvial habitat present on site. |
| *Neotoma lepida intermedia*<br><br>**San Diego desert woodrat** | US: –<br>CA: SSC | Found in desert scrub and coastal sage scrub habitat, especially in association with cactus patches. Builds stick nests around cacti, or on rocky crevices. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California. | **Absent.** Site lacks suitable plant communities. |

## Table B: Special-Status Species Summary

| Species | Status | Habitat and Distribution | Occurrence Probability |
|---|---|---|---|
| *Onychomys torridus ramona*<br><br>**Southern grasshopper mouse** | US: –<br>CA: SSC | Believed to inhabit sandy or gravelly valley floor habitats with friable soils in open and semi-open scrub, including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub, and annual grassland with scattered shrubs, preferring low to moderate shrub cover. More susceptible to small- and large-scale habitat loss and fragmentation than most other rodents, due to its low fecundity, low population density, and large home range size. Arid portions of southwestern California and northwestern Baja California. | **Absent.** Site lacks suitable plant communities and is isolated from better habitat. |
| *Perognathus longimembris brevinasus*<br><br>**Los Angeles pocket mouse** | US: –<br>CA: SSC | Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal sage scrub in Los Angeles, Riverside, and San Bernardino Counties. | **Absent.** Site lacks suitable plant communities and is isolated from better habitat |
| *Taxidea taxus*<br><br>**American badger** | US: –<br>CA: SSC | Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert. Widely distributed in North America. | **Absent.** Site is too small and isolated from open habitats. |

| **LEGEND** | |
|---|---|
| **US: Federal Classifications** | |
| – | No applicable classification |
| FE | Taxa listed as Endangered. |
| FT | Taxa listed as Threatened. |
| **CA: State Classifications** | |
| SE | Taxa State-listed as Endangered. |
| ST | Taxa State-listed as Threatened. |
| SCE | Taxa Candidate for State listing. |
| SSC | California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations. |
| CFP | California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515. |
| SA | Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or rarity status. |
| 1A | California Rare Plant Rank 1A: Presumed extinct in California. |
| 1B | California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere. |
| 2B | California Rare Plant Rank 2B: Rare, threatened, or endangered in California, but more common elsewhere. |
| California Rare Plant Ranks are assigned by a committee of government agency and non-governmental botanical experts and are not official State designations of rarity status. | |

## Table C: Trees

| Tree No. | Scientific Name | Common Name |
|---|---|---|
| 1 | *Eucalyptus* sp. | Eucalyptus |
| 2 | *Eucalyptus* sp. | Eucalyptus |
| 3 | *Eucalyptus* sp. | Eucalyptus |
| 4 | *Eucalyptus* sp. | Eucalyptus |
| 5 | *Eucalyptus* sp. | Eucalyptus |
| 6 | *Eucalyptus* sp. | Eucalyptus |
| 7 | *Eucalyptus* sp. | Eucalyptus |
| 8 | *Eucalyptus* sp. | Eucalyptus |
| 9 | *Eucalyptus* sp. | Eucalyptus |
| 10 | *Eucalyptus* sp. | Eucalyptus |
| 11 | *Eucalyptus* sp. | Eucalyptus |
| 12 | *Eucalyptus* sp. | Eucalyptus |
| 13 | *Eucalyptus* sp. | Eucalyptus |
| 14 | *Eucalyptus* sp. | Eucalyptus |
| 15 | *Eucalyptus* sp. | Eucalyptus |
| 16 | *Eucalyptus* sp. | Eucalyptus |
| 17 | *Eucalyptus* sp. | Eucalyptus |
| 18 | *Eucalyptus* sp. | Eucalyptus |
| 19 | *Eucalyptus* sp. | Eucalyptus |
| 20 | *Eucalyptus* sp. | Eucalyptus |
| 21 | *Eucalyptus* sp. | Eucalyptus |
| 22 | *Eucalyptus* sp. | Eucalyptus |
| 23 | *Eucalyptus* sp. | Eucalyptus |
| 24 | *Eucalyptus* sp. | Eucalyptus |
| 25 | *Eucalyptus* sp. | Eucalyptus |
| 26 | *Eucalyptus* sp. | Eucalyptus |
| 27 | *Eucalyptus* sp. | Eucalyptus |
| 28 | *Eucalyptus* sp. | Eucalyptus |
| 29 | *Eucalyptus* sp. | Eucalyptus |
| 30 | *Eucalyptus* sp. | Eucalyptus |
| 31 | *Eucalyptus* sp. | Eucalyptus |
| 32 | *Eucalyptus* sp. | Eucalyptus |
| 33 | *Eucalyptus* sp. | Eucalyptus |
| 34 | *Eucalyptus* sp. | Eucalyptus |
| 35 | *Eucalyptus* sp. | Eucalyptus |
| 36 | *Eucalyptus* sp. | Eucalyptus |
| 37 | *Eucalyptus* sp. | Eucalyptus |
| 38 | *Eucalyptus* sp. | Eucalyptus |
| 39 | *Eucalyptus* sp. | Eucalyptus |
| 40 | *Eucalyptus* sp. | Eucalyptus |

## Table C: Trees

| Tree No. | Scientific Name | Common Name |
|---|---|---|
| 41 | *Eucalyptus* sp. | Eucalyptus |
| 42 | *Eucalyptus* sp. | Eucalyptus |
| 43 | *Eucalyptus* sp. | Eucalyptus |
| 44 | *Eucalyptus* sp. | Eucalyptus |
| 45 | *Eucalyptus* sp. | Eucalyptus |
| 46 | *Eucalyptus* sp. | Eucalyptus |
| 47 | *Schinus molle* | Peruvian pepper |
| 48 | *Eucalyptus* sp. | Eucalyptus |
| 49 | *Eucalyptus* sp. | Eucalyptus |
| 50 | *Eucalyptus* sp. | Eucalyptus |
| 51 | *Eucalyptus* sp. | Eucalyptus |
| 52 | *Eucalyptus* sp. | Eucalyptus |
| 53 | *Eucalyptus* sp. | Eucalyptus |
| 54 | *Schinus molle* | Peruvian pepper |
| 55 | *Schinus molle* | Peruvian pepper |
| 56 | *Eucalyptus* sp. | Eucalyptus |
| 57 | *Eucalyptus* sp. | Eucalyptus |
| 58 | *Eucalyptus* sp. | Eucalyptus |
| 59 | *Eucalyptus* sp. | Eucalyptus |
| 60 | *Eucalyptus* sp. | Eucalyptus |
| 61 | *Eucalyptus* sp. | Eucalyptus |
| 62 | *Eucalyptus* sp. | Eucalyptus |
| 63 | *Eucalyptus* sp. | Eucalyptus |
| 64 | *Eucalyptus* sp. | Eucalyptus |
| 65 | *Eucalyptus* sp. | Eucalyptus |
| 66 | *Eucalyptus* sp. | Eucalyptus |
| 67 | *Eucalyptus* sp. | Eucalyptus |
| 68 | *Eucalyptus* sp. | Eucalyptus |
| 69 | *Eucalyptus* sp. | Eucalyptus |
| 70 | Fraxinus sp. | Ash |
| 71 | *Washingtonia robusta* | Mexican fan palm |
| 72 | *Washingtonia robusta* | Mexican fan palm |
| 73 | *Eucalyptus* sp. | Eucalyptus |
| 74 | *Eucalyptus* sp. | Eucalyptus |
| 75 | *Eucalyptus* sp. | Eucalyptus |
| 76 | *Eucalyptus* sp. | Eucalyptus |
| 77 | *Eucalyptus* sp. | Eucalyptus |
| 78 | *Eucalyptus* sp. | Eucalyptus |
| 79 | *Eucalyptus* sp. | Eucalyptus |
| 80 | *Eucalyptus* sp. | Eucalyptus |

## Table C: Trees

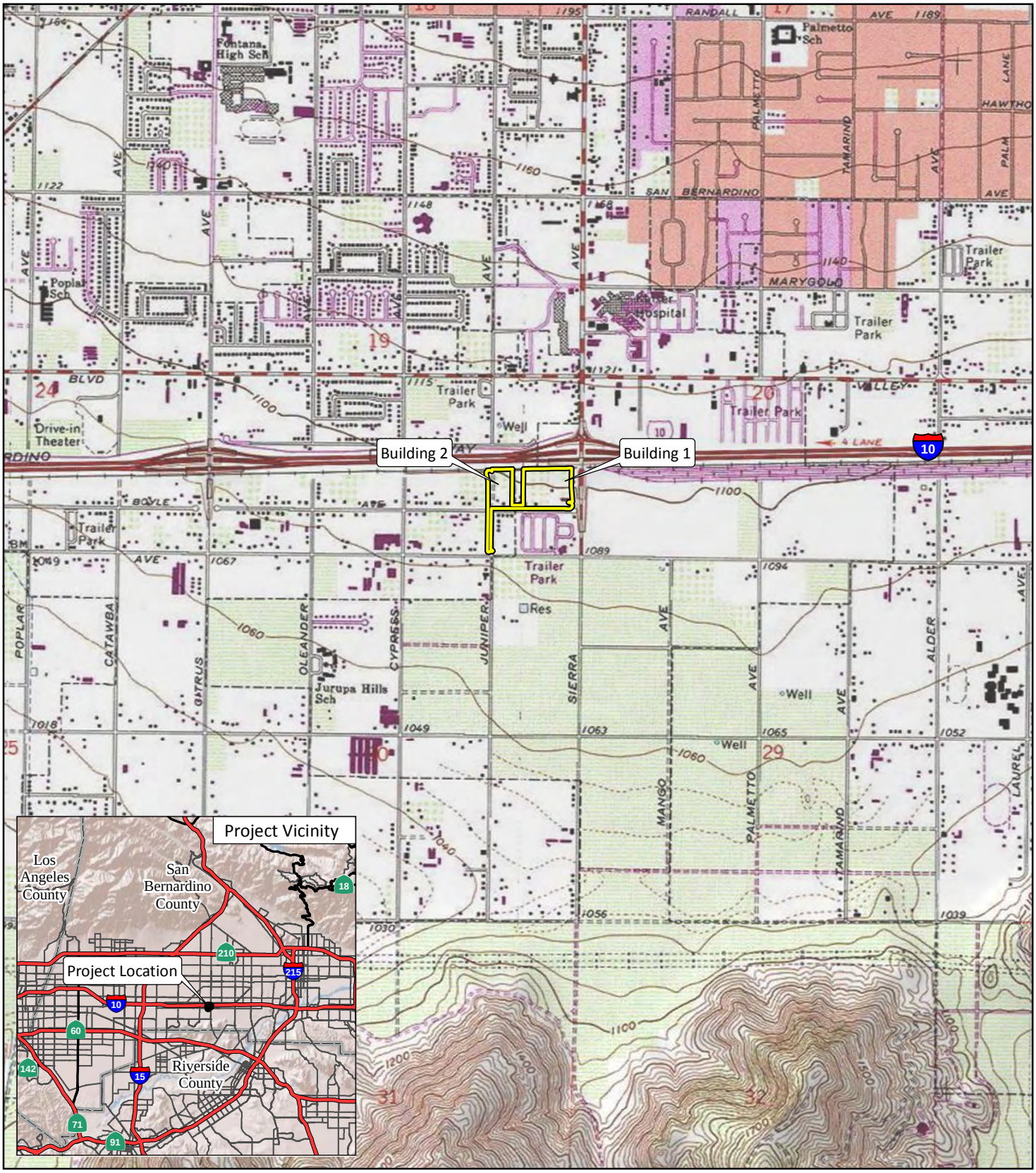
| Tree No. | Scientific Name | Common Name |
|---|---|---|
| 81 | *Eucalyptus* sp. | Eucalyptus |
| 82 | *Eucalyptus* sp. | Eucalyptus |
| 83 | *Eucalyptus* sp. | Eucalyptus |
| 84 | *Fraxinus* sp. | Ash |
| 85 | *Schinus molle* | Peruvian pepper |
| 86 | *Fraxinus* sp. | Ash |
| 87 | *Eucalyptus* sp. | Eucalyptus |
| 88 | *Juglans nigra* | Black walnut |
| 89 | *Eucalyptus* sp. | Eucalyptus |
| 90 | *Schinus molle* | Peruvian pepper |
| 91 | Unidentified non-native tree | Unidentified non-native tree |
| 92 | *Eucalyptus* sp. | Eucalyptus |
| 93 | *Fraxinus* sp. | Ash |
| 94 | *Ceiba speciosa* | Floss silk tree |
| 95 | *Eucalyptus* sp. | Eucalyptus |
| 96 | *Eucalyptus* sp. | Eucalyptus |
| 97 | *Citrus* sp. | Citrus |
| 98 | *Citrus* sp. | Citrus |
| 99 | *Schinus molle* | Peruvian pepper |
| 100 | *Cupressus sempervirens* | Italian cypress |
| 101 | *Schinus molle* | Peruvian pepper |
| 102 | *Jacaranda mimosifolia* | Jacaranda |
| 103 | Unidentified non-native tree | Unidentified non-native tree |
| 104 | Unidentified non-native tree | Unidentified non-native tree |
| 105 | *Pinus sp.* | Pine |
| 106 | *Fraxinus* sp. | Ash |
| 107 | *Olea europaea* | olive |
| 108 | *Fraxinus* sp. | Ash |
| 109 | *Pinus sp.* | Pine |
| 110 | *Melia azedarach* | Chinaberry tree |
| 111 | Unidentified non-native tree | Unidentified non-native tree |
| 112 | *Brachychiton populneus* | Kurrajong |
| 113 | *Persea americana* | Avocado |
| 114 | *Parkinsonia aculeata* | Mexican palo verde |
| 115 | *Parkinsonia aculeata* | Mexican palo verde |
| 116 | *Brachychiton populneus* | Kurrajong |
| 117 | *Erythrina lysistemon* | Common coral tree |
| 118 | *Erythrina lysistemon* | Common coral tree |
| 119 | *Pinus sp.* | Pine |
| 120 | *Pinus sp.* | Pine |

## Table C: Trees

| Tree No. | Scientific Name | Common Name |
|---|---|---|
| 121 | *Eucalyptus* sp. | Eucalyptus |
| 122 | *Jacaranda mimosifolia* | Jacaranda |
| 123 | *Parkinsonia aculeata* | Mexican palo verde |
| 124 | *Fraxinus* sp. | Ash |
| 125 | *Eucalyptus* sp. | Eucalyptus |
| 126 | *Eucalyptus* sp. | Eucalyptus |
| 127 | *Eucalyptus* sp. | Eucalyptus |
| 128 | *Eucalyptus* sp. | Eucalyptus |
| 129 | *Eucalyptus* sp. | Eucalyptus |
| 130 | *Jacaranda mimosifolia* | Jacaranda |
| 131 | *Washingtonia robusta* | Mexican fan palm |
| 132 | *Parkinsonia aculeata* | Mexican palo verde |
| 133 | *Jacaranda mimosifolia* | Jacaranda |
| 134 | *Citrus* sp. | Citrus |
| 135 | *Citrus* sp. | Citrus |
| 136 | *Washingtonia robusta* | Mexican fan palm |
| 137 | *Washingtonia robusta* | Mexican fan palm |
| 138 | *Brachychiton populneus* | Kurrajong |
| 139 | *Phoenix canariensis* | Canary Island date palm |
| 140 | Unidentified non-native tree | Unidentified non-native tree |
| 141 | *Eucalyptus* sp. | Eucalyptus |
| 142 | *Eucalyptus* sp. | Eucalyptus |
| 143 | *Eucalyptus* sp. | Eucalyptus |
| 144 | *Acacia* sp. | Acacia |
| 145 | Unidentified non-native tree | Unidentified non-native tree |
| 146 | Unidentified non-native tree | Unidentified non-native tree |
| 147 | *Eucalyptus* sp. | Eucalyptus |
| 148 | *Cupressus sempervirens* | Italian cypress |
| 149 | Syagrus romanzoffiana | Queen palm |
| 150 | Syagrus romanzoffiana | Queen palm |
| 151 | Syagrus romanzoffiana | Queen palm |
| 152 | Syagrus romanzoffiana | Queen palm |
| 153 | Syagrus romanzoffiana | Queen palm |
| 154 | *Eucalyptus* sp. | Eucalyptus |
| 155 | Unidentified non-native tree | Unidentified non-native tree |
| 156 | Unidentified non-native tree | Unidentified non-native tree |
| 157 | *Melia azedarach* | Chinaberry tree |
| 158 | *Melia azedarach* | Chinaberry tree |
| 159 | *Citrus* sp. | Citrus |
| 160 | Unidentified non-native tree | Unidentified non-native tree |

## Table C: Trees

| Tree No. | Scientific Name | Common Name |
|---|---|---|
| 161 | Unidentified non-native tree | Unidentified non-native tree |
| 162 | *Rhus lancea* | African sumac |
| 163 | *Melia azedarach* | Chinaberry tree |
| 164 | Syagrus romanzoffiana | Queen palm |
| 165 | Syagrus romanzoffiana | Queen palm |
| 166 | Syagrus romanzoffiana | Queen palm |
| 167 | *Schinus molle* | Peruvian pepper |
| 168 | *Melia azedarach* | Chinaberry tree |
| 169 | *Schinus molle* | Peruvian pepper |
| 170 | *Schinus molle* | Peruvian pepper |
| 171 | *Ulmus parvifolia* | Chinese Elm |
| 172 | *Eucalyptus* sp. | Eucalyptus |
| 173 | Unidentified non-native tree | Unidentified non-native tree |
| 174 | Celtis sp. | Hackberry |
| 175 | *Melia azedarach* | Chinaberry tree |
| 176 | Olea europaea | olive |
| 177 | Cedrus deodara | Deodar cedar |




LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

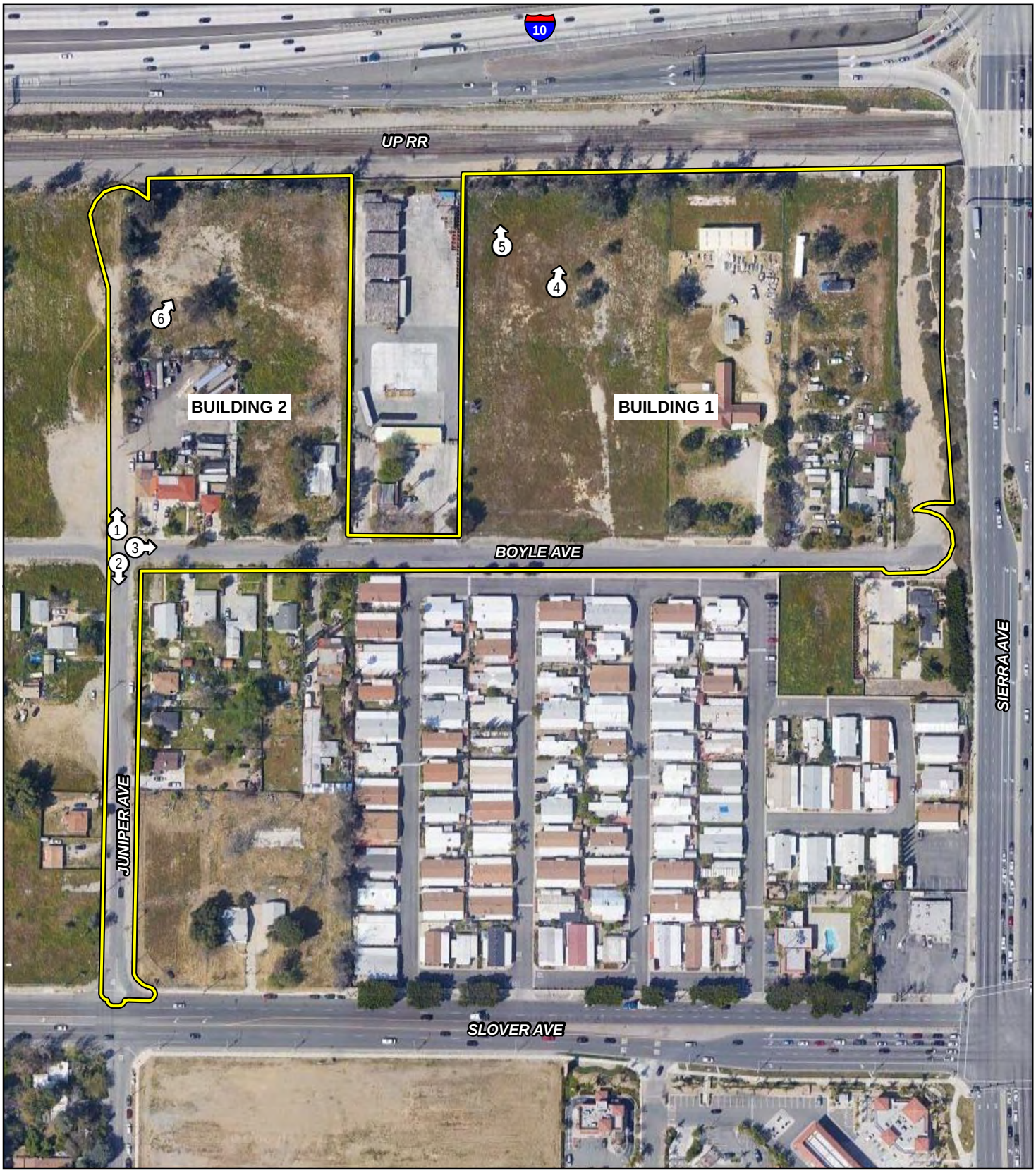
FEET

*Transwestern Boyle Avenue Warehouse Buildings 1 and 2*

Regional and Project Location

SOURCE: USGS 7.5' Quad - *Fontana* (1980), CA

I:\CFN1702.24\GIS\MXD\ProjLoc.mxd (5/5/2020)




LSA

LEGEND

Project Area

Photo Locations

N

0 100 200
FEET

FIGURE 2

*Transwestern Boyle Avenue Warehouse Buildings 1 and 2*

Project Area

SOURCE: Google Maps (2019)

I:\CFN1702.24\GIS\MXD\ProjArea.mxd (5/5/2020)

Photograph 1. View of west edge of project site, looking north along Juniper Avenue.

Photograph 2. View looking south from project site along Juniper Avenue, showing overhanging deodar cedar.

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FIGURE 3
Page 1 of 3

*Transwestern Boyle Avenue Warehouse*
*Buildings 1 and 2*

Site Photographs

Photograph 3. View of south edge of project site, looking east along Boyle Avenue.

Photograph 4. View of north portion of project site, showing remnants of windrow at north edge.

LSA

FIGURE 3


*Transwestern Boyle Avenue Warehouse*
*Buildings 1 and 2*

Site Photographs

Photograph 5. View of north  edge of project site, showing Trees 30 (right edge of photo) through 40 (left edge of photo).

Photograph 6. View of northwest portion of project site, looking northeast.

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LEGEND

Project Area

Tree

0 50 100
FEET

SOURCE: Google Maps (2019)

I:\CFN1702.24\GIS\MXD\TreeLocations.mxd (5/5/2020)

FIGURE 4

*Transwestern Boyle Avenue Warehouse Buildings 1 and 2*

Tree Locations

# APPENDIX D

# CULTURAL RESOURCES ASSESSMENT

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

# MEMORANDUM

**DATE:** May 27, 2020

**TO:** Dionisios Glentis, Senior Environmental Planner

**FROM:** Casey Tibbet, Associate/Architectural Historian
Riordan Goodwin, Senior Archaeologist

**SUBJECT:** Cultural Resources Documentation for the Transwestern-Boyle Avenue Warehouse Buildings 1 and 2 Project in the City of Fontana, San Bernardino County, California (LSA Project Nos. CFN1702.24/25)

In April and May 2020, LSA, under contract to the City of Fontana, completed cultural resources documentation for the Transwestern Boyle Avenue Warehouses Project in the City of Fontana (City) in San Bernardino County, California. The project area is located in the southern part of the City on approximately 12.53 acres generally bound by Boyle Avenue to the south, Sierra Avenue to the east, the Southern Pacific Railroad right-of-way to the north, and Juniper Avenue to the west. The project area comprises Assessor's Parcel Numbers (APNs) 0251-202-05, 06, and 07, and 0193-381-01 (Building 1), along with 025-120-12 and 15 (Building 2) and adjacent improvements of Juniper Avenue and Boyle Avenue (attached Figure 1). The project area includes three vacant parcels and three single-family homes. An approximately 2-acre parcel (APN 0251-202-04) developed with a commercial use in the middle of the project area is not a part of the proposed project. The project proposes to remove all of the buildings to facilitate construction of warehouses. As part of the environmental review process for the proposed project, the City requires cultural resources documentation. To accomplish this, LSA completed the following work.

## RECORDS SEARCH

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC), the State-designated repository for records concerning cultural resources in San Bernardino County. Supplementary data from a records search for a recent nearby project (Southwest Fontana Logistics Center, 2017) was also reviewed for information on resources in the vicinity of the project area.

Records search data indicate there have been 17 previous studies within one mile, one of which included a portion of the project area (Shahira Ashkar, 1999: Cultural Resource Inventory Report for Williams Communications, Inc., Proposed Fiber Optic System Installation Project, Los Angeles to Riverside, Los Angeles, Riverside and San Bernardino Counties). Although no resources were documented within the project area, two archaeological sites (prehistoric site 36-005421, an artifact scatter/possible habitation site 0.64 miles south-southwest, and historic period site 36-011567, building foundations and associated features 0.5 miles east) are documented within a mile, along with an additional 19 historic-period built environment properties.



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*LSA is a business name of LSA Associates, Inc.*

## ARCHIVAL RESEARCH

In April 2020, LSA staff conducted archival research on the history and development of the project area. The purpose of this research was to determine the construction, use, and ownership history of the historic-period buildings. Research utilized primary and secondary sources of information such as building permits, historic maps and photographs, newspaper articles, city directories, and written histories of Fontana, but was somewhat limited by restrictions related to COVID-19.

As a result of the archival research, it was found that the residence at 16868 Boyle Avenue was built in 1925 and was surrounded by groves until at least 1967. Sometime after 1967, the groves were removed and the residence sustained additions. Research also found that the residence at 16716 Boyle Avenue was built in 1949. Although the property had been developed with groves until at least 1948, by 1959 the groves had been removed. No information was found for people associated with the properties during the historic period.

## FIELD SURVEYS

On April 2, 2020, the archaeological and architectural field surveys of the project area were completed.

### Archaeology

LSA Archaeologist Riordan Goodwin completed the intensive-level archaeological survey of all the project parcels and identified/documented two historic period resources:

#### LSA-CFN1702-S-1

Although the residence has been removed from 16748 Boyle Avenue (APN 025-120-215 on Warehouse site 2), related features (cobble-and mortar retaining walls and gate/driveway) and landscaping (eucalyptus windrows and other miscellaneous trees) remain.

#### LSA-CFN1702-S-2

An agricultural shed slab dating to at least the late 1930s and a eucalyptus windrow are located at the northern end of the property at 16832 Boyle Avenue (APN 025-120-206 on Warehouse site 1).

### Built Environment

LSA Architectural Historian Casey Tibbet and Photographer Dennis Lechner completed the intensive-level architectural surveys of two historic-period residences in the project area. During the surveys, Ms. Tibbet took detailed notations regarding the current conditions and integrity of the two historic-period residences and related features. Mr. Lechner took digital photographs of each of the properties in the project area. For the two historic-period buildings, he photographed the building elevations that could be easily viewed and took context shots. The field surveys revealed that both residences have sustained alterations and that neither conveys a strong association with the past or their individual periods of significance.

## PREPARATION OF DEPARTMENT OF PARKS AND RECREATION (DPR) FORMS

DPR forms (attached) were completed for both historic-period archaeological resources (LSA-CFN1702-S-1 at 16748 and LSA-CFN1702-S-2 at 16832 Boyle Avenue).

The two historic-period residences in the project area were documented and evaluated under the criteria for listing in the California Register of Historical Resources (California Register) and the local criteria for designation. DPR forms (attached) were completed for both properties. Neither property was evaluated as historically significant. They are not "historical resources" as defined by CEQA.

## EVALUATION/RECOMMENDATIONS

The foregoing has outlined the methods and results of the various avenues of research and field surveys. As previously stated, no "historical resources," as defined by CEQA, were encountered within the project area. Therefore, the City may reach a finding of *No Impact* regarding cultural resources. However, standard regulatory compliance measures regarding buried cultural resources are required in conformance with Section 15064.5(e) of the *CEQA Guidelines*, PRC Section 5097.98, and State Health and Safety Code Section 7050.5.

Please note that the eucalyptus trees on site technically meet the City's definition of a *windrow* (at least four trees planted within 10 feet of each other). The City has identified windrows as having the potential to be Heritage Trees if they represent a significant period of the City's growth (Article III, Section 28-63 of the City's Municipal Code). Historically, windrows were planted as wind breaks for agricultural fields. Removal of the windrows in Fontana began in the early 1940s, coinciding with the opening of the Kaiser Steel Mill (approximately 3 miles west of the Project site) and associated development throughout the City (Chapter 3: Land Use Element. Page 3-19. *2003 Fontana General Plan*). The eucalyptus trees on site ceased to function as windrows for agricultural activities sometime between 1985 and 1994, when the last of the orchards was removed from the project site (*Phase I Environmental Site Assessment, NEC Boyle & Juniper Avenues, Fontana, California, 92337.* Page 13. Avocet Environmental, Inc. February 3, 2020). Since then, many of the eucalyptus trees on site have declined in health or died making the remnant windrows sparse and disconnected. For these reasons, the windrows on site are no longer representative examples of the City's agricultural past and do not meet the criteria for *Historical Resources* as defined in *CEQA Guidelines* Section 15064.5(a).

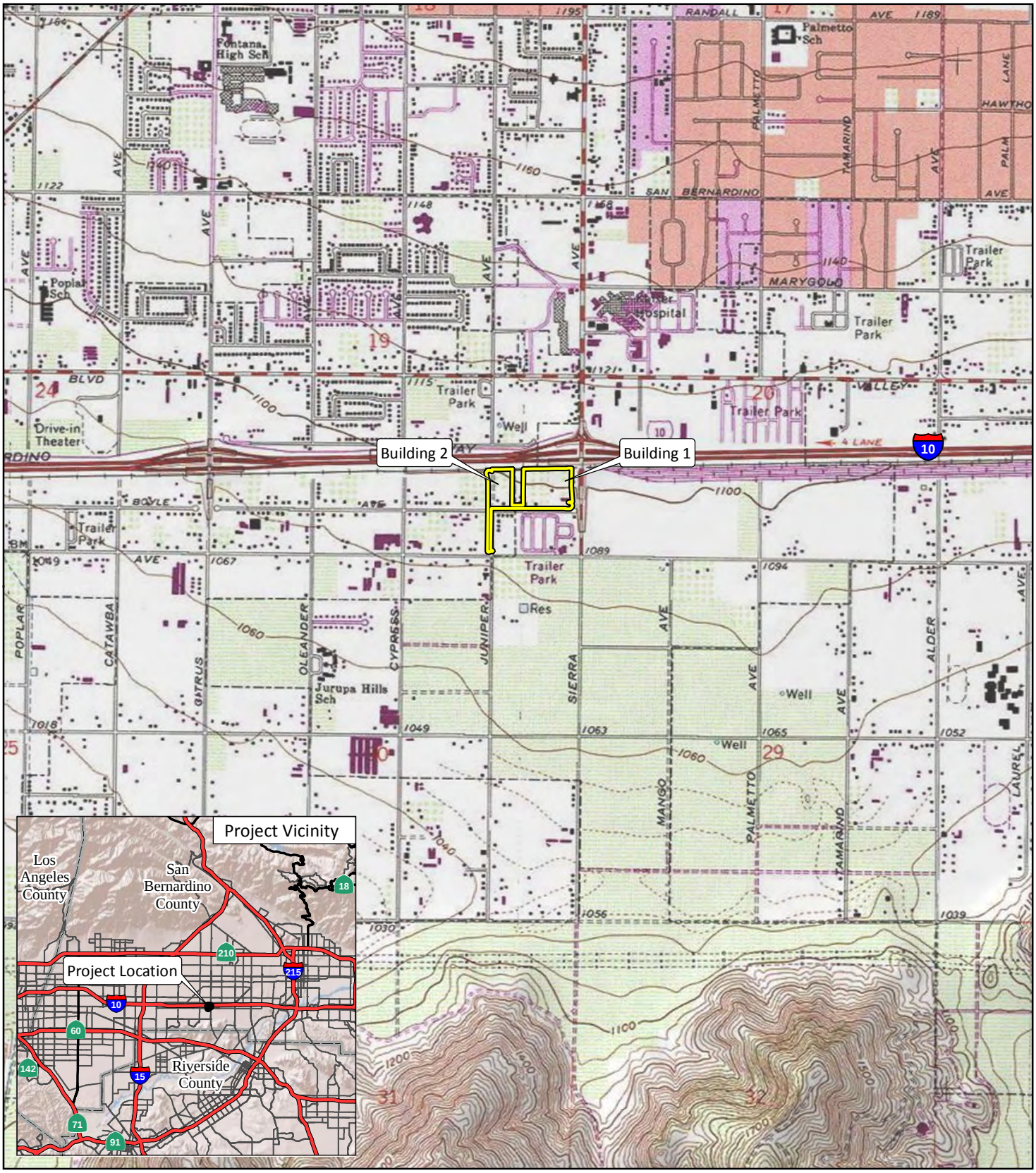
Although historic period archaeological and landscape resources dating to the Depression Era and earlier were identified at both proposed warehouse sites, they are secondary/marginal in nature and do not meet the criteria for *Historical Resources* as defined by CEQA. Both sites have sustained severe disturbance from decades of agricultural cultivation, residential development, associated landscaping, and weed abatement disking. Additionally, available data indicate no prehistoric resources have been documented with a half-mile of the project. Considering all of this, the sensitivity of both proposed warehouse sites for intact subsurface archaeological resources is low to moderate, and archaeological monitoring is therefore optional.

If buried cultural materials are encountered during earthmoving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

In the event human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD will have the opportunity to offer recommendations for the disposition of the remains.

## ATTACHMENTS

- Figure 1
- DPR Forms




LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

*Transwestern Boyle Avenue Warehouse Buildings 1 and 2*

Regional and Project Location

SOURCE: USGS 7.5' Quad - *Fontana* (1980), CA

I:\CFN1702.24\GIS\MXD\ProjLoc.mxd (5/5/2020)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

# PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

 Resource Name or #: 16716 Boyle Avenue

P1. Other Identifier: _____

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County: San Bernardino and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: *Fontana, CA* Date: 1980 T1S; R5W; Section 19; S.B.B.M.

c. Address: 167156 Boyle Avenue City: Fontana Zip: 92337

d. UTM: Zone: 11; _____mE/ _____mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate): APN 0251-202-12

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This vernacular one-story residence is situated on the northeast corner of Boyle Avenue and Juniper Avenue and is oriented to the south. It is irregular in plan and surmounted by a low-pitched, cross-hipped roof sheathed with composition shingles and has narrow eaves. The exterior walls are covered with modern stucco and some brick skirting. The south-facing asymmetrical façade includes an attached carport, a breezeway, three vinyl-framed sliding windows, a door with a metal security screen, and a slightly projecting bay with a vinyl-framed sliding window. A detached garage with a hipped roof is located to the east of the house with a separate driveway. Behind the house there is a large, fenced in paved area where big rigs and trailers are stored. The residence appears to be in fair to good condition, but has sustained alterations (windows, stucco, and additions) that have compromised its architectural integrity.

*P3b. Resource Attributes: (List attributes and codes) HP2-Single-family property

*P4. Resources Present: ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

*See Continuation Sheet*

P5b. Description of Photo: (View, date, accession #) Façade, view to the north (4/2/2020)

*P6. Date Constructed/Age and Sources: ☒Historic ☐Prehistoric ☐Both
1949 (San Bernardino County Property Information System)

*P7. Owner and Address:
Unknown

*P8. Recorded by: (Name, affiliation, and address)
Casey Tibbet, M.A.
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

*P9. Date Recorded:
April 2, 2020

*P10. Survey Type: (Describe) Intensive-level CEQA compliance

*P11. Report Citation: (Cite survey report and other sources, or enter "none.")

*Attachments: ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

# BUILDING, STRUCTURE, AND OBJECT RECORD



*NRHP Status Code 6Z

*Resource Name or # (Assigned by recorder) 16716 Boyle Avenue

**B1. Historic Name:** _____
**B2. Common Name:** _____
**B3. Original Use:** Single-family residence **B4. Present Use:** Single-family residence
***B5. Architectural Style:** Vernacular
***B6. Construction History:** (Construction date, alterations, and date of alterations)
According to the San Bernardino County Property Information Management System (PIMS; 2020), the residence was built in 1949. Historic aerial photographs reveal that the property was developed with groves until sometime between 1948 and 1959 (Historicaerials.com var.). What appears to be a eucalyptus windrow along the rear property line is visible as late as 1967, but was gone by 1994 (Ibid.). The property was annexed to the City of Fontana in 1968 (City of Fontana 2020). The City provided a copy of the building permit listed below.

1997 – Permit issued to owner Antonio Aguirre to construct a 73-foot long, 6-foot high block wall.

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** _____ **Original Location:** _____
***B8. Related Features:** Fenced paved area where big rigs and trailers are parked.
**B9a. Architect:** Not found **b. Builder:** Not found
***B10. Significance: Theme:** Residential Architecture; Post-WWII Development **Area:** City of Fontana
**Period of Significance:** 1949 **Property Type:** Single-family residence **Applicable Criteria:** NA
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)
This 1949 vernacular residence does not meet the criteria for listing in the California Register of Historical Resources or for designation under the local ordinance (Article XIII Preservation of Historic Resources). It is not a historical resource for purposes of the California Environmental Quality Act (CEQA).

**Historic Context.**
In 1851, the Lugo family sold a portion of Rancho San Bernardino (including part of what is now Fontana, San Bernardino, Rialto, and Bloomington) to a group of Mormon settlers in 1851 (Richards 1966; Anicic 2005). The Semi-Tropical Land & Water Company subsequently acquired the Fontana portion of the Rancho, where a small community of about 25 families had formed around the Rosena station of the Santa Fe Railroad's line to Los Angeles (completed in 1887); however the company failed to successfully develop a townsite (Gudde 1998; Anicic 2005). *See Continuation Sheet*

**B11. Additional Resource Attributes:** (List attributes and codes)

***B12. References:**
Ancestry.com
Var. A variety of records were accessed online in April 2020 at: http://home.ancestry.com/. These include city directories, voter registration records, and United States Census Data.
Anicic, John Charles, Jr.
2005 *Images of America: Fontana*. Arcadia Publishing, San Francisco.
2006 *Images of America: Kaiser Steel Fontana*. Arcadia Publishing, San Francisco.
California Department of Transportation
2011 *Tract Housing in California, 1945–1973. A Context for National Register Evaluation.* Caltrans Division of Environmental Analysis, Sacramento
*See Continuation Sheet*
**B13. Remarks:**

***B14. Evaluator:** Casey Tibbet, M.A., LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

***Date of Evaluation:** April 2020

(Sketch Map with north arrow required.)

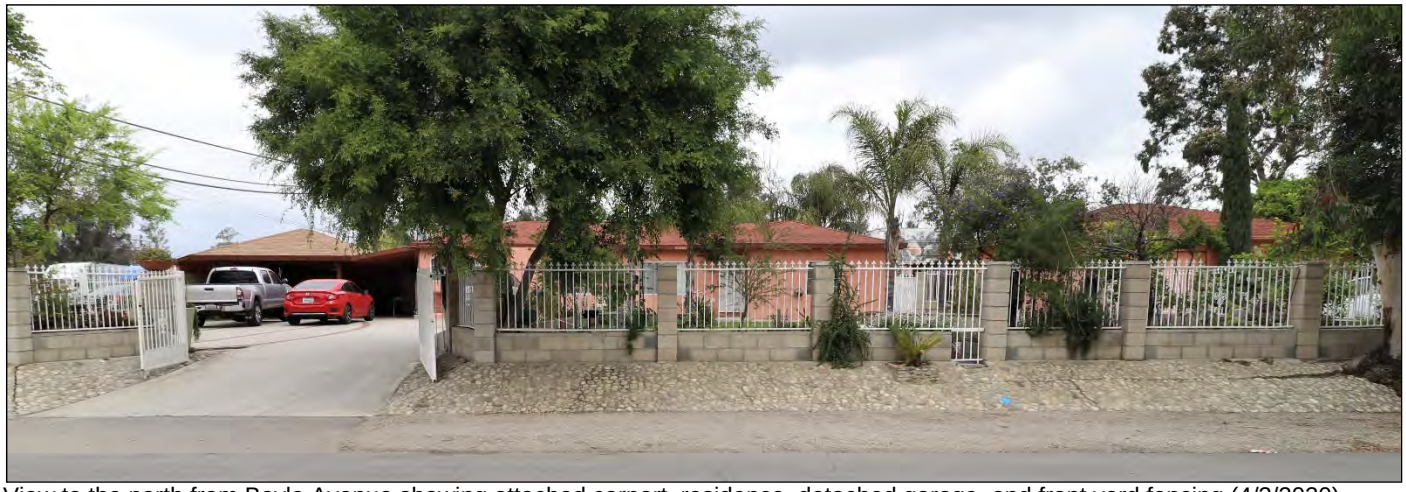
Refer to Location Map

(This space reserved for official comments.)

**P5a. Photo or Drawing** (continued from page 1)

Carport and façade, view to the northeast (4/2/2020)

Façade and detached garage, view to the northeast (4/2/2020)



View to the north from Boyle Avenue showing attached carport, residence, detached garage, and front yard fencing (4/2/2020).

***B10. Significance** (continued from page 2)

Development of Fontana began in earnest after the arrival of and purchase of the land by Azariel Blanchard Miller in 1905 and 1906 respectively (Anicic 2005). Miller, a visionary entrepreneur of hydroelectric power, cooperative marketing, planned community development and irrigated agriculture, sought an alternative to aristocratic citrus colonies like Redlands. He envisioned Fontana as an unprecedented combination of the industrialized plantation (Fontana Farms) and Jeffersonian smallholdings, "an Arcadian community of small chicken ranchers and citrus growers living self-sufficiently in their electrified bungalows" (Davis 2006).

When he arrived in 1905, Miller brought with him 200 head of horses, mules, plows, scrapers, and mess and sleeping tents, the remnants of a grading outfit he had used to build irrigation ditches in Imperial County (Davis 2006). With this equipment, he began clearing the 20,000 acres of land administered by the Fontana Development Company. Development focused first on the establishment of the water system, designed by William Starks, former superintendent of the San Bernardino Water Department, followed by the planting of 500 miles of eucalyptus-tree windbreaks and thousands of acres of citrus and deciduous orchards (Davis 2006). "By 1913, [Miller's] Fontana Company was ready to begin laying out a townsite between Foothill Boulevard (an old wagon road soon to become part of famous US 66) and the Santa Fe tracks," subdividing the land into idyllic, model small farms for "would-be rural escapists" of nearby urban Los Angeles (Davis 2006:380-381). As Mike Davis recalls:

> Miller's dream sold well, even through the early years of the Depression. By 1930 the Fontana Company had subdivided more than three thousand homesteads, half occupied by full-time settlers, some of them immigrants from Hungary, Yugoslavia, and Italy. The ten pioneer poultry plants of 1919 had grown to nine hundred, making the district the premier

*See Continuation Sheet*

***B10. Significance** (continued from page 3)

poultry center of the West. Fontana Farms, meanwhile, had expanded to a full-time workforce of five hundred Mexican and Japanese laborers—comparable to the largest cotton plantations in the Mississippi Delta (Davis 2006:382).

However, the "modernized Jeffersonian idyll," was abruptly and radically transformed during World War II when Henry J. Kaiser built one of only two steel mills west of the Mississippi River outside the city limits (Davis 2006:376). Suddenly "reshaped to accommodate the dream of a Rooseveltian industrial in the West," Fontana was soon Southern California's leading producer of steel and related products (Davis 2006:376; Goodwin 2003). Much of the downtown area was transformed by a rush development of single-family homes and apartments commissioned by Kaiser Steel with federal permission to use war materials to house the influx of new plant workers (Anicic 2006). To provide for the plant workers' health needs, Henry J. Kaiser also constructed the Fontana Kaiser Permanente medical facility, now the largest managed care organization in the United States (Fontana Chamber of Commerce 2014). As a result of this population explosion, the City of Fontana was incorporated in 1952 with a population of 13,695 (Goodwin 2003).

As with much of the Southern California region, Fontana experienced a postwar population boom that resulted in a surge of suburban residential development. Vast housing tracts and single-home in-fill began to replace the agricultural lands and groves for which Fontana was once celebrated. The steel industry continued to dominate the City's economy until the late 1970s, when Kaiser Steel began to reduce production and manpower, finally closing the mill in 1983 (Goodwin 2003). The plate steel and rolling mill plant was subsequently acquired by California Steel Company, which continues to produce steel products.

As of 2015, the population was estimated to have reached over 200,000 (United States Census var.). This rapid expansion had much to do with the numerous large, new residential developments in the almost totally undeveloped northern part of the city, as well as the city's aggressive (and highly successful) campaign to annex several unincorporated, but developed, San Bernardino County island areas in 2006–2007 (Wikipedia 2017).

**People Associated with this Property**. No information was found for people associated with the property during the historic period.

**Significance Evaluation**. This property is being evaluated under the California Register and local criteria for CEQA compliance. Some of the local criteria are very similar to the California Register criteria, therefore, where appropriate the two sets of criteria have been combined to avoid redundancy.

**California Register Criterion 1**: **Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.**
**Fontana Criterion 2: It is identified with persons, a business use, or events significant in local, state, or national history.**
**Fontana Criterion 6: It is a geographically definable area possessing a concentration of sites, buildings, structures or objects that are unified by past events or are unified aesthetically by plan or physical development.**
This residence was built during the post-WWII period during the post-WWII residential boom that made a significant contribution to the broad patterns of local, regional, and even national history. "More than 40 million housing units were built in the United States during the 30 year period following the end of World War II, and at least 30 million of these were single-family houses" (California Department of Transportation 2011:2). These homes were typically modest in size and style and constructed in a short time as part of large tracts marketed to the working class. "The fundamental unit for postwar housing is not the individual house, but the tract, or a single construction phase within a larger tract or new community" and typically a single home would not be individually significant in this context (California Department of Transportation 2011:121). As with most homes associated with this historic context, individually this residence is unimportant and insignificant. Furthermore, it is not part of a tract development and, therefore, would not contribute to a potential historic district of post-WWII tract homes.

**California Register Criterion 2: Associated with the lives of persons important to local, California or national history.**
**Fontana Criterion 2: It is identified with persons, a business use, or events significant in local, state, or national history.**
No evidence was found indicating that the property is associated with historically significant people.

*See Continuation Sheet*

***B10. Significance** (continued from page 4)

**California Register Criterion 3: Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.**
**Fontana Criterion 1: It has a special historical, archeological, cultural, architectural, community or aesthetic value.**
**Fontana Criterion 3: It embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship.**
This residence does not embody the distinctive characteristics of any architectural style and is a common residential type that was built using common construction methods and materials. There is no indication that it is the work of a master and it does not possess high artistic, architectural, or aesthetic values. It has been altered (modern windows and stucco) and does not retain enough integrity to convey its association with its period of significance.

**California Register Criterion 4: Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.** This residence was built in 1925 using common materials and construction practices. It does not have the potential to yield information important to the history or prehistory of the local area, California, or the nation.

The following are the remaining City of Fontana criteria.

**Fontana Criterion 4: It has a unique location or singular physical characteristic that represents an established and familiar visible feature of a neighborhood or community or the city**.
This residence is located on the northeast corner of a T-intersection and behind the property is approximately 250 feet of vacant land, railroad right-of-way (ROW), and then freeway ROW. It does not have a unique or singular physical characteristic or location that represents an established and familiar visible feature of the neighborhood, community, or city.

**Fontana Criterion 5: Its integrity as a natural environment or feature strongly contributes to the well-being of residents or a neighborhood of the city**.
This residence is not a natural feature and it does not contribute to the well-being of area residents or the larger community.

***B12. References** (continued from page 2)

City of Fontana
2020 Email communication from Susana Gallardo, City Clerk's Office, regarding annexation date and building permits.
Var. Building permits for 16716 Boyle Avenue. Provided by the City in April 2020.
Davis, Mike
2006 *City of Quartz.* Second Edition. Published by Verso, the imprint of New Left Books. New York and London.
Fontana Chamber of Commerce
2014 "City of Fontana History." Accessed online in December 2014 at: http://fontanacacoc.wliinc21.com/live_and_work/history.aspx.
Goodwin, Riordan
2003 Cultural and Paleontological Resources Assessment, J.W. Mitchell Specific Plan, City of Fontana, San Bernardino County, California. Unpublished report on file at the AIC.
Gudde, Erwin G.
1998 *California Place Names: The Origin and Etymology of Current Geographical Names*. Fourth edition, revised and enlarged by William Bright. Berkeley and Los Angeles: University of California Press.
Historicaerials.com
Var. Accessed online in April 2020 at: https://www.historicaerials.com/viewer.
Richards, Elizabeth W.
1966 *Guideposts to History: Concerning Origins of Place and Street Names in San Bernardino County.* Santa Fe Federal Savings.
San Bernardino County PIMS
2020 Information for APN 0251202070000 accessed online in April 2020 at: https://www.sbcounty.gov/assessor/pims/(S(fx2gb5x2spurvg1r1f4osxz5))/PIMSINTERFACE.ASPX
United States Census
var. Population and other census information for the City of Fontana. Accessed January 2017 at: https://www.census.gov.
Wikipedia
2017 City of Fontana. https://en.wikipedia.org/wiki/Fontana,_California. Accessed December 2, 2015.

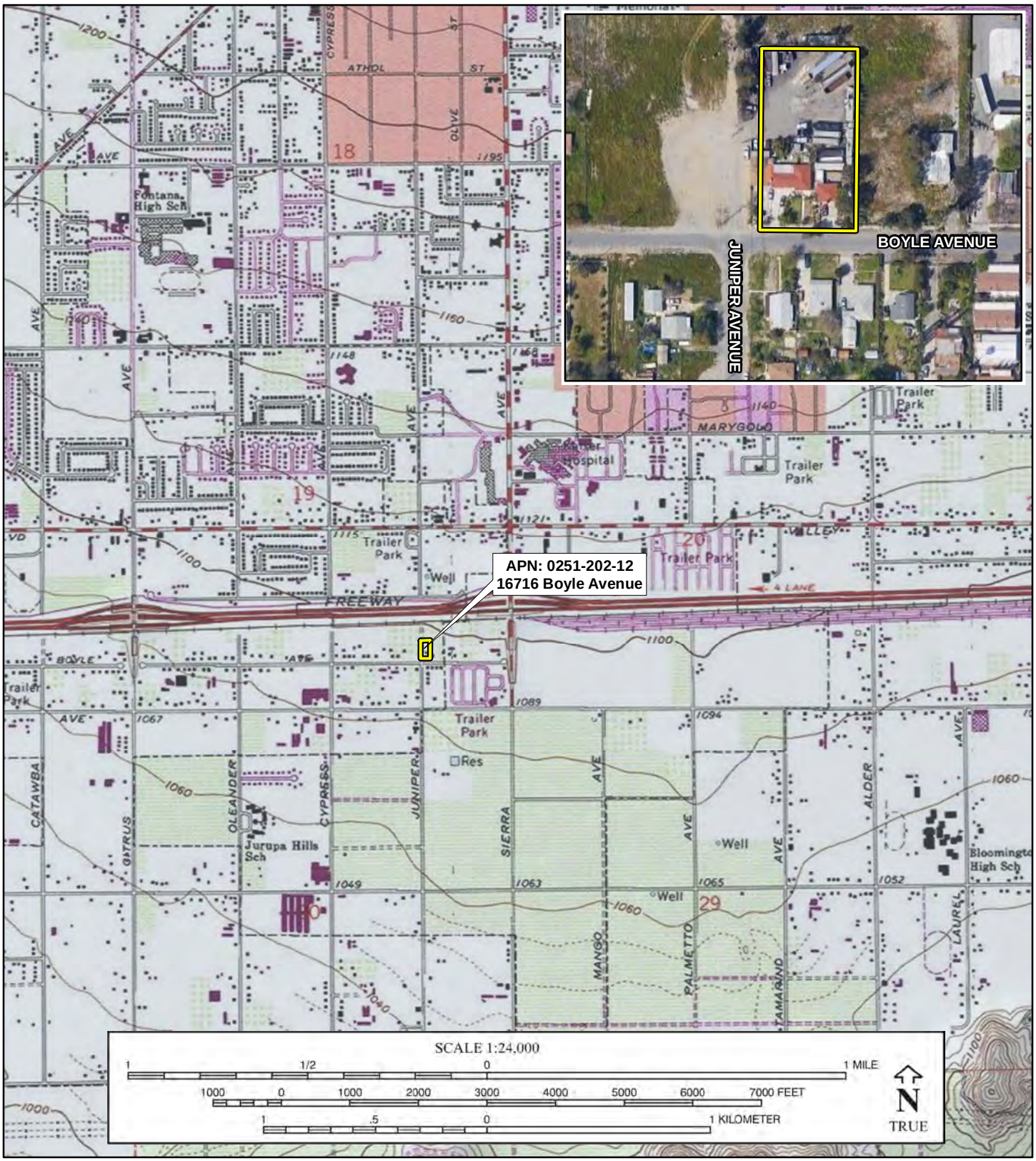
State of California - Resource Agency
**DEPARTMENT OF PARKS AND RECREATION**
# LOCATION MAP

**Primary #** _____
**HRI #** _____
**Trinomial** _____



*Resource Name or # (Assigned by recorder) 16716 Boyle Avenue

*Map Name: *Fontana*, CA 7.5' USGS; Google *Scale: 1:24000 *Date of Map: 1980; 2018




I:\CFN1702.24\GIS\MXD\Cultural\DPR_APN_5025120212.mxd (5/8/2020)

**DPR 523J (1/95)** ***Required Information**

| State of California — The Resources Agency<br>DEPARTMENT OF PARKS AND RECREATION<br>**PRIMARY RECORD** | Primary #<br>HRI #<br>Trinomial<br>NRHP Status Code | | |
|---|---|---|---|
| | Other Listings<br>Review Code | Reviewer | Date |

 ***Resource Name or #:** LSA-CFN1702-S-1

**P1. Other Identifier:** 16748 Boyle Avenue

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** San Bernardino, California

**and** (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** *Fontana, California* **Date:** 1980 **T** 1S; **R** 5W; NW ¼ **of** SE ¼ **of Sec** 19**;** M.D. SB**B.M.**

c. Address: 16748 Boyle Avenue City: Fontana, CA Zip: 92335

d. UTM: Zone: 11; 459455 **mE/** 3769555 **mN** (NAD 83)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 025-120-215
This resource is located adjacent to Interstate 10 on the north side of Boyle Avenue between Juniper and Sierra Avenues.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This resource consists of the cobble-and-mortar retaining walls, driveway, and remnant landscaping (including eucalyptus row) associated with the house formerly located at this address (see Archaelogical Site Record for details)

***P3b. Resource Attributes:** (List attributes and codes) AH11/AH3 (Rock wall, driveway, landscaping remnants)

***P4. Resources Present:** ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

**P5b. Description of Photo**: (View, date, accession #)
Frame 1/2397: View northeast from south side of Boyle Avenue.

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
1927 and later/Zillow

***P7. Owner and Address:**
City of Fontana
8353 Sierra Avenue
Fontana, California 92335

***P8. Recorded by:** (Name, affiliation, and address)
Riordan Goodwin
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

***P9. Date Recorded:**
April 2, 2020.

***P10. Survey Type:** (Describe)
Intensive pedestrian.

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
Tibbet, Casey, and Riordan Goodwin 2020; Cultural Resources Documentation for the Transwestern-Boyle Avenue Warehouse Buildings 1 and 2 Project in the City of Fontana, San Bernardino County, California (LSA Project No. CFN1702.24)

***Attachments:** ☐ NONE ☒ Location Map ☒ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☒ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

# ARCHAEOLOGICAL SITE RECORD

 ***Resource Name or #:** LSA-CFN1702-S-1

***A1. Dimensions** (parcel)**: a. Length:** ~520 feet **× Width:** ~330 feet

**Method of Measurement:** ☐ Paced ☐ Taped ☐ Visual estimate ☒ Other: Electronically mapped

**Method of Determination** (Check any that apply.): ☐ Artifacts ☒ Features ☐ Soil ☐ Vegetation ☐ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain):

**Reliability of Determination:** ☐ High ☒ Medium ☐ Low Explain:

**Limitations** (Check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined ☒ Disturbances ☒ Vegetation ☐ Other (Explain):

**A2.** Depth: ☒ None ☐ Unknown Method of Determination:

***A3. Human Remains:** ☐ Present ☒ Absent ☐ Possible ☐ Unknown (Explain):

***A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.): Cobble-and-mortar retaining walls, driveway, and remnant landscaping (eucalyptus tree row).

***A5. Cultural Constituents (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.): None visible.

***A6. Were Specimens Collected?** ☒ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

***A7. Site Condition:** ☐ Good ☐ Fair ☒ Poor (Describe disturbances.): With exception of the retaining walls, eucalyptus trees, and possibly some of the landscaping, all other remnants from the historic period (such as the residence, outbuildings, and orchard) have been removed.

***A8. Nearest Water** (Type, distance, and direction.)**:** Drainage in unnamed canyon of the Jurupa Mountains approximately 1.3 miles south.

***A9. Elevation:** Approximately 1,100 feet

**A10. Environmental Setting** (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.)**:** The site is a developed, landscaped suburban residential lot on Boyle Avenue, with an approximately 5 percent slope down to the south. Although native vegetation has been virtually removed from the parcel, natural plant species observed included cheeseweed mallow, foxtail brome, mustard, and xeric grasses.

**A11. Historical Information:** The site was formerly part of an orchard from at least the late 1930s to the late 1960s. Windbreaks (known as windrows) typically made up of eucalyptus trees were planted by local citrus ranchers beginning in the 1890s until the mid-1940s to protect the orchards from wind, control movement of topsoil, prevent dust storms, and prevent soil abrasion for seedlings. Removal of the windrows in Fontana began in the early 1940s, coinciding with the opening of the Kaiser Steel Mill (approximately 3 miles west of the site) and associated development throughout the City. Windrows continued to be removed from the 1950s until the 1980s due to redevelopment and revegetation activities undertaken by private landowners.

***A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☒ 1914-1945 ☐ Post 1945 ☐ Undetermined **Describe position in regional prehistoric chronology or factual historic dates if known:** 1920s and later.

**A13. Interpretations** (Discuss data potential, function[s], ethnic affiliation, and other interpretations)**:** The eucalyptus trees on site technically meet the City's definition of a *windrow* (at least four trees planted within 10 feet of each other) and have the potential to be "Heritage Trees." However, the remaining trees are in poor health or dead, making the remnant windrow sparse and disconnected. Therefore, the windrow on site is no longer a representative example of the City's agricultural past and does not meet the criteria for *Historical Resources* as defined in *CEQA Guidelines* Section 15064.5(a). The retaining walls feature materials and construction methods (cobbles and locally-mixed mortar and local vernacular-style) consitent with the era of the residence's construction (1920s). However, they are a typical example of a common resource type—a marginal secondary feature without its primary resource (agricultural residence or grove) lacking associated refuse and likewise do not meet any of the CEQA criteria of a *Historical Resource.* The cultural resource value of these features has been realized by their recordation.

**A14. Remarks:** A residence constructed in 1927 was was recently removed, and several outbuildings also once stood on the property during the historic period.

**A15. References** (Documents, informants, maps, and other references)**:**
Historic Aerials, 1938, 1948, 1959, 1967, 1994: historic aerial photographs of the site and vicinity.

**A16. Photographs** (List subjects, direction of view, and accession numbers or attach a Photograph Record.)**:** Frames 2397-2400, 2407, 2408

**Original Media/Negatives Kept at:** LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

***A17. Form Prepared by:** Riordan Goodwin **Date:** 5/8/20

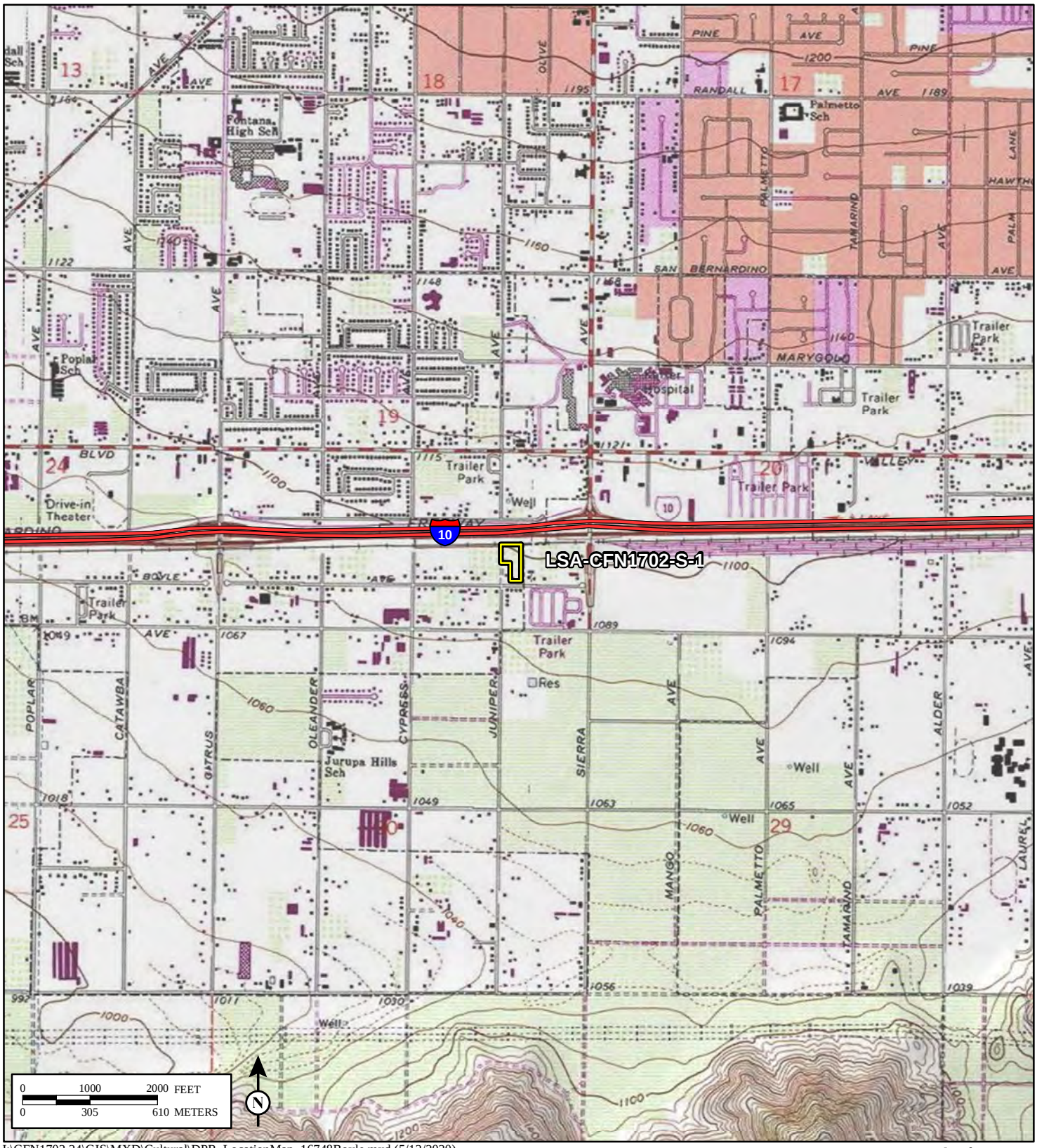
**Affiliation and Address:** LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

State of California - The Resources Agency
**DEPARTMENT OF PARKS AND RECREATION**
# LOCATION MAP

**Primary #** _____
**HRI #** _____
**Trinomial** _____

Page 3 of 4 ***Resource Name or** # (Assigned by recorder) **LSA-CFN1702-S-1**

*Map name: USGS 7.5' Quad, Fontana, California *Scale: 1:24,000 *Date of Map: 1980




I:\CFN1702.24\GIS\MXD\Cultural\DPR_LocationMap_16748Boyle.mxd (5/12/2020)

* Required Information

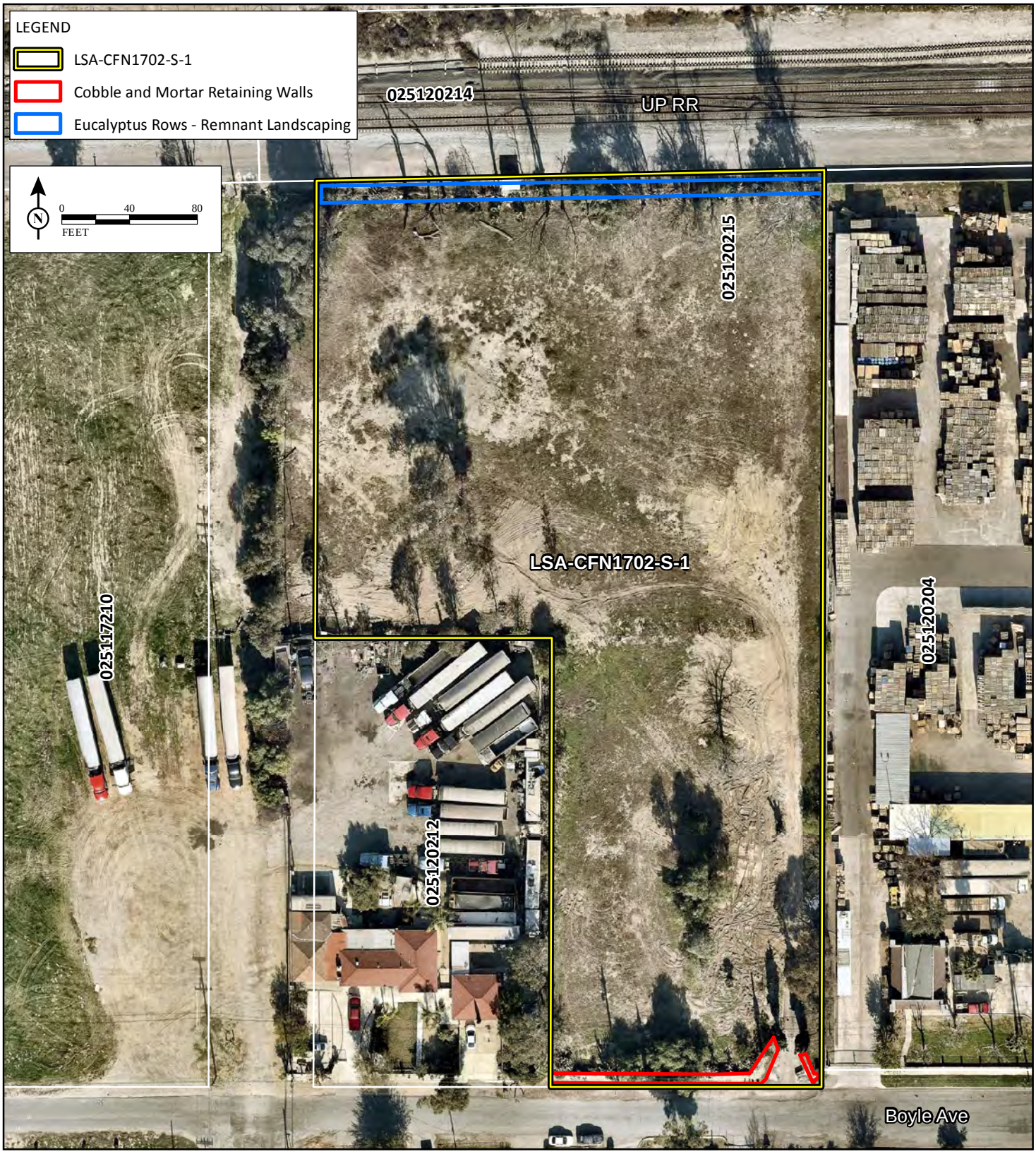
**DPR 523J (1/95)**

State of California - The Resources Agency
**DEPARTMENT OF PARKS AND RECREATION**
**SITE MAP**

**Primary #** _____
**HRI #** _____
**Trinomial** _____

Page 4 of 4 ***Resource Name or** # (Assigned by recorder) LSA-CFN1702-S-1

*Drawn By: R. Goodwin *Date: May 7, 2020

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* Required Information

**DPR 523K (1/95)**

| State of California — The Resources Agency<br>DEPARTMENT OF PARKS AND RECREATION<br>**PRIMARY RECORD** | Primary #<br>HRI #<br>Trinomial<br>NRHP Status Code | |
|---|---|---|
| Other Listings<br>Review Code | Reviewer | Date |

 ***Resource Name or #:** LSA-CFN1702-S-2

**P1. Other Identifier:** 16832 Boyle Avenue.

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** San Bernardino, California

**and** (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** *Fontana, California* **Date:** 1980 **T** 1S; **R** 5W; NE ¼ **of** SE ¼ **of Sec** 19**;** M.D. SB**B.M.**

c. Address: 167832 Boyle Avenue City: Fontana, California Zip: 92335

d. UTM: Zone: 11; 459645 **mE/** 3769523 **mN** (NAD 83)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 025120212
This resource is located adjacent to Interstate 10 on the north side of Boyle Avenue between Juniper and Sierra Avenues.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This resource is an agricultural shed slab and remnant landscaping (eucalyptus windrow) (see Archaelogical Site Record for details)

***P3b. Resource Attributes:** (List attributes and codes) AH2/3 (slab/landscaping remnants).

***P4. Resources Present:** ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

**P5b. Description of Photo**: (View, date, accession #)
Frame 6/2402: View west from east side of slab feature.

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
1930s/Historic Aerials.com

***P7. Owner and Address:**
City of Fontana
8353 Sierra Avenue
Fontana, California 92335

***P8. Recorded by:** (Name, affiliation, and address)
Riordan Goodwin
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

***P9. Date Recorded:**
April 2, 2020.

***P10. Survey Type:** (Describe)
Intensive pedestrian.

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
Tibbet, Casey, and Riordan Goodwin 2020; Cultural Resources Documentation for the Transwestern-Boyle Avenue Warehouse Buildings 1 and 2 Project in the City of Fontana, San Bernardino County, California (LSA Project Nos. CFN1702.24/25)

***Attachments:** ☐ NONE ☒ Location Map ☒ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☒ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

# ARCHAEOLOGICAL SITE RECORD

 ***Resource Name or #:** LSA-CFN1702-S-2

***A1. Dimensions** (parcel)**: a. Length:** ~500 feet × **Width:** ~165 feet

**Method of Measurement:** ☐ Paced ☐ Taped ☐ Visual estimate ☒ Other: Electronically mapped

**Method of Determination** (Check any that apply.): ☐ Artifacts ☒ Features ☐ Soil ☐ Vegetation ☐ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain):

**Reliability of Determination:** ☐ High ☒ Medium ☐ Low Explain:

**Limitations** (Check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined ☒ Disturbances ☒ Vegetation ☐ Other (Explain):

**A2.** Depth: ☒ None ☐ Unknown Method of Determination:

***A3. Human Remains:** ☐ Present ☒ Absent ☐ Possible ☐ Unknown (Explain):

***A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.): Agricultural shed slab (approximately 75 × 15 feet) and remnant landscaping (eucalyptus tree row).

***A5. Cultural Constituents (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.): None visible.

***A6. Were Specimens Collected?** ☒ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

***A7. Site Condition:** ☐ Good ☐ Fair ☒ Poor (Describe disturbances.): With exception of the shed slab and tree row, all other historic period building and orchard remnants have been removed by residential development.

***A8. Nearest Water** (Type, distance, and direction.)**:** Drainage in unnamed canyon of the Jurupa Mountains approximately 1.3 miles south.

***A9. Elevation:** Approximately 1,100 feet

**A10. Environmental Setting** (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.)**:** The site is a developed, landscaped suburban residential lot with a 1986 house set back from Boyle Avenue, several outbuildings and an approximately 5 percent slope down to the south. Although native vegetation has been virtually removed from the parcel, natural plant species observed included cheeseweed mallow, foxtail brome, mustard, and xeric grasses.

**A11. Historical Information:** The site was formerly part of an orchard from at least the late 1930s to the late 1940s. Windbreaks (known as windrows) typically made up of eucalyptus trees were planted by local citrus ranchers beginning in the 1890s until the mid-1940s to protect the orchards from wind, control movement of topsoil, prevent dust storms, and prevent soil abrasion for seedlings. Removal of the windrows in Fontana began in the early 1940s, coinciding with the opening of the Kaiser Steel Mill (approximately 3 miles west of the site) and associated development throughout the City. Windrows continued to be removed from the 1950s until the 1980s due to redevelopment and revegetation activities undertaken by private landowners.

***A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☒ 1914-1945 ☐ Post 1945 ☐ Undetermined **Describe position in regional prehistoric chronology or factual historic dates if known:** 1930s.

**A13. Interpretations** (Discuss data potential, function[s], ethnic affiliation, and other interpretations)**:** The eucalyptus trees on site technically meet the City's definition of a *windrow* (at least four trees planted within 10 feet of each other) and have the potential to be "Heritage Trees." However, the remaining trees are in poor health or dead, making the remnant windrow sparse and disconnected. Therefore, the windrow on site is no longer a representative example of the City's agricultural past and does not meet the criteria for *Historical Resources* as defined in *CEQA Guidelines* Section 15064.5(a). The slab feature is a typical example of a ubiquitous resource type (agricultural outbuilding foundation with no associated features or refuse), a marginal secondary remnant without its primary resource (agricultural residence or grove), and likewise does not meet any of the CEQA criteria of a *Historical Resource.* The cultural resource value of these features has been realized by their recordation.

**A14. Remarks:** What appears to have been a residence (dating to the same era as the shed slab) formerly located in the approximate center of the parcel was removed some time between 1967 and 1986.

**A15. References** (Documents, informants, maps, and other references)**:**

Historic Aerials, 1938, 1948, 1959, 1967, 1994: historic aerial photographs of the site and vicinity.

**A16. Photographs** (List subjects, direction of view, and accession numbers or attach a Photograph Record.)**:** Frames 2401-2406

**Original Media/Negatives Kept at:** LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

***A17. Form Prepared by:** Riordan Goodwin **Date:** 5/8/20

**Affiliation and Address:** LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507

State of California - The Resources Agency

**DEPARTMENT OF PARKS AND RECREATION**

# LOCATION MAP

**Primary #** _____

**HRI #** _____

**Trinomial** _____

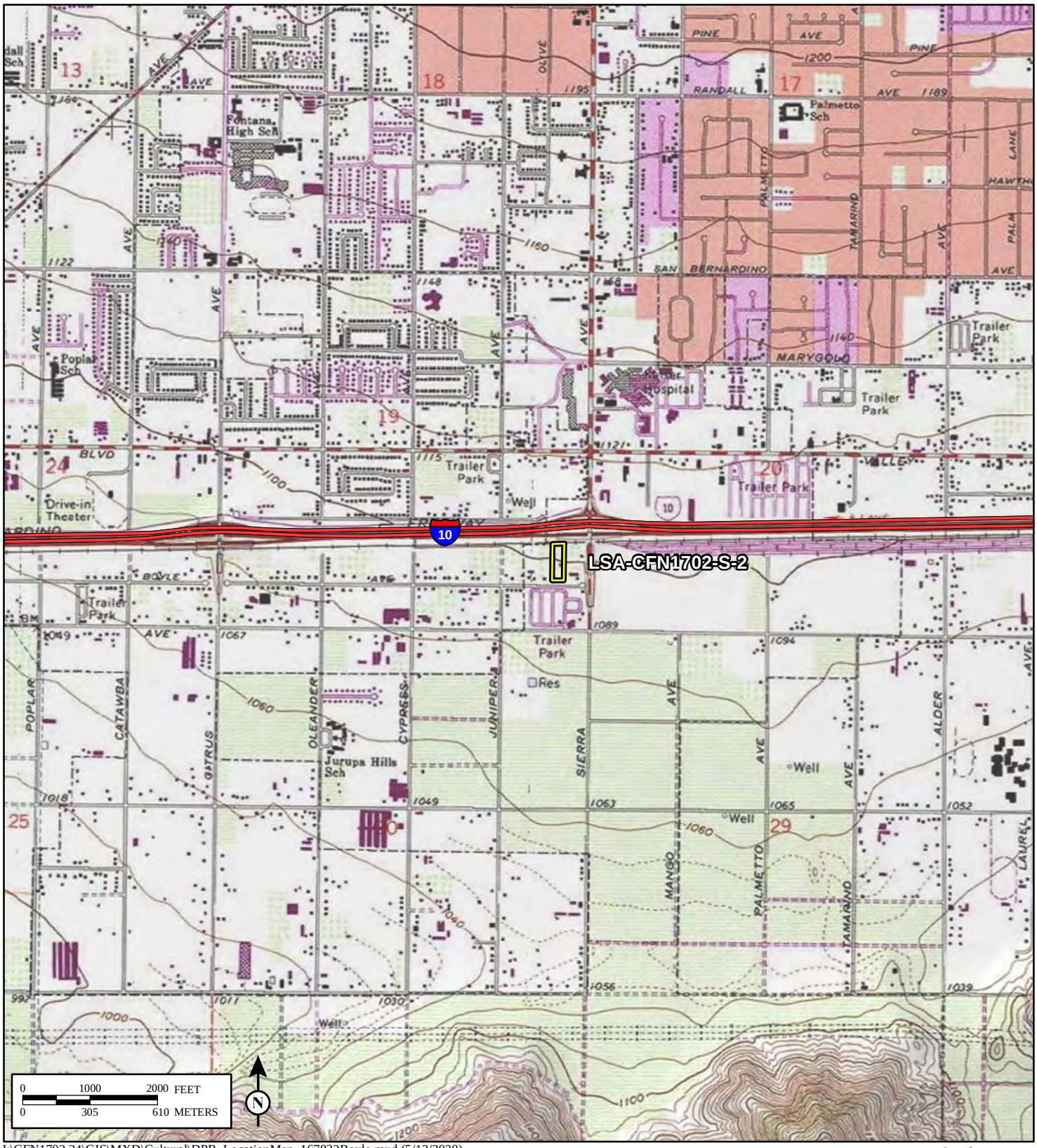
Page 3 of 4

***Resource Name or** # (Assigned by recorder) **LSA-CFN1702-S-2**

*Map name: USGS 7.5' Quad, Fontana, California

*Scale: 1:24,000

*Date of Map: 1980

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* Required Information

**DPR 523J (1/95)**

State of California - The Resources Agency
**DEPARTMENT OF PARKS AND RECREATION**
# SITE MAP

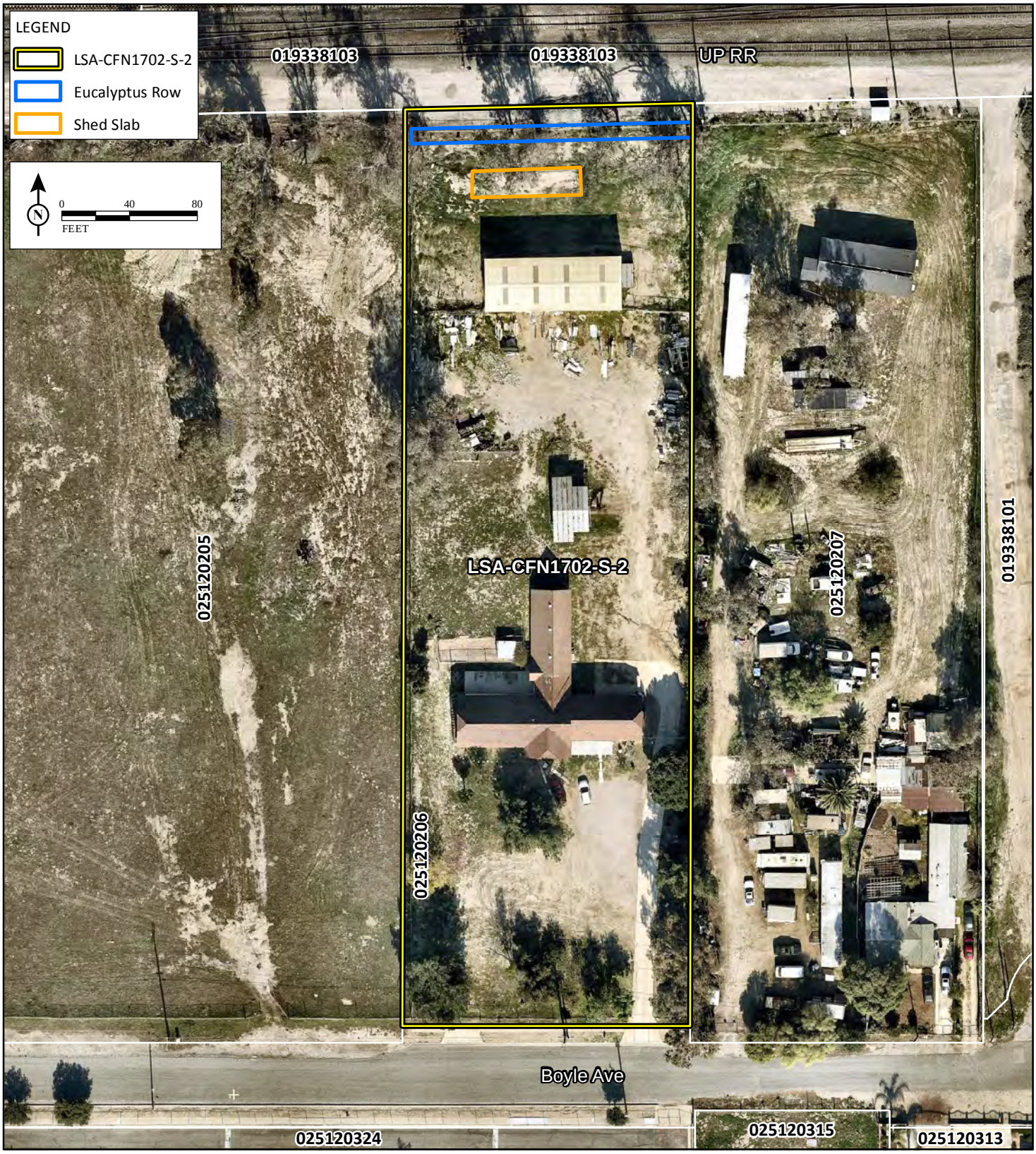
**Primary #** _____
**HRI #** _____
**Trinomial** _____

Page 4 of 4

***Resource Name or** # (Assigned by recorder) LSA-CFN1702-S-2

*Drawn By: R. Goodwin

*Date: May 7, 2020

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* Required Information

**DPR 523K (1/95)**

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

# PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

 Resource Name or #: 16868 Boyle Avenue

P1. Other Identifier: _____

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County: San Bernardino and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: *Fontana, CA* Date: 1980 T1S; R5W; Section 19; S.B.B.M.

c. Address: 16868 Boyle Avenue City: Fontana Zip: 92337

d. UTM: Zone: 11; _____mE/ _____mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate): APN 0251-202-07

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This one-story, vernacular residence with Ranch style elements is situated at the east end of Boyle Avenue and is oriented to the south. The wood-framed house has sustained several additions causing it to be irregular in plan. The original part of the house is surmounted by a low-pitched, cross-gable roof sheathed with composition shingles and has moderate eaves and a brick chimney. One addition appears to be constructed of concrete blocks and has a flat roof. Another addition has a low-pitched gable roof. Exterior wall cladding includes clapboards, stucco, wide horizontal boards, painted concrete blocks, and possibly plywood. The south-facing, asymmetrical façade features a partial-width covered porch with wood posts and includes two modern single-hung windows (one with a window-mounted air conditioning unit), a west-facing door with a metal security screen, a projecting bay with a modern ribbon window with end vent sliders, and an attic vent. The flat roofed addition is attached to the east side of the original residence and is set back several feet. It has an east-facing door and a modern aluminum-framed sliding window. The gable-roofed addition is attached to the back of the flat-roofed addition and has a pair of south-facing three-over-three metal-framed windows, as well as three metal-framed sliding windows in the east elevation. The large, fenced property also includes two detached, dilapidated sheds constructed of wood, a variety of derelict vehicles, and two single-wide mobile homes on blocks in poor condition. The residence is in fair condition, but due to alterations/additions has poor integrity.

*P3b. Resource Attributes: (List attributes and codes) HP-2 Single-family property

*P4. Resources Present: ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

*See Continuation Sheet*

P5b. Description of Photo: (View, date, accession #) Façade, view to the north (4/2/2020)

*P6. Date Constructed/Age and Sources: ☒Historic ☐Prehistoric ☐Both
1925 (San Bernardino County Property Information System)

*P7. Owner and Address:
Unknown

*P8. Recorded by: (Name, affiliation, and address)
Casey Tibbet, M.A.
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

*P9. Date Recorded:
April 2, 2020

*P10. Survey Type: (Describe)
Intensive-level CEQA compliance

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") None.

*Attachments: ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

# BUILDING, STRUCTURE, AND OBJECT RECORD



*NRHP Status Code 6Z

*Resource Name or # (Assigned by recorder) 16868 Boyle Avenue

**B1. Historic Name:** _____
**B2. Common Name:** _____
**B3. Original Use:** Single-family residence **B4. Present Use:** Single-family residence
***B5. Architectural Style:** Vernacular with Ranch elements (altered)
***B6. Construction History:** (Construction date, alterations, and date of alterations)
According to the San Bernardino County Property Information Management System (PIMS; 2020), the residence was built in 1925. Historic aerial photographs reveal that the property was developed with a residence and what appear to be citrus groves until at least 1967 (Historicaerials.com var.). Additions were made to the residence after 1967 and the property was annexed to the City of Fontana in 1968 (Ibid.; City of Fontana 2020). The City provided copies of the building permits listed below.
1969 – Permit issued to owner Roy Hensley to erect a chain link fence and shelter for horses. Completed in 1974.
1994 – Permit issued to owner Manfred A. Bals to demolish a 30 × 75-foot chicken house.

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** _____ **Original Location:** _____
***B8. Related Features:** Wooden sheds, single-wide mobile homes, derelict vehicles
**B9a. Architect:** Not found **b. Builder:** Not found
***B10. Significance: Theme:** Residential Architecture **Area:** City of Fontana
**Period of Significance:** 1925 **Property Type:** Single-family **Applicable Criteria:** NA
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)
This 1925 altered residence does not meet the criteria for listing in the California Register of Historical Resources or for designation under the local ordinance (Article XIII Preservation of Historic Resources). It is not a historical resource for purposes of the California Environmental Quality Act (CEQA).

**Historic Context.**
In 1851, the Lugo family sold a portion of Rancho San Bernardino (including part of what is now Fontana, San Bernardino, Rialto, and Bloomington) to a group of Mormon settlers in 1851 (Richards 1966; Anicic 2005). The Semi-Tropical Land & Water Company subsequently acquired the Fontana portion of the Rancho, where a small community of about 25 families had formed around the Rosena station of the Santa Fe Railroad's line to Los Angeles (completed in 1887); however the company failed to successfully develop a townsite (Gudde 1998; Anicic 2005). *See Continuation Sheet*

**B11. Additional Resource Attributes:** (List attributes and codes)
***B12. References:**
Ancestry.com
Var. A variety of records were accessed online in April 2020 at: http://home.ancestry.com/. These include city directories, voter registration records, and United States Census Data.
Anicic, John Charles, Jr.
2005 *Images of America: Fontana*. Arcadia Publishing, San Francisco.
2006 *Images of America: Kaiser Steel Fontana*. Arcadia Publishing, San Francisco.
City of Fontana
2020 Email communication from Susana Gallardo, City Clerk's Office, regarding annexation date and building permits.
Var. Building permits for 16868 Boyle Avenue. Provided by the City in April 2020.
Davis, Mike
2006 *City of Quartz*. Second Edition. Published by Verso, the imprint of New Left Books. New York and London.
*See Continuation Sheet*
**B13. Remarks:**
***B14. Evaluator:** Casey Tibbet, M.A., LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, California 92507
***Date of Evaluation:** April 2020

(Sketch Map with north arrow required.)

Refer to Location Map

(This space reserved for official comments.)

**P5a. Photo or Drawing** (continued from page 1)

View to the northwest showing flat-roof and gable-roof additions on the east side of the original residence (4/2/2020).

***B10. Significance** (continued from page 2)

Development of Fontana began in earnest after the arrival of and purchase of the land by Azariel Blanchard Miller in 1905 and 1906 respectively (Anicic 2005). Miller, a visionary entrepreneur of hydroelectric power, cooperative marketing, planned community development and irrigated agriculture, sought an alternative to aristocratic citrus colonies like Redlands. He envisioned Fontana as an unprecedented combination of the industrialized plantation (Fontana Farms) and Jeffersonian smallholdings, "an Arcadian community of small chicken ranchers and citrus growers living self-sufficiently in their electrified bungalows" (Davis 2006).

When he arrived in 1905, Miller brought with him 200 head of horses, mules, plows, scrapers, and mess and sleeping tents, the remnants of a grading outfit he had used to build irrigation ditches in Imperial County (Davis 2006). With this equipment, he began clearing the 20,000 acres of land administered by the Fontana Development Company. Development focused first on the establishment of the water system, designed by William Starks, former superintendent of the San Bernardino Water Department, followed by the planting of 500 miles of eucalyptus-tree windbreaks and thousands of acres of citrus and deciduous orchards (Davis 2006). "By 1913, [Miller's] Fontana Company was ready to begin laying out a townsite between Foothill Boulevard (an old wagon road soon to become part of famous US 66) and the Santa Fe tracks," subdividing the land into idyllic, model small farms for "would-be rural escapists" of nearby urban Los Angeles (Davis 2006:380–381). As Mike Davis recalls:

> Miller's dream sold well, even through the early years of the Depression. By 1930 the Fontana Company had subdivided more than three thousand homesteads, half occupied by full-time settlers, some of them immigrants from Hungary, Yugoslavia, and Italy. The ten pioneer poultry plants of 1919 had grown to nine hundred, making the district the premier poultry center of the West. Fontana Farms, meanwhile, had expanded to a full-time workforce of five hundred Mexican and Japanese laborers—comparable to the largest cotton plantations in the Mississippi Delta (Davis 2006:382).

However, the "modernized Jeffersonian idyll," was abruptly and radically transformed during World War II when Henry J. Kaiser built one of only two steel mills west of the Mississippi River outside the city limits (Davis 2006:376). Suddenly "reshaped to accommodate the dream of a Rooseveltian industrial in the West," Fontana was soon Southern California's leading producer of steel and related products (Davis 2006:376; Goodwin 2003). Much of the downtown area was transformed by a rush development of single-family homes and apartments commissioned by Kaiser Steel with federal permission to use war materials to house the influx of new plant workers (Anicic 2006). To provide for the plant workers' health needs, Henry J. Kaiser also constructed the Fontana Kaiser Permanente medical facility, now the largest managed care organization in the United States (Fontana Chamber of Commerce 2014). As a result of this population explosion, the City of Fontana was incorporated in 1952 with a population of 13,695 (Goodwin 2003).

*See Continuation Sheet*

***B10. Significance** (continued from page 3)

As with much of the Southern California region, Fontana experienced a postwar population boom that resulted in a surge of suburban residential development. Vast housing tracts and single-home in-fill began to replace the agricultural lands and groves for which Fontana was once celebrated. The steel industry continued to dominate the City's economy until the late 1970s, when Kaiser Steel began to reduce production and manpower, finally closing the mill in 1983 (Goodwin 2003). The plate steel and rolling mill plant was subsequently acquired by California Steel Company, which continues to produce steel products.

As of 2015, the population was estimated to have reached over 200,000 (United States Census var.). This rapid expansion had much to do with the numerous large, new residential developments in the almost totally undeveloped northern part of the city, as well as the city's aggressive (and highly successful) campaign to annex several unincorporated, but developed, San Bernardino County island areas in 2006–2007 (Wikipedia 2017).

**People Associated with this Property**. Roy Haney was listed as the owner in 1969 (City of Fontana var.). Although a few Roy and R. Haneys were found in city directories for Fontana/San Bernardino County, none were listed at this address and none could definitively be connected to this property. No information for any other people who were associated with the property during the historic period was found.

**Significance Evaluation**. This property is being evaluated under the California Register and local criteria for CEQA compliance. Some of the local criteria are very similar to the California Register criteria; therefore, where appropriate, the two sets of criteria have been combined to avoid redundancy.

**California Register Criterion 1: Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.**
**Fontana Criterion 2: It is identified with persons, a business use, or events significant in local, state, or national history.**
The subject property, as well as the surrounding area, was developed with agricultural fields (likely citrus groves) until sometime after 1967 (Historicaerials.com var.). Although the residence was originally associated with the area's agricultural heritage, none of the agriculture remains today. Even the eucalyptus windrows that once separated the property from the railroad tracks to the north have disappeared from the property. Without the agricultural uses or the windrows, the residence no longer conveys any association with its agricultural past.

**California Register Criterion 2: Associated with the lives of persons important to local, California or national history.**
**Fontana Criterion 2: It is identified with persons, a business use, or events significant in local, state, or national history.**
As discussed above, research did not identify any historically significant person(s) associated with this residence.

**California Register Criterion 3: Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.**
**Fontana Criterion 1: It has a special historical, archeological, cultural, architectural, community or aesthetic value.**
**Fontana Criterion 3: It embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship.**
This residence does not embody the distinctive characteristics of any particular architectural style and is a common property type utilizing common construction methods and materials. There is no indication that it is the work of a master and it does not possess high artistic values or special architectural or aesthetic value. It has been extensively altered (additions and modern windows) and does not retain a high level of integrity from its period of significance.

**California Register Criterion 4: Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.** This residence was built in 1925 using common materials and construction practices. It does not have the potential to yield information important to the history or prehistory of the local area, California, or the nation.

The following are the remaining City of Fontana criteria.

**Fontana Criterion 4: It has a unique location or singular physical characteristic that represents an established and familiar visible feature of a neighborhood or community or the city**.
This residence located at the east end of Boyle Avenue where it dead ends. To the north, it is adjacent to railroad right-of-way and, to the east, it is adjacent to (but several feet below) Sierra Avenue. The house is not visible from either trains or vehicles traveling along these routes. It is not an established and familiar visible feature of a neighborhood, community, or the city. *See Continuation Sheet*

***B10. Significance** (continued from page 4)

**Fontana Criterion 5: Its integrity as a natural environment or feature strongly contributes to the well-being of residents or a neighborhood of the city**.
This residence is not a natural feature and it does not contribute to the well-being of residents or the larger community.

**Fontana Criterion 6: It is a geographically definable area possessing a concentration of sites, buildings, structures or objects that are unified by past events or are unified aesthetically by plan or physical development**.
This residence is not part of a larger concentration of historic-period buildings that are unified aesthetically by plan or physical development. This residence was built in the 1920s, decades earlier than other nearby extant development.

***B12. References:** (continued from page 2)

Fontana Chamber of Commerce
2014 "City of Fontana History." Accessed online in December 2014 at: http://fontanacacoc.wliinc21.com/live_and_work/history.aspx.

Goodwin, Riordan
2003 Cultural and Paleontological Resources Assessment, J.W. Mitchell Specific Plan, City of Fontana, San Bernardino County, California. Unpublished report on file at the AIC.

Gudde, Erwin G.
1998 *California Place Names: The Origin and Etymology of Current Geographical Names*. Fourth edition, revised and enlarged by William Bright. Berkeley and Los Angeles: University of California Press.

Historicaerials.com
Var. Accessed online in April 2020 at: https://www.historicaerials.com/viewer.

Richards, Elizabeth W.
1966 *Guideposts to History: Concerning Origins of Place and Street Names in San Bernardino County.* Santa Fe Federal Savings.

San Bernardino County PIMS
2020 Information for APN 0251202070000 accessed online in April 2020 at: https://www.sbcounty.gov/assessor/pims/(S(fx2gb5x2spurvg1r1f4osxz5))/PIMSINTERFACE.ASPX

United States Census
var. Population and other census information for the City of Fontana. Accessed January 2017 at: https://www.census.gov.

Wikipedia
2017 City of Fontana. https://en.wikipedia.org/wiki/Fontana,_California. Accessed December 2, 2015.

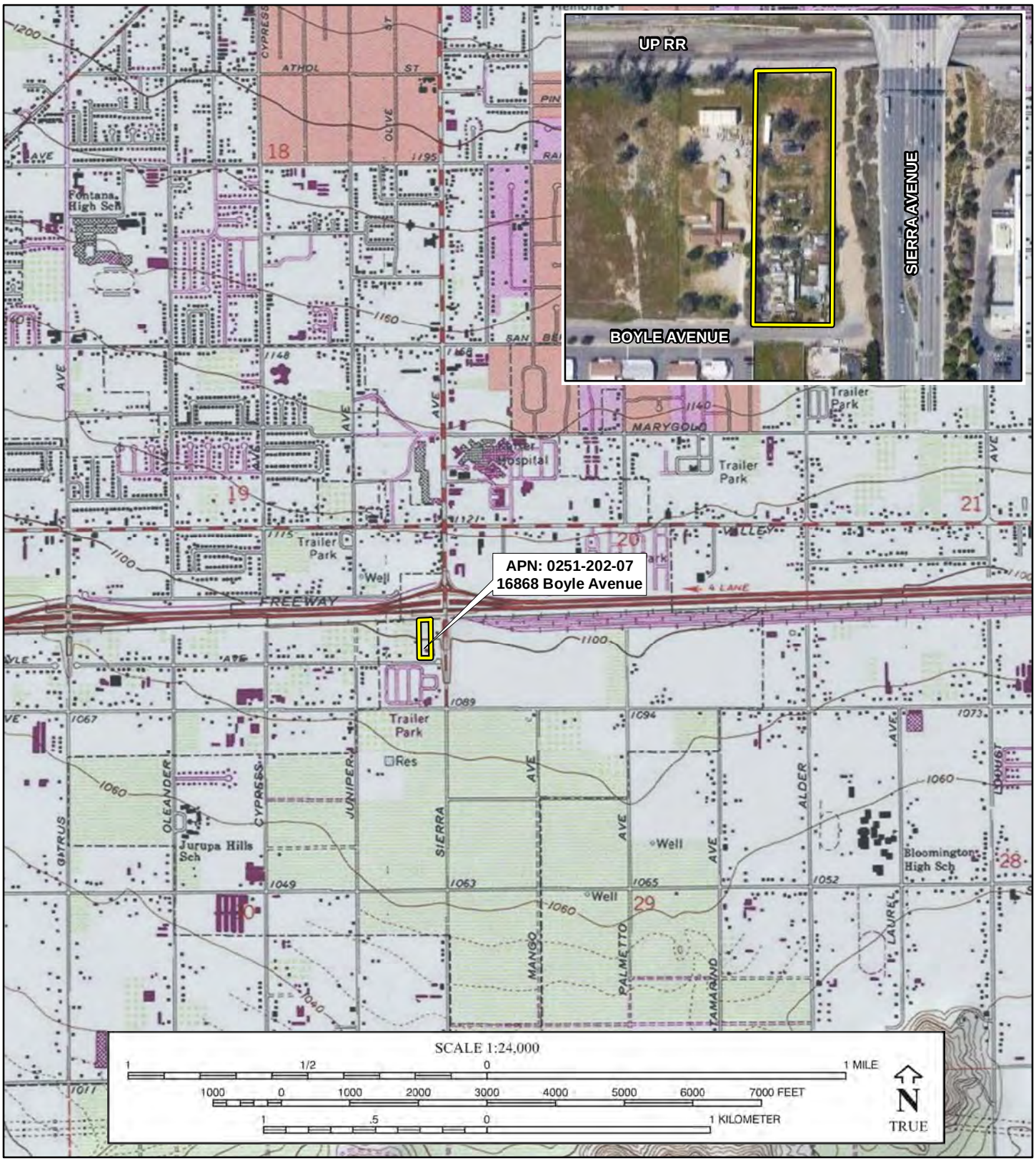
State of California - Resource Agency
**DEPARTMENT OF PARKS AND RECREATION**
# LOCATION MAP

**Primary #** _____
**HRI #** _____
**Trinomial** _____



*Resource Name or # (Assigned by recorder) 16868 Boyle Avenue

*Map Name: *Fontana*, CA 7.5' USGS; Google *Scale: 1:24000 *Date of Map: 1980; 2018

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**DPR 523J (1/95)** ***Required Information**

# APPENDIX E

# GEOTECHNICAL REPORT

# GEOTECHNICAL INVESTIGATION
# TWO PROPOSED WAREHOUSES

NEC Juniper Avenue and Boyle Avenue
Fontana, California
for
Transwestern Development Company

SOUTHERN
CALIFORNIA
GEOTECHNICAL
*A California Corporation*

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Novemeber 5, 2019

Transwestern Development Company
20250 Acacia Street, Suite 260
Newport Beach, California 92660

Attention: Mr. Steven Batcheller

Project No.: **19G218-1**

Subject: **Geotechnical Investigation**
Two Proposed Warehouses
NEC Juniper Avenue and Boyle Avenue
Fontana, California

Mr. Batcheller:

In accordance with your request, we have conducted a geotechnical investigation at the subject site. We are pleased to present this report summarizing the conclusions and recommendations developed from our investigation.

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

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# 1.0 EXECUTIVE SUMMARY

Presented below is a brief summary of the conclusions and recommendations of this investigation. Since this summary is not all inclusive, it should be read in complete context with the entire report.

**Site Preparation Recommendations**

- Initial site preparation should include stripping of any vegetation. At the time of the site investigation, ground surface cover consisted of exposed soils, areas of moderate native grass and weed growth, and some large trees in various locations within the site. Any organic materials, including root-masses should be removed in their entirety. Historic aerial photographs indicate that the site was previously utilized as a citrus grove. If any tree root masses remain from the former orchard, these should also be removed from the site. These materials should be disposed of off-site. Any resultant excavations should be backfilled with compacted structural fill.
- Demolition of the residences and associated improvements will be required as part of the new development. Demolition should include all foundations, floor slabs, utilities, septic systems and any other subsurface improvements that will not remain in place for use with the new development.
- The near-surface soils generally consist of variable strength, loose to medium dense native alluvium in the upper 3 to 4± feet below existing site grades. The results of laboratory testing indicate that soils present within the upper 3 to 4± feet possess potential for collapse consolidation and hydrocollapse. The soils present at greater depths generally consist of medium dense to very dense native alluvium, with more favorable consolidation/collapse characteristics.
- Based on the varying densities and the moderate potential for consolidation/collapse of the near-surface soils, remedial grading is recommended to be performed within the proposed building pad areas. The existing soils within the proposed building areas should be overexcavated to a depth of 3 feet below existing grade and to a depth of 3 feet below proposed pad grade. Within the building areas, the proposed foundation influence zones should be overexcavated to a depth of 2 feet below proposed foundation bearing grade. The overexcavation should also extend to a sufficient depth to remove any artificial fill soils.
- After overexcavation has been completed, the resulting subgrade soils should be evaluated by the geotechnical engineer to identify any additional soils that should be overexcavated. The resulting soils should be scarified and thoroughly flooded to achieve a moisture content of 0 to 4 percent above optimum moisture, to a depth of at least 24 inches. The overexcavation subgrade soils should then be recompacted under the observation of the geotechnical engineer. The previously excavated soils may then be replaced as compacted structural fill.
- The new pavement and flatwork subgrade soils are recommended to be scarified to a depth of 12± inches, thoroughly flooded and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density.

**Building Foundation Recommendations**

- Spread footing foundations, supported in newly placed structural fill soils.
- Maximum, net allowable soil bearing pressure: 2,500 lbs/ft$^2$.

- Reinforcement consisting of at least two (2) No. 5 rebars (1 top and 1 bottom) in strip footings. Additional reinforcement may be necessary for structural considerations.

**Building Floor Slab Recommendations**

- Conventional Slab on Grade, minimum 6 inches thick
- Modulus of Subgrade Reaction: k = 150 psi/in
- Reinforcement is not considered to be necessary for geotechnical considerations.
- The actual thickness and reinforcement of the floor slabs should be determined by the structural engineer, based on the imposed slab loading.

**Pavements**

| **ASPHALT PAVEMENTS (R = 40)** | | | | | |
|---|---|---|---|---|---|
| **Materials** | **Thickness (inches)** | | | | |
| | Parking Stalls (TI = 4.0) | Auto Drive Lanes (TI = 5.0) | Truck Traffic | | |
| | | | (TI = 6.0) | (TI = 7.0) | (TI = 8.0) |
| Asphalt Concrete | 3 | 3 | 3½ | 4 | 5 |
| Aggregate Base | 3 | 4 | 6 | 7 | 8 |
| Compacted Subgrade | 12 | 12 | 12 | 12 | 12 |

| **PORTLAND CEMENT CONCRETE PAVEMENTS (R = 40)** | | | | |
|---|---|---|---|---|
| **Materials** | **Thickness (inches)** | | | |
| | Automobile Parking and Drive Areas | Truck Traffic Areas | | |
| | | (TI =6.0) | (TI =7.0) | (TI =8.0) |
| PCC | 5 | 5 | 6 | 7 |
| Compacted Subgrade (95% minimum compaction) | 12 | 12 | 12 | 12 |

# 2.0 SCOPE OF SERVICES

The scope of services performed for this project was in accordance with our Proposal No. 19P239-2R, dated September 26, 2019. The scope of services included a visual site reconnaissance, subsurface exploration, field and laboratory testing, and geotechnical engineering analysis to provide criteria for preparing the design of the building foundations, building floor slabs, and parking lot pavements along with site preparation recommendations and construction considerations for the proposed development. The evaluation of the environmental aspects of this site was beyond the scope of services for this geotechnical investigation.

# 3.0 SITE AND PROJECT DESCRIPTION

## 3.1 Site Conditions

The subject site is located at the northeast corner of Boyle Avenue and Juniper Avenue in Fontana, California. The site is bounded to the north by a railroad easement, to the west by a Juniper Avenue easement, to the south by Boyle Avenue, and to the east by the Sierra Avenue. A rectangular parcel located in the eastern portion of the western half of the site, with dimensions of about 170 feet by 530 feet, was excluded from the subject area of this investigation. The general location of the site is illustrated on the Site Location Map, enclosed as Plate 1 in Appendix A of this report.

The site consists of several rectangular-shaped parcels which total 12.26± acres in size. These parcels are separated by several parcels which were not included in this investigation. The southeastern and southwestern portions of the subject area are currently developed with single-family residences. These residences are single-story structures of wood frame and stucco construction and assumed to be supported on conventional shallow foundations with concrete slab-on-grade floors. The single-family residences are surrounded by concrete flatwork, native grass and weed growth, exposed soils, and numerous trees. The central and northern portions of the eastern- and western-most parcels contain several small metal shipping containers and trailers and areas heavy native grass and weed growth. One parcel in the central portion of the site, is vacant and undeveloped with moderate to heavy native grass and weed growth. Trash debris is scattered on the ground in various areas throughout the site. Our review of historical aerial photographs, readily available on the internet, indicates that the site has been in the same relative state of development since 1994. Earlier aerial photographs, dated between 1938 and 1967, inclusive, indicate that the site was utilized as an orchard between these years.

Detailed topographic information was not available at the time of this report. Based on visual observations made at the time of the subsurface investigation and from elevations obtained from Google Earth, the overall site topography generally slopes downward from the east and west toward the center of the site at a gradient of less than 1± percent and the central portion of the site gently slopes downward toward the south at a gradient of up to 1 percent.

## 3.2 Proposed Development

SCG was provided a conceptual site plan for the proposed development. Based on Scheme 6 (dated September 18, 2019), the site will be developed with two (2) new warehouses identified as Building 1 and Building 2. Building 1 is located in the eastern area of the site and will be 164,546± ft² in size. Building 2 will be located in the western area of the site and will be 78,120± ft² in size. Building 1 will be constructed with dock-high doors along a portion of the south building wall and Building 2 will be constructed with dock-high doors along a portion of the east building wall. The buildings will be surrounded by asphaltic concrete pavements in the parking and drive lanes, Portland cement concrete pavements in the loading dock area, concrete flatwork and landscape planters throughout.

Detailed structural information has not been provided. It is assumed that the new buildings will be single-story structures of tilt-up concrete construction, typically supported on conventional shallow foundation systems with concrete slab-on-grade floors. Based on the assumed construction, maximum column and wall loads are expected to be on the order of 100 kips and 3 to 5 kips per linear foot, respectively.

No significant amounts of below-grade construction, such as basements or crawl spaces, are expected to be included in the proposed development. Based on the assumed topography, cuts and fills of 2 to 3± feet are expected to be necessary to achieve the proposed site grades.

# 4.0 SUBSURFACE EXPLORATION

## 4.1 Scope of Exploration/Sampling Methods

The subsurface exploration conducted for this project consisted of seven (7) borings (identified as Boring Nos. B-1 through B-7) advanced to depths of 15 to 30± feet below the existing site grades. All of the borings were logged during drilling by a member of our staff.

The borings were advanced with hollow-stem augers, by a conventional truck-mounted drilling rig. Representative bulk and relatively undisturbed soil samples were taken during drilling. Relatively undisturbed soil samples were taken with a split barrel "California Sampler" containing a series of one-inch-long, 2.416±-inch diameter brass rings. This sampling method is described in ASTM Test Method D-3550. In-situ samples were also taken using a 1.4±-inch inside diameter split spoon sampler, in general accordance with ASTM D-1586. Both of these samplers are driven into the ground with successive blows of a 140-pound weight falling 30 inches. The blow counts obtained during driving are recorded for further analysis. Bulk samples were collected in plastic bags to retain their original moisture content. The relatively undisturbed ring samples were placed in molded plastic sleeves that were then sealed and transported to our laboratory.

The approximate locations of the borings are indicated on the Boring Location Plan, included as Plate 2 in Appendix A of this report. The Boring Logs, which illustrate the conditions encountered at the boring locations, as well as the results of some of the laboratory testing, are included in Appendix B.

## 4.2 Geotechnical Conditions

Alluvium

Native alluvium was encountered at the ground surface at all of the boring locations, extending to at least the maximum depth explored of 30± feet below the existing site grades. The native alluvial soils generally consist of loose to medium dense fine sandy silts and silty fine sands with varying amounts of medium to coarse sand and fine gravel, underlain by medium dense to very dense fine to coarse sand with variable silt, fine to coarse gravel, and cobble content. Occasional medium dense silt strata were also encountered at depths of 8 to 12± feet.

Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the lack of any water within the borings, and the moisture contents of the recovered soil samples, the static groundwater is considered to have existed at a depth in excess of 30± feet at the time of the subsurface exploration.

As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the groundwater depths in this area is the California Department of Water Resources website, http://www.water.ca.gov/waterdatalibrary/. The nearest monitoring well in this database is located approximately 2,386 feet northeast of the site. Water level readings within this monitoring well indicate high groundwater levels of 260± feet (December 2009) below the ground surface.

# 5.0 LABORATORY TESTING

The soil samples recovered from the subsurface exploration were returned to our laboratory for further testing to determine selected physical and engineering properties of the soils. The tests are briefly discussed below. It should be noted that the test results are specific to the actual samples tested, and variations could be expected at other locations and depths.

Classification

All recovered soil samples were classified using the Unified Soil Classification System (USCS), in accordance with ASTM D-2488. Field identifications were then supplemented with additional visual classifications and/or by laboratory testing. The USCS classifications are shown on the Boring Logs and are periodically referenced throughout this report.

Density and Moisture Content

The density has been determined for selected relatively undisturbed ring samples. These densities were determined in general accordance with the method presented in ASTM D-2937. The results are recorded as dry unit weight in pounds per cubic foot. The moisture contents are determined in accordance with ASTM D-2216, and are expressed as a percentage of the dry weight. These test results are presented on the Boring Logs.

Consolidation

Selected soil samples have been tested to determine their consolidation potential, in accordance with ASTM D-2435. The testing apparatus is designed to accept either natural or remolded samples in a one-inch high ring, approximately 2.416 inches in diameter. Each sample is then loaded incrementally in a geometric progression and the resulting deflection is recorded at selected time intervals. Porous stones are in contact with the top and bottom of the sample to permit the addition or release of pore water. The samples are typically inundated with water at an intermediate load to determine their potential for collapse or heave. The results of the consolidation testing are plotted on Plates C-1 through C-7 in Appendix C of this report.

Maximum Dry Density and Optimum Moisture Content

Two representative bulk samples have been tested for their maximum dry densities and optimum moisture contents. The results have been obtained using the Modified Proctor procedure, per ASTM D-1557 and are presented on Plates C-8 and C-9 in Appendix C of this report. This test is generally used to compare the in-situ densities of undisturbed field samples, and for later compaction testing. Additional testing of other soil types or soil mixes may be necessary at a later date.

Soluble Sulfates

Representative samples of the near-surface soils were submitted to a subcontracted analytical laboratory for determination of soluble sulfate content. Soluble sulfates are naturally present in soils, and if the concentration is high enough, can result in degradation of concrete which comes

into contact with these soils. The results of the soluble sulfate testing are presented below, and are discussed further in a subsequent section of this report.

| Sample Identification | Soluble Sulfates (%) | Sulfate Classification |
|---|---|---|
| B-2 @ 0 to 5 feet | <0.001 | Not Applicable (S0) |
| B-4 @ 0 to 5 feet | <0.001 | Not Applicable (S0) |

Corrosivity Testing

Representative bulk samples of the near-surface soils were submitted to a subcontracted corrosion engineering laboratory to determine if the near-surface soils possess corrosive characteristics with respect to common construction materials. The corrosivity testing included a determination of the electrical resistivity, pH, and chloride and nitrate concentrations of the soils, as well as other tests. The results of some of these tests are presented below.

| Sample Identification | Saturated Resistivity (ohm-cm) | pH | Chlorides (mg/kg) | Nitrates (mg/kg) |
|---|---|---|---|---|
| B-2 @ 0 to 5 feet | 21,200 | 7.5 | Not Detected | 12 |
| B-4 @ 0 to 5 feet | 14,400 | 7.7 | Not Detected | 14 |

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our review, field exploration, laboratory testing and geotechnical analysis, the proposed development is considered feasible from a geotechnical standpoint. The recommendations contained in this report should be taken into the design, construction, and grading considerations.

The recommendations are contingent upon all grading and foundation construction activities being monitored by the geotechnical engineer of record. The recommendations are provided with the assumption that an adequate program of client consultation, construction monitoring, and testing will be performed during the final design and construction phases to verify compliance with these recommendations. Maintaining Southern California Geotechnical, Inc., (SCG) as the geotechnical consultant from the beginning to the end of the project will provide continuity of services. The geotechnical engineering firm providing testing and observation services shall assume the responsibility of Geotechnical Engineer of Record.

The Grading Guide Specifications, included as Appendix D, should be considered part of this report, and should be incorporated into the project specifications. The contractor and/or owner of the development should bring to the attention of the geotechnical engineer any conditions that differ from those stated in this report, or which may be detrimental for the development.

## 6.1 Seismic Design Considerations

The subject site is located in an area which is subject to strong ground motions due to earthquakes. The performance of a site specific seismic hazards analysis was beyond the scope of this investigation. However, numerous faults capable of producing significant ground motions are located near the subject site. Due to economic considerations, it is not generally considered reasonable to design a structure that is not susceptible to earthquake damage. Therefore, significant damage to structures may be unavoidable during large earthquakes. The proposed structures should, however, be designed to resist structural collapse and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life.

Faulting and Seismicity

Research of available maps indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. Furthermore, SCG did not identify any evidence of faulting during the geotechnical investigation. Therefore, the possibility of significant fault rupture on the site is considered to be low.

Seismic Design Parameters

The California Building Code (CBC) provides procedures for earthquake resistant structural design that include considerations for on-site soil conditions, occupancy, and the configuration of the structure including the structural system and height. The seismic design parameters presented below are based on the soil profile and the proximity of known faults with respect to the subject site.

Based on standards in place at the time of this report, the proposed development is expected to be designed in accordance with the requirements of the 2016 edition of the California Building Code (CBC). However, it is also possible that the proposed development may be designed using the 2019 CBC, which will be adopted on January 1, 2020. Therefore, this report provides design parameters for both the 2016 CBC and the 2019 CBC. Other design consultants should verify the version of the code under which the proposed development will be submitted.

The 2016 and 2019 CBC Seismic Design Parameters have been generated using the SEAOC/OSHPD Seismic Design Maps Tool, a web-based software application available at the website www.seismicmaps.org. This software application calculates seismic design parameters in accordance with several building code reference documents, including ASCE 7-10 and ASCE 7-16, upon which the 2016 CBC and 2019 CBC are based, respectively. The application utilizes a database of risk-targeted maximum considered earthquake ($MCE_R$) site accelerations at 0.01-degree intervals for each of the code documents. The tables below were created using data obtained from the application. The output generated from this program is included as Plates E-1A (2016 CBC) and E-1B (2019 CBC) in Appendix E of this report. Based on this output, the following parameters may be utilized for the subject site:

**2016 CBC SEISMIC DESIGN PARAMETERS**

| Parameter | | Value |
|---|---|---|
| Mapped Spectral Acceleration at 0.2 sec Period | $S_S$ | 1.500 |
| Mapped Spectral Acceleration at 1.0 sec Period | $S_1$ | 0.600 |
| Site Class | --- | D |
| Site Modified Spectral Acceleration at 0.2 sec Period | $S_{MS}$ | 1.500 |
| Site Modified Spectral Acceleration at 1.0 sec Period | $S_{M1}$ | 0.900 |
| Design Spectral Acceleration at 0.2 sec Period | $S_{DS}$ | 1.000 |
| Design Spectral Acceleration at 1.0 sec Period | $S_{D1}$ | 0.600 |

The 2019 CBC requires that a site-specific ground motion study be performed in accordance with Section 11.4.8 of ASCE 7-16 for Site Class D sites with a mapped $S_1$ value greater than 0.2. However, Section 11.4.8 of ASCE 7-16 also indicates an exception to the requirement for a site-specific ground motion hazard analysis for certain structures on Site Class D sites. The commentary for Section 11 of ASCE 7-16 (Page 534 of Section C11 of ASCE 7-16) indicates that "In general, this exception effectively limits the requirements for site-specific hazard analysis to very tall and or flexible structures at Site Class D sites." **Based on our understanding of the proposed development, the seismic design parameters presented below were calculated assuming that the exception in Section 11.8.4 applies to the proposed structures at this site. However, the structural engineer should verify that this exception is applicable to the proposed structures.** Based on the exception, the spectral response accelerations presented below were calculated using the site coefficients ($F_a$ and $F_v$) from Tables 1613.2.3(1) and 1613.2.3(2) presented in Section 16.4.4 of the 2019 CBC.

**2019 CBC SEISMIC DESIGN PARAMETERS**

| Parameter | | Value |
|---|---|---|
| Mapped $MCE_R$ Acceleration at 0.2 sec Period | $S_S$ | 1.736 |
| Mapped $MCE_R$ Acceleration at 1.0 sec Period | $S_1$ | 0.600 |
| Site Class | --- | D |
| Site Modified Spectral Acceleration at 0.2 sec Period | $S_{MS}$ | 1.736 |
| Site Modified Spectral Acceleration at 1.0 sec Period | $S_{M1}$ | 1.020 |
| Design Spectral Acceleration at 0.2 sec Period | $S_{DS}$ | 1.157 |
| Design Spectral Acceleration at 1.0 sec Period | $S_{D1}$ | 0.680 |

It should be noted that the site coefficient $F_v$ and the parameters $S_{M1}$ and $S_{D1}$ were not included in the SEAOC/OSHPD Seismic Design Maps Tool output for the 2019 CBC. We calculated these parameters-based on Table 1613.2.3(2) in Section 16.4.4 of the 2019 CBC using the value of $S_1$ obtained from the Seismic Design Maps Tool, assuming that a site-specific ground motion hazards analysis is not required for the proposed buildings at this site.

## 6.2 Geotechnical Design Considerations

General

The near-surface soils encountered at the boring locations generally consist of variable strength, variable density, and native alluvium. The results of laboratory testing indicate that the near-surface alluvium (within the upper 3 to 4± feet) possesses a potential for moderate collapse when exposed to moisture infiltration as well as consolidation when exposed to load increases in the range of those that will be exerted by the new foundations. The soils present at greater depths generally consist of medium dense to very dense native alluvium, with more favorable consolidation/collapse characteristics. Based on these conditions, remedial grading will be necessary within the proposed building areas to provide a subgrade suitable for support of the new foundations and floor slabs.

Although not encountered at the boring locations, some artificial fill or disturbed soils may be present at the subject site in localized areas, based on the existing development and former site use as an orchard. The recommended remedial grading should also remove any existing fill soils or loose/disturbed soils from the proposed building areas.

Settlement

The recommended remedial grading will remove the potentially compressible/collapsible near-surface native alluvium, and replace these materials as compacted structural fill. The native soils that will remain in place below the recommended depth of overexcavation will not be subject to significant load increases from the foundations of the new structures. Provided that the recommended remedial grading is completed, the post-construction static settlements of the proposed structures are expected to be within tolerable limits.

Expansion

The near-surface soils generally consist of sands, sandy silts, and silty sands with no appreciable clay content. These materials have been visually classified as non-expansive. Therefore, no design considerations related to expansive soils are considered warranted for this site.

Soluble Sulfates

The results of the soluble sulfate testing indicated sulfate concentrations of less than 0.001 percent for the selected samples of the on-site soils. These concentrations are considered to be not applicable (S0) with respect to the American Concrete Institute (ACI) Publication 318-14 Building Code Requirements for Structural Concrete and Commentary, Section 4.3. Therefore, specialized concrete mix designs are not considered to be necessary, with regard to sulfate protection purposes. It is, however, recommended that additional soluble sulfate testing be conducted at the completion of rough grading to verify the soluble sulfate concentrations of the soils which are present at pad grade within the building areas.

Corrosion Potential

The results of laboratory testing indicate that the tested samples of the on-site soils possess saturated resistivity values of 14,400 and 21,200 ohm-cm, and pH values of 7.5 and 7.7. These test results have been evaluated in accordance with guidelines published by the Ductile Iron Pipe Research Association (DIPRA). The DIPRA guidelines consist of a point system by which characteristics of the soils are used to quantify the corrosivity characteristics of the site. Sulfides, and redox potential are factors that are also used in the evaluation procedure. We have evaluated the corrosivity characteristics of the on-site soils using resistivity, pH, and moisture content. Based on these factors, and utilizing the DIPRA procedure, the on-site soils are not considered to be corrosive to ductile iron pipe. However, SCG does not practice in the area of corrosion engineering. Therefore, the client may also wish to contact a corrosion engineer to provide a more thorough evaluation.

Shrinkage/Subsidence

Removal and recompaction of the artificial fill and near-surface native soils is estimated to result in an average shrinkage of 4 to 12 percent. However, the estimated shrinkage of the individual soil layers at the site is highly variable, locally ranging from 0 to 16 percent shrinkage. It should be noted that the shrinkage estimate is based on the results of dry density testing performed on small-diameter samples of the existing soils taken at the boring locations. If a more accurate and precise shrinkage estimate is desired, SCG can perform a shrinkage study involving several excavated test-pits where in-place densities are determined using in-situ testing methods instead of laboratory density testing on small-diameter samples. Please contact SCG for details and a cost estimate regarding a shrinkage study, if desired.

Minor ground subsidence is expected to occur in the soils below the zone of removal, due to settlement and machinery working. The subsidence is estimated to be 0.1 to 0.15± feet. This estimate may be used for grading in areas that are underlain by native alluvial soils.

These estimates are based on previous experience and the subsurface conditions encountered at the boring locations. The actual amount of subsidence is expected to be variable and will be

dependent on the type of machinery used, repetitions of use, and dynamic effects, all of which are difficult to assess precisely.

Grading and Foundation Plan Review

No grading or foundation plans were available at the time of this report. It is therefore recommended that we be provided with copies of the preliminary plans, when they become available, for review with regard to the conclusions, recommendations, and assumptions contained within this report.

## 6.3 Site Grading Recommendations

The grading recommendations presented below are based on the subsurface conditions encountered at the boring locations and our understanding of the proposed development. We recommend that all grading activities be completed in accordance with the Grading Guide Specifications included as Appendix D of this report, unless superseded by site-specific recommendations presented below.

Site Stripping and Demolition

Initial site stripping should include removal of any surficial vegetation from the site. Based on the site conditions at the time of subsurface exploration, stripping should include the moderate to heavy native grass and weeds, several large trees, bushes, and sparse trash debris spread throughout the site. Removal of the trees should include removal of the underlying root masses and organic material, with the resulting excavation being backfilled with compacted structural fill. Historic aerial photographs indicate that the site was previously utilized as a citrus orchard. If any tree root masses remain from the former orchard, these should also be removed from the site. The actual extent of site stripping should be determined in the field by the geotechnical engineer, based on the organic content and stability of the materials encountered.

Demolition of the existing structures and pavements will be necessary in order to facilitate the construction of the proposed development. Demolition should include all foundations, floor slabs, pavements, septic systems, utilities and any other subsurface improvements that will not remain in place with the new development. Demolition debris should be disposed of off-site in accordance with any applicable regulations. Alternatively, concrete and asphalt debris may be crushed to a maximum 2-inch particle size, mixed with the on-site soils, and reused as compacted structural fill.

Treatment of Existing Soils: Building Pads

Remedial grading should be performed within the proposed building pad areas in order to remove the existing potentially compressible/collapsible native alluvium. Although not encountered at the boring locations, some artificial fill or disturbed soils may be present at the subject site in localized areas, based on the existing development and former site use as an orchard. Based on conditions encountered at the boring locations, the existing soils within the proposed building areas are recommended to be overexcavated to a depth of at least 3 feet below existing grade and to a depth of at least 3 feet below proposed building pad subgrade elevation, whichever is greater.

The depth of overexcavation should also be sufficient to remove any artificial fill soils and any soils disturbed during demolition and/or site stripping.

Additional overexcavation should be performed within the influence zones of the new foundations, to provide a new layer of compacted structural fill extending to a depth of 2 feet below proposed bearing grade.

The overexcavation areas should extend at least 5 feet beyond the building foundations and perimeters. If the proposed structures incorporate any exterior columns (such as for a canopy or overhang) the area of overexcavation should also encompass these areas.

As discussed in previous sections of this report, it is unknown whether or not the root masses of the former citrus trees were removed at the time the trees were stripped from the site. If any significant tree root masses are encountered during grading, they should be removed in their entirety, prior to the replacement of any soils as compacted structural fill.

Following completion of the overexcavation, the subgrade soils within the building areas should be evaluated by the geotechnical engineer to verify their suitability to serve as the structural fill subgrade, as well as to support the foundation loads of the new structures. This evaluation should include proofrolling and probing to identify any soft, loose or otherwise unstable soils that must be removed. Some localized areas of deeper excavation may be required if loose, porous, or low density native soils are encountered at the base of the overexcavation. The possible fill soils should be further evaluated at the time of grading. If these are determined to be undocumented fill soils, they should be removed in their entirety.

After a suitable overexcavation subgrade has been achieved, the exposed soils should be scarified to a depth of at least 12 inches and thoroughly flooded to achieve a moisture content of 0 to 4 percent above optimum moisture content to a depth of at least 24 inches below the overexcavation subgrade. The subgrade soils should then be recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. The building pad areas may then be raised to grade with previously excavated soils or imported structural fill.

Treatment of Existing Soils: Retaining Walls and Site Walls

The existing soils within the areas of any proposed retaining walls and non-retaining site walls should be overexcavated to a depth of 3 feet below foundation bearing grade and replaced as compacted structural fill, as discussed above for the proposed building pad. Any undocumented fill soils within any of these foundation areas should be removed in their entirety. The overexcavation areas should extend at least 5 feet beyond the foundation perimeters, and to an extent equal to the depth of fill below the new foundations. Any erection pads used to construct tilt-up concrete walls are considered to be part of the foundation system with respect to these overexcavation recommendations. The overexcavation subgrade soils should be evaluated by the geotechnical engineer prior to scarifying, moisture conditioning, and recompacting the upper 12 inches of exposed subgrade soils. The previously excavated soils may then be replaced as compacted structural fill.

Treatment of Existing Soils: Parking and Drive Areas

Based on economic considerations, overexcavation of the existing undocumented fill soils in the new parking and drive areas is not considered warranted, with the exception of areas where lower strength or unstable soils are identified by the geotechnical engineer during grading.

Subgrade preparation in the new parking and drive areas should initially consist of removal of all soils disturbed during stripping and demolition operations. The geotechnical engineer should then evaluate the subgrade to identify any areas of additional unsuitable soils. The subgrade soils should then be scarified to a depth of 12± inches, thoroughly flooded to 0 to 4 percent above the optimum moisture content, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. Based on the presence of variable strength alluvial soils throughout the site, it is expected that some isolated areas of additional overexcavation may be required to remove zones of lower strength, unsuitable soils.

The grading recommendations presented above for the proposed parking and drive areas assume that the owner and/or developer can tolerate minor amounts of settlement within the proposed parking areas. The grading recommendations presented above do not completely mitigate the extent of existing fill soils and loose native soils in the parking areas. As such, settlement and associated pavement distress could occur. Typically, repair of such distressed areas involves significantly lower costs than completely mitigating these soils at the time of construction. If the owner cannot tolerate the risk of such settlements, the parking and drive areas should be overexcavated to a depth of 2 feet below proposed pavement subgrade elevation, with the resulting soils replaced as compacted structural fill.

Fill Placement

- Fill soils should be placed in thin (6± inches), near-horizontal lifts, moisture conditioned to within 0 to 4 percent above the optimum moisture content, and compacted.
- On-site soils may be used for fill provided they are cleaned of any debris to the satisfaction of the geotechnical engineer.
- All grading and fill placement activities should be completed in accordance with the requirements of the 2016 CBC and the grading code of the city of Fontana.
- All fill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density.
- Compaction tests should be performed periodically by the geotechnical engineer as random verification of compaction and moisture content. These tests are intended to aid the contractor. Since the tests are taken at discrete locations and depths, they may not be indicative of the entire fill and therefore should not relieve the contractor of his responsibility to meet the job specifications.

Imported Structural Fill

All imported structural fill should consist of very low expansive (EI < 20), well graded soils possessing at least 10 percent fines (that portion of the sample passing the No. 200 sieve). Additional specifications for structural fill are presented in the Grading Guide Specifications, included as Appendix D.

Utility Trench Backfill

In general, all utility trench backfill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. It is recommended that materials in excess of 3 inches in size not be used for utility trench backfill. Compacted trench backfill should conform to the requirements of the local grading code, and more restrictive requirements may be indicated by City of Fontana. All utility trench backfills should be witnessed by the geotechnical engineer. The trench backfill soils should be compaction tested where possible; probed and visually evaluated elsewhere.

Utility trenches which parallel a footing, and extending below a 1h:1v plane projected from the outside edge of the footing should be backfilled with structural fill soils, compacted to at least 90 percent of the ASTM D-1557 standard. Pea gravel backfill should not be used for these trenches.

## 6.4 Construction Considerations

Excavation Considerations

The near surface soils are predominately granular in composition. These materials will likely be subject to caving within shallow excavations. Where caving occurs within shallow excavations, flattened excavation slopes may be sufficient to provide excavation stability. On a preliminary basis, the inclination of temporary slopes should not exceed 2h:1v. Maintaining adequate moisture content within the near-surface soils will improve excavation stability. All excavation activities on this site should be conducted in accordance with Cal-OSHA regulations.

Groundwater

The static groundwater table at this site is considered to exist at a depth greater than 30± feet. Therefore, groundwater is not expected to impact the grading or foundation construction activities.

## 6.5 Foundation Design and Construction

Based on the preceding grading recommendations, it is assumed that the new building pads will be underlain by structural fill soils used to replace existing fill and a portion of the near-surface alluvial soils. These new structural fill soils are expected to extend to depths of at least 2 feet below proposed foundation bearing grade with 1 additional foot of soils scarified and recompacted in place. Based on this subsurface profile, the proposed structures may be supported on conventional shallow foundations.

Foundation Design Parameters

New square and rectangular footings may be designed as follows:

- Maximum, net allowable soil bearing pressure: 2,500 lbs/ft$^2$.
- Minimum wall/column footing width: 14 inches/24 inches.

- Minimum longitudinal steel reinforcement within strip footings: Two (2) No. 5 rebars (1 top and 1 bottom).

- Minimum foundation embedment: 12 inches into suitable structural fill soils, and at least 18 inches below adjacent exterior grade. Interior column footings may be placed immediately beneath the floor slab.

- It is recommended that the perimeter building foundations be continuous across all exterior doorways. Any flatwork adjacent to the exterior doors should be doweled into the perimeter foundations in a manner determined by the structural engineer.

The allowable bearing pressure presented above may be increased by one-third when considering short duration wind or seismic loads. The minimum steel reinforcement recommended above is based on geotechnical considerations; additional reinforcement may be necessary for structural considerations. The actual design of the foundations should be determined by the structural engineer.

Foundation Construction

The foundation subgrade soils should be evaluated at the time of overexcavation, as discussed in Section 6.3 of this report. It is further recommended that the foundation subgrade soils be evaluated by the geotechnical engineer immediately prior to steel or concrete placement. Soils suitable for direct foundation support should consist of newly placed structural fill, compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Any unsuitable materials should be removed to a depth of suitable bearing compacted structural fill, with the resulting excavations backfilled with compacted fill soils. As an alternative, lean concrete slurry (500 to 1,500 psi) may be used to backfill such isolated overexcavations.

The foundation subgrade soils should also be properly moisture conditioned to 0 to 4 percent above the Modified Proctor optimum, to a depth of at least 12 inches below bearing grade. Since it is typically not feasible to increase the moisture content of the floor slab and foundation subgrade soils once rough grading has been completed, care should be taken to maintain the moisture content of the building pad subgrade soils throughout the construction process.

Estimated Foundation Settlements

Post-construction total and differential settlements of shallow foundations designed and constructed in accordance with the previously presented recommendations are estimated to be less than 1.0 and 0.5 inches, respectively. Differential movements are expected to occur over a 50-foot span, thereby resulting in an angular distortion of less than 0.002 inches per inch.

Lateral Load Resistance

Lateral load resistance will be developed by a combination of friction acting at the base of foundations and slabs and the passive earth pressure developed by footings below grade. The following friction and passive pressure may be used to resist lateral forces:

- Passive Earth Pressure: 300 lbs/ft$^3$
- Friction Coefficient: 0.30

These are allowable values, and include a factor of safety. When combining friction and passive resistance, the passive pressure component should be reduced by one-third. These values assume that footings will be poured directly against compacted structural fill. The maximum allowable passive pressure is 2,500 lbs/ft$^2$.

## 6.6 Floor Slab Design and Construction

Subgrades which will support new floor slab should be prepared in accordance with the recommendations contained in the ***Site Grading Recommendations*** section of this report. Based on the anticipated grading which will occur at this site, the floors of the new structures may be constructed as conventional slabs-on-grade supported on newly placed structural fill soils. These fill soils are expected to extend to a depth of at least 3 feet below finished pad grade. Based on geotechnical considerations, the floor slabs may be designed as follows:

- Minimum slab thickness: 6 inches.

- Modulus of Subgrade Reaction: k = 150 psi/in

- Minimum slab reinforcement: Reinforcement is not required for geotechnical conditions. The actual floor slab reinforcement should be determined by the structural engineer, based upon the imposed loading.

- Slab underlayment: If moisture sensitive floor coverings will be used the minimum slab underlayment should consist of a moisture vapor barrier constructed below the entire area where such moisture sensitive floor coverings are anticipated. The moisture vapor barrier should meet or exceed the Class A rating as defined by ASTM E 1745-97 and have a permeance rating less than 0.01 perms as described in ASTM E 96-95 and ASTM E 154-88. A polyolefin material such as a 15 mil. Stego® Wrap Vapor Barrier or equivalent will meet these specifications. The moisture vapor barrier should be properly constructed in accordance with all applicable manufacturer specifications. The need for sand and/or the amount of sand above the moisture vapor barrier should be specified by the structural engineer or concrete contractor. The selection of sand above the barrier is not a geotechnical engineering issue and hence outside our purview.

- Moisture condition the floor slab subgrade soils to 0 to 4 percent above the Modified Proctor optimum moisture content, to a depth of 12 inches. The moisture content of the floor slab subgrade soils should be verified by the geotechnical engineer within 24 hours prior to concrete placement.

- Proper concrete curing techniques should be utilized to reduce the potential for slab curling or the formation of excessive shrinkage cracks.

The actual design of the floor slabs should be completed by the structural engineer to verify adequate thickness and reinforcement.

## 6.7 Retaining Wall Design and Construction

Small retaining walls are expected to be necessary in the area of the new truck loading docks and may also be required to facilitate the new site grades. The parameters recommended for use in the design of these walls are presented below.

Retaining Wall Design Parameters

Based on the soil conditions encountered at the boring locations, the following parameters may be used in the design of new retaining walls for this site. We have provided parameters assuming the use of on-site soils for retaining wall backfill. The on-site soils generally consist of sands, sandy silts, and silty sands. Based on their classification, these materials are expected to possess a friction angle of at least 30 degrees.

If desired, SCG could provide design parameters for an alternative select backfill material behind the retaining walls. The use of select backfill material could result in lower lateral earth pressures. In order to use the design parameters for the imported select fill, this material must be placed within the entire active failure wedge. This wedge is defined as extending from the heel of the retaining wall upwards at an angle of approximately 60° from horizontal. If select backfill material behind the retaining wall is desired, SCG should be contacted for supplementary recommendations.

**RETAINING WALL DESIGN PARAMETERS**

| **Design Parameter** | | **Soil Type**<br>On-Site Sands and Silty Sands |
|---|---|---|
| Internal Friction Angle ($\phi$) | | 30° |
| Unit Weight | | 125 lbs/ft$^3$ |
| Equivalent Fluid Pressure: | Active Condition (level backfill) | 42 lbs/ft$^3$ |
| | Active Condition (2h:1v backfill) | 67 lbs/ft$^3$ |
| | At-Rest Condition (level backfill) | 63 lbs/ft$^3$ |

The walls should be designed using a soil-footing coefficient of friction of 0.30 and an equivalent passive pressure of 300 lbs/ft$^3$. The structural engineer should incorporate appropriate factors of safety in the design of the retaining walls.

The active earth pressure may be used for the design of retaining walls that do not directly support structures or support soils that in turn support structures and which will be allowed to deflect. The at-rest earth pressure should be used for walls that will not be allowed to deflect such as those which will support foundation bearing soils, or which will support foundation loads directly.

Where the soils on the toe side of the retaining wall are not covered by a "hard" surface such as a structure or pavement, the upper 1 foot of soil should be neglected when calculating passive

resistance due to the potential for the material to become disturbed or degraded during the life of the structure.

Retaining Wall Foundation Design

The retaining wall foundations should be supported within newly placed structural fill. Foundations to support new retaining walls should be designed in accordance with the general Foundation Design Parameters presented in a previous section of this report.

Seismic Lateral Earth Pressures

In accordance with the 2016 CBC, any retaining walls more than 6 feet in height must be designed for seismic lateral earth pressures. If walls 6 feet or more are required for this site, the geotechnical engineer should be contacted for supplementary seismic lateral earth pressure recommendations.

Backfill Material

On-site soils may be used to backfill the retaining walls. However, all backfill material placed within 3 feet of the back wall face should have a particle size no greater than 3 inches. The retaining wall backfill materials should be well graded.

It is recommended that a properly installed prefabricated drainage composite such as the MiraDRAIN 6000XL (or approved equivalent), which is specifically designed for use behind retaining walls, be placed against the face on the back side of the retaining walls. This material should extend from the top of the retaining wall footing to within 1 foot of the ground surface on the back side of the retaining wall. A 12-inch thick layer of a low permeability soil should be placed over the backfill to reduce surface water migration to the underlying soils.

All retaining wall backfill should be placed and compacted under engineering controlled conditions in the necessary layer thicknesses to ensure an in-place density between 90 and 93 percent of the maximum dry density as determined by the Modified Proctor test (ASTM D1557-91). Care should be taken to avoid over-compaction of the soils behind the retaining walls, and the use of heavy compaction equipment should be avoided.

Subsurface Drainage

As previously indicated, the retaining wall design parameters are based upon drained backfill conditions. Consequently, some form of permanent drainage system will be necessary in conjunction with the appropriate backfill material. Subsurface drainage may consist of either:

- A weep hole drainage system typically consisting of a series of 4-inch diameter holes in the wall situated slightly above the ground surface elevation on the exposed side of the wall and at an approximate 8-foot on-center spacing. The weep holes should include a 2 cubic foot pocket of open graded gravel, surrounded by an approved geotextile fabric, at each weep hole location.

- A 4-inch diameter perforated pipe surrounded by 2 cubic feet of gravel per linear foot of drain placed behind the wall, above the retaining wall footing. The gravel layer should be

wrapped in a suitable geotextile fabric to reduce the potential for migration of fines. The footing drain should be extended to daylight or tied into a storm drainage system.

## 6.8 Pavement Design Parameters

Site preparation in the pavement area should be completed as previously recommended in the ***Site Grading Recommendations*** section of this report. The subsequent pavement recommendations assume proper drainage and construction monitoring, and are based on either PCA or CALTRANS design parameters for a twenty (20) year design period. However, these designs also assume a routine pavement maintenance program to obtain the anticipated 20-year pavement service life.

Pavement Subgrades

It is anticipated that the new pavements will be primarily supported on a layer of compacted structural fill, consisting of scarified, thoroughly moisture conditioned and recompacted existing soils. The on-site soils generally consist of silty sands, sandy silts, and sands. Based on their classification, these materials are expected to possess good to excellent pavement support characteristics, with R-values in the range of 40 to 60. Since R-value testing was not included in the scope of services for this project, the subsequent pavement design is based upon an assumed R-value of 40. Any fill material imported to the site should have support characteristics equal to or greater than that of the on-site soils and be placed and compacted under engineering controlled conditions. It is recommended that R-value testing be performed after completion of rough grading. Depending upon the results of the R-value testing, it may be feasible to use thinner pavement sections in some areas of the site.

Asphaltic Concrete

Presented below are the recommended thicknesses for new flexible pavement structures consisting of asphaltic concrete over a granular base. The pavement designs are based on the traffic indices (TI's) indicated. The client and/or civil engineer should verify that these TI's are representative of the anticipated traffic volumes. If the client and/or civil engineer determine that the expected traffic volume will exceed the applicable traffic index, we should be contacted for supplementary recommendations. The design traffic indices equate to the following approximate daily traffic volumes over a 20 year design life, assuming six operational traffic days per week.

| Traffic Index | No. of Heavy Trucks per Day |
|---|---|
| 4.0 | 0 |
| 5.0 | 1 |
| 6.0 | 3 |
| 7.0 | 11 |
| 8.0 | 35 |

For the purpose of the traffic volumes indicated above, a truck is defined as a 5-axle tractor trailer unit with one 8-kip axle and two 32-kip tandem axles. All of the traffic indices allow for 1,000 automobiles per day.

| ASPHALT PAVEMENTS (R = 40) | | | | | |
|---|---|---|---|---|---|
| **Materials** | **Thickness (inches)** | | | | |
| | Parking Stalls (TI = 4.0) | Auto Drive Lanes (TI = 5.0) | Truck Traffic | | |
| | | | (TI = 6.0) | (TI = 7.0) | (TI = 8.0) |
| Asphalt Concrete | 3 | 3 | 3½ | 4 | 5 |
| Aggregate Base | 3 | 4 | 6 | 7 | 8 |
| Compacted Subgrade | 12 | 12 | 12 | 12 | 12 |

The aggregate base course should be compacted to at least 95 percent of the ASTM D-1557 maximum dry density. The asphaltic concrete should be compacted to at least 95 percent of the Marshall maximum density, as determined by ASTM D-2726. The aggregate base course may consist of crushed aggregate base (CAB) or crushed miscellaneous base (CMB), which is a recycled gravel, asphalt and concrete material. The gradation, R-Value, Sand Equivalent, and Percentage Wear of the CAB or CMB should comply with appropriate specifications contained in the current edition of the "Greenbook" Standard Specifications for Public Works Construction.

Portland Cement Concrete

The preparation of the subgrade soils within concrete pavement areas should be performed as previously described for proposed asphalt pavement areas. The minimum recommended thicknesses for the Portland Cement Concrete pavement sections are as follows:

| PORTLAND CEMENT CONCRETE PAVEMENTS (R = 40) | | | | |
|---|---|---|---|---|
| **Materials** | **Thickness (inches)** | | | |
| | Automobile Parking and Drive Areas | Truck Traffic Areas | | |
| | | (TI =6.0) | (TI =7.0) | (TI =8.0) |
| PCC | 5 | 5 | 6 | 7 |
| Compacted Subgrade (95% minimum compaction) | 12 | 12 | 12 | 12 |

The concrete should have a 28-day compressive strength of at least 3,000 psi. The maximum joint spacing within all of the PCC pavements is recommended to be equal to or less than 30 times the pavement thickness.

# 7.0 GENERAL COMMENTS

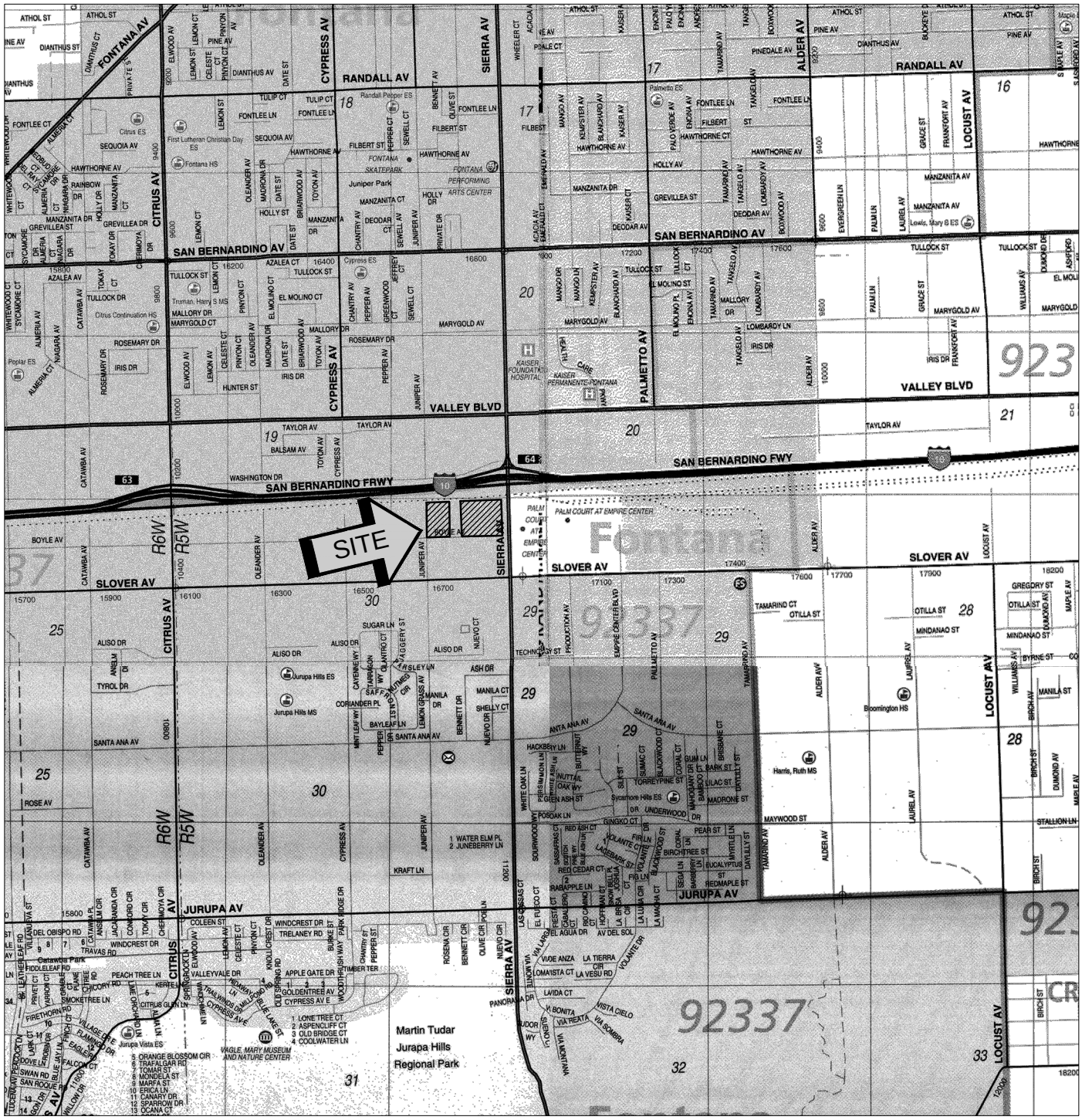
This report has been prepared as an instrument of service for use by the client, in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, civil engineer, and/or structural engineer. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The client(s)' reliance upon this report is subject to the Engineering Services Agreement, incorporated into our proposal for this project.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and sample depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted.

The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

# APPENDIX A




SOURCE: SAN BERNARDINO COUNTY
THOMAS GUIDE, 2013

| SITE LOCATION MAP |
|---|
| TWO PROPOSED WAREHOUSES |
| FONTANA, CALIFORNIA |
| SCALE: 1" = 2400' |
| DRAWN: RNK<br>CHKD: RGT |
| SCG PROJECT<br>19G218-1 |
| **PLATE 1** |

SOUTHERN CALIFORNIA GEOTECHNICAL

GEOTECHNICAL LEGEND

APPROXIMATE BORING LOCATION

NORTH

NOTE: SITE PLAN PREPARED BY HPA, INC.

**BORING LOCATION PLAN**

TWO PROPOSED WAREHOUSES

FONTANA, CALIFORNIA

SCALE: 1" = 80'

DRAWN: RNK
CHKD: RGT

SCG PROJECT
19G218-1

**PLATE 2**

SOUTHERN CALIFORNIA GEOTECHNICAL

# APPENDIX B

# BORING LOG LEGEND

| SAMPLE TYPE | GRAPHICAL SYMBOL | SAMPLE DESCRIPTION |
|---|---|---|
| **AUGER** | | SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED) |
| **CORE** | | ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK. |
| **GRAB** | | SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED) |
| **CS** | | CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED) |
| **NSR** | | NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL. |
| **SPT** | | STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED) |
| **SH** | | SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED) |
| **VANE** | | VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED. |

**COLUMN DESCRIPTIONS**

**DEPTH:** Distance in feet below the ground surface.

**SAMPLE**: Sample Type as depicted above.

**BLOW COUNT**: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

**POCKET PEN.**: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

**GRAPHIC LOG**: Graphic Soil Symbol as depicted on the following page.

**DRY DENSITY**: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft$^3$.

**MOISTURE CONTENT**: Moisture content of a soil sample, expressed as a percentage of the dry weight.

**LIQUID LIMIT**: The moisture content above which a soil behaves as a liquid.

**PLASTIC LIMIT**: The moisture content above which a soil behaves as a plastic.

**PASSING #200 SIEVE**: The percentage of the sample finer than the #200 standard sieve.

**UNCONFINED SHEAR**: The shear strength of a cohesive soil sample, as measured in the unconfined state.

# SOIL CLASSIFICATION CHART

| MAJOR DIVISIONS | | | SYMBOLS GRAPH | SYMBOLS LETTER | TYPICAL DESCRIPTIONS |
|---|---|---|---|---|---|
| COARSE GRAINED SOILS<br>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE | GRAVEL AND GRAVELLY SOILS<br>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE | CLEAN GRAVELS<br>(LITTLE OR NO FINES) | | GW | WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | | | GP | POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | GRAVELS WITH FINES<br>(APPRECIABLE AMOUNT OF FINES) | | GM | SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES |
| | | | | GC | CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES |
| | SAND AND SANDY SOILS<br>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE | CLEAN SANDS<br>(LITTLE OR NO FINES) | | SW | WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES |
| | | | | SP | POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES |
| | | SANDS WITH FINES<br>(APPRECIABLE AMOUNT OF FINES) | | SM | SILTY SANDS, SAND - SILT MIXTURES |
| | | | | SC | CLAYEY SANDS, SAND - CLAY MIXTURES |
| FINE GRAINED SOILS<br>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE | SILTS AND CLAYS | LIQUID LIMIT LESS THAN 50 | | ML | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY |
| | | | | CL | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS |
| | | | | OL | ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY |
| | SILTS AND CLAYS | LIQUID LIMIT GREATER THAN 50 | | MH | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS |
| | | | | CH | INORGANIC CLAYS OF HIGH PLASTICITY |
| | | | | OH | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS |
| HIGHLY ORGANIC SOILS | | | | PT | PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS |

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-1

JOB NO.: 19G218-1
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 10/16/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joseph Lozano Leon

WATER DEPTH: Dry
CAVE DEPTH: 4 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | X | 23 | | | ALLUVIUM: Light Brown fine Sandy Silt to Sity fine Sand, trace medium to coarse Sand, medium dense-damp | 103 | 4 | | | | | |
| | X | 18 | | | Light Gray Brown Silty fine Sand, medium dense-dry to damp | 106 | 3 | | | | | |
| 5 | X | 23 | | | Light Gray fine to medium Sand, trace Silt, medium dense-dry | 108 | 1 | | | | | |
| | X | 31 | | | | 107 | 2 | | | | | |
| 10 | X | 51 | | | Gray Brown fine to medium Sand, trace Silt, trace coarse Sand, trace fine Gravel, occasional Cobbles, dense to very dense-dry | | 1 | | | | | Disturbed Sample |
| 15 | X | 50/3" | | | | | 1 | | | | | |
| 20 | X | 51 | 2.5 | | | | 1 | | | | | |
| | | | | | Boring Terminated at 20' | | | | | | | |

TBL 19G218.GPJ SOCALGEO.GDT 11/5/19

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-2

JOB NO.: 19G218-1
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 10/16/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joseph Lozano Leon

WATER DEPTH: Dry
CAVE DEPTH: 5 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | 9 | | | ALLUVIUM: Light Gray Brown Silty fine Sand, little medium Sand, trace fine Gravel, trace fine root fibers, loose-dry | 103 | 2 | | | | | |
| | | 18 | | | Light Brown Silty fine Sand, trace medium Sand, medium dense-dry to damp | 103 | 3 | | | | | |
| 5 | | 50/4" | | | Gray fine to coarse Sand, little Silt, little fine Gravel, occasional Cobbles, medium dense to dense-dry | | | | | | | No Sample Recovery |
| | | 52 | | | | 121 | 1 | | | | | |
| 10 | | 40 | | | | | 1 | | | | | Disturbed Sample |
| | | | | | Gray fine to coarse Sand, trace Silt, some fine to coarse Gravel, occasional Cobbles, dense to very dense-dry to damp | | | | | | | |
| 15 | | 46 | | | | | 2 | | | | | |
| 20 | | 58 | | | | | 2 | | | | | |
| 25 | | 46 | | | | | 3 | | | | | |
| | | | | | Boring Terminated at 25' | | | | | | | |

TBL 19G218.GPJ SOCALGEO.GDT 11/5/19

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-3

JOB NO.: 19G218-1
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 10/15/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Ross Kovtun

WATER DEPTH: Dry
CAVE DEPTH: 16 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | ALLUVIUM: Light Gray Brown Silty fine Sand, trace medium to coarse Sand, trace fine root fibers, loose to medium dense-dry | | | | | | | |
| | | 14 | | | | 105 | 1 | | | | | |
| | | 19 | | | | 108 | 1 | | | | | |
| 5 | | 22 | | | Light Gray Brown fine to coarse Sand, trace Silt, little fine Gravel, medium dense-dry | 123 | 1 | | | | | |
| | | 29 | | | | 119 | 1 | | | | | |
| | | | | | Light Gray Brown Silt, trace fine to medium Sand, medium dense-dry | | | | | | | |
| 10 | | 22 | | | | 103 | 1 | | | | | |
| | | | | | Light Gray fine to coarse Sand, trace Silt, some fine to coarse Gravel, occasional Cobbles, dense-dry | | | | | | | |
| 15 | | 43 | | | | | 2 | | | | | |
| | | | | | Light Brown fine Sandy Silt to Sitly fine Sand, trace medium to coarse Sand, medium dense-moist | | | | | | | |
| 20 | | 22 | | | | | 8 | | | | | |
| | | | | | Gray Brown fine to medium Sand, trace Silt, trace coarse Sand, medium dense-dry | | | | | | | |
| 25 | | 25 | | | | | 2 | | | | | |
| | | | | | Boring Terminated at 25' | | | | | | | |

TBL 19G218.GPJ SOCALGEO.GDT 11/5/19

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-4

JOB NO.: 19G218-1
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 10/15/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Ross Kovtun

WATER DEPTH: Dry
CAVE DEPTH: 6 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | X | 25 | | | ALLUVIUM: Light Gray Brown Silty fine Sand, trace medium to coarse Sand, trace fine root fibers, medium dense-dry | | 2 | | | | | |
| | X | 22 | | | Light Gray Silty fine to medium Sand, trace coarse Sand, trace fine Gravel, medium dense to dense-dry | | 1 | | | | | |
| 5 | | | | | | | | | | | | |
| | X | 34 | | | Light Gray Brown Silty fine Sand, trace medium to coarse Sand, trace fine Gravel, dense-dry | | 2 | | | | | |
| | X | 55 | | | Light Gray fine to coarse Sand, trace Silt, some fine to coarse Gravel, very dense-dry | | 2 | | | | | |
| 10 | | | | | | | | | | | | |
| | X | 23 | | | Dark Brown fine to medium Sand, trace Silt, trace coarse Sand, trace fine Gravel, medium dense-dry | | 2 | | | | | |
| 15 | | | | | | | | | | | | |
| | | | | | Boring Terminated at 15' | | | | | | | |

TBL 19G218.GPJ SOCALGEO.GDT 11/5/19

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-5

JOB NO.: 19G218-1
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 10/15/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Ross Kovtun

WATER DEPTH: Dry
CAVE DEPTH: 3½
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | 18 | | | ALLUVIUM: Light Gray Brown Silty fine to medium Sand, trace coarse Sand, trace fine root fibers, medium dense-dry | 125 | 1 | | | | | |
| | | 36 | | | Light Gray Brown Silty fine Sand, trace medium to coarse Sand, trace fine Gravel, medium dense to very dense-dry | | 1 | | | | | Disturbed Sample |
| 5 | | 50/3" | | | | | 1 | | | | | Disturbed Sample |
| | | 36 | | | Light Gray Brown fine to coarse Sand, some fine Gravel, medium dense-damp | 119 | 1 | | | | | |
| 10 | | 44 | | | Light Gray Brown Silty fine to medium Sand, trace coarse Sand, little fine Gravel, medium dense-dry | | 1 | | | | | Disturbed Sample |
| 15 | | 40 | | | Light Gray fine to coarse Sand, trace Silt, little fine to coarse Gravel, dense-dry | | 1 | | | | | |
| 20 | | 40 | | | | | 2 | | | | | |
| 25 | | 43 | | | | | 1 | | | | | |
| 30 | | 50/4" | | | Light Gray fine to coarse Sand, some fine to coarse Gravel, occasional Cobbles, very dense-dry | | 1 | | | | | |
| | | | | | Boring Terminated at 30' | | | | | | | |

TBL 19G218.GPJ SOCALGEO.GDT 11/5/19

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-6

JOB NO.: 19G218-1
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 10/15/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Ross Kovtun

WATER DEPTH: Dry
CAVE DEPTH: 2 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | X | 20 | | | ALLUVIUM: Brown Sitly fine Sand, trace medium to coarse Sand, trace fine root fibers, medium dense-dry | | 1 | | | | | |
| | X | 19 | | | Light Gray Brown Silty fine to medium Sand, little coarse Sand, trace fine Gravel, medium dense-dry | | 1 | | | | | |
| 5 | | | | | | | | | | | | |
| | X | 22 | | | Light Gray fine to coarse Sand, trace Silt, some fine to coarse Gravel, occasional Cobbles, medium dense to very dense-dry | | 1 | | | | | |
| | X | 30 | | | | | 1 | | | | | |
| 10 | | | | | | | | | | | | |
| | X | 27 | | | | | 1 | | | | | |
| 15 | | | | | | | | | | | | |
| | X | 50/4" | | | | | 1 | | | | | |
| 20 | | | | | Boring Terminated at 20' | | | | | | | |

TBL 19G218.GPJ SOCALGEO.GDT 11/5/19

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-7

JOB NO.: 19G218-1
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

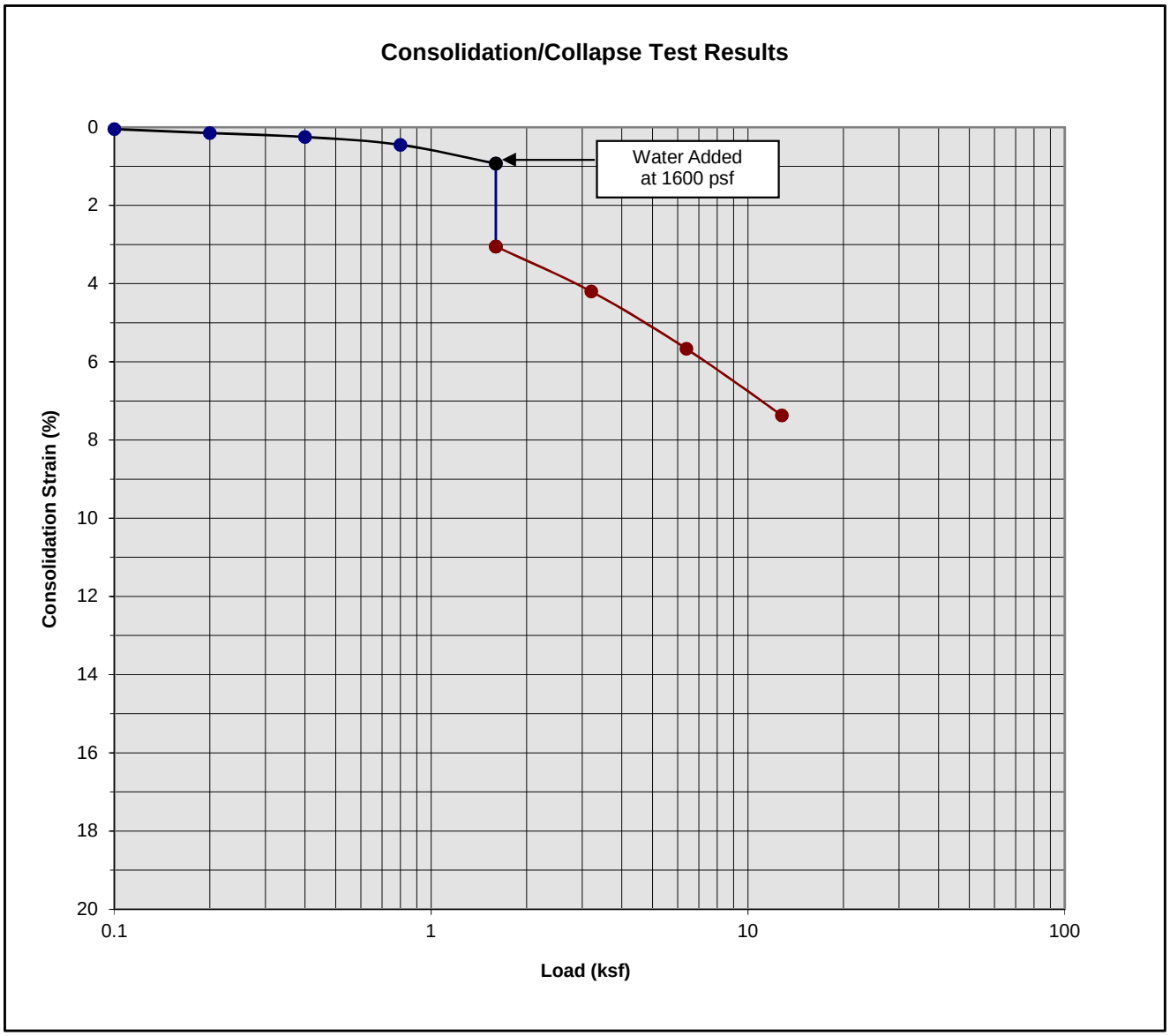
DRILLING DATE: 10/16/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joseph Lozano Leon

WATER DEPTH: Dry
CAVE DEPTH: 3 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | X | 17 | | | ALLUVIUM: Brown Silty fine Sand, trace to little medium to coarse Sand, trace fine Gravel, medium dense-dry | | 2 | | | | | |
| | X | 11 | | | Gray Brown fine to medium Sand, trace Silt, trace fine Gravel, medium dense-dry | | 2 | | | | | |
| 5 | X | 26 | | | Light Gray to Gray fine to coarse Sand, trace Silt, little fine Gravel, medium dense-dry | | 2 | | | | | |
| | X | 29 | | | Light Gray fine to coarse Sand, some fine to coarse Gravel, occasional Cobbles, medium dense to very dense-dry | | 2 | | | | | |
| 10 | | | | | | | | | | | | |
| | X | 50/5" | | | | | 2 | | | | | |
| 15 | | | | | | | | | | | | |
| | X | 50/3" | | | | | 1 | | | | | |
| 20 | | | | | | | | | | | | |
| | | | | | Boring Terminated at 20' | | | | | | | |

TBL 19G218.GPJ SOCALGEO.GDT 11/5/19

# APPENDIX C

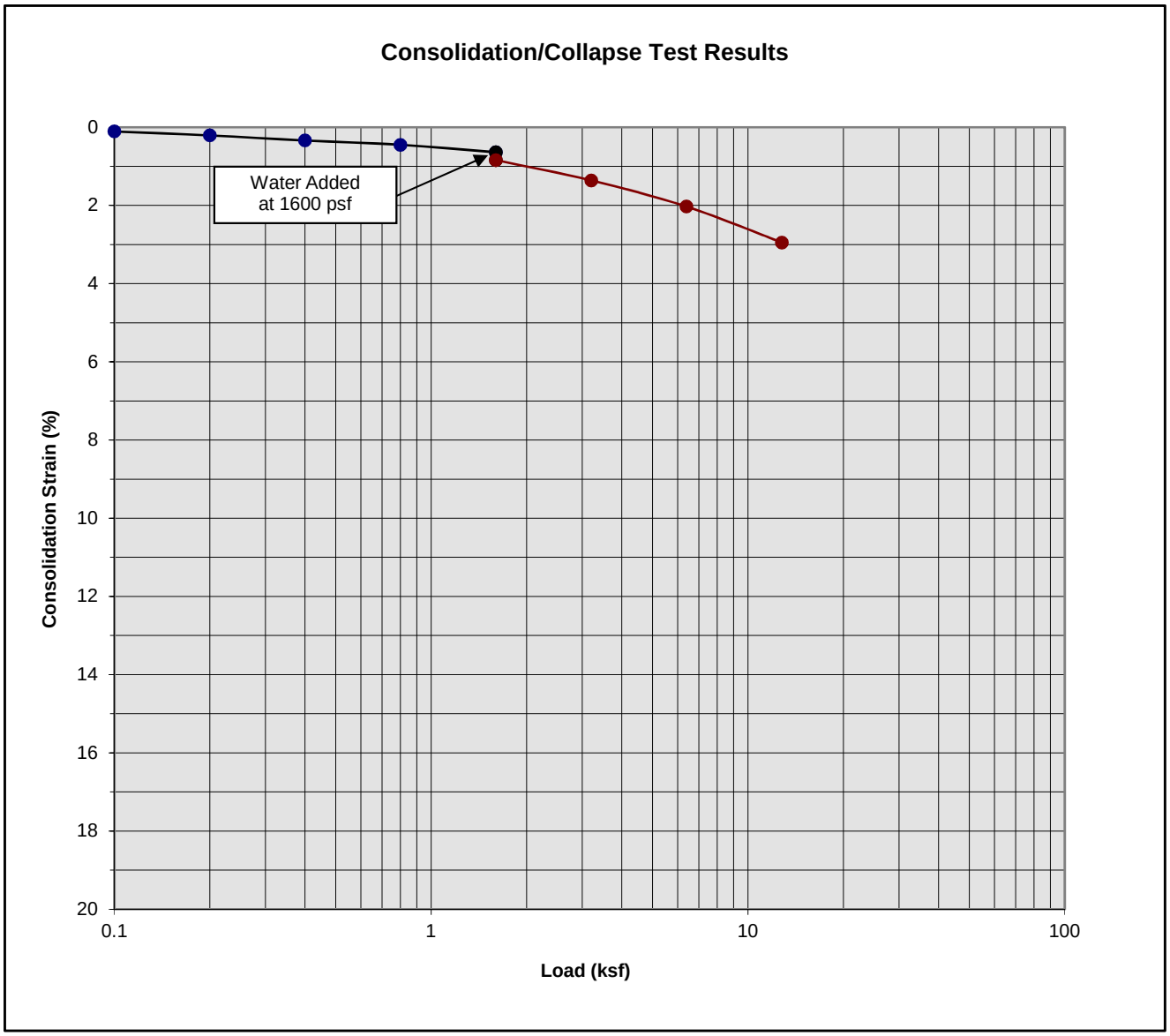



Classification: Light Gray Brown Silty fine Sand

| | | | |
|---|---|---|---|
| Boring Number: | B-1 | Initial Moisture Content (%) | 2 |
| Sample Number: | --- | Final Moisture Content (%) | 8 |
| Depth (ft) | 3 to 4 | Initial Dry Density (pcf) | 106.0 |
| Specimen Diameter (in) | 2.4 | Final Dry Density (pcf) | 122.1 |
| Specimen Thickness (in) | 1.0 | Percent Collapse (%) | 2.12 |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C- 1**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

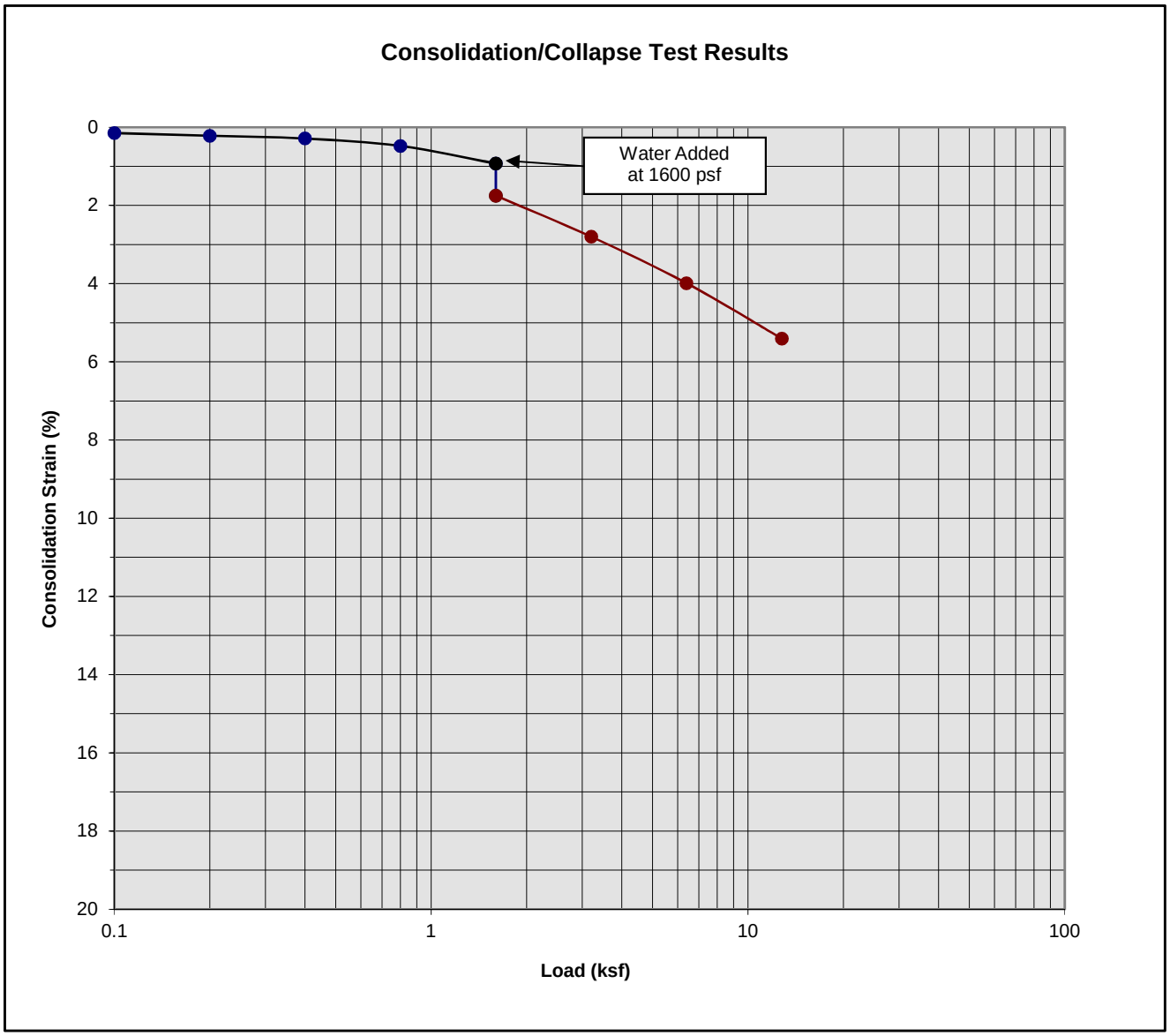



Classification: Light Gray fine to medium Sand, trace Silt

| | | | |
|---|---|---|---|
| Boring Number: | B-1 | Initial Moisture Content (%) | 1 |
| Sample Number: | --- | Final Moisture Content (%) | 9 |
| Depth (ft) | 5 to 6 | Initial Dry Density (pcf) | 107.4 |
| Specimen Diameter (in) | 2.4 | Final Dry Density (pcf) | 111.2 |
| Specimen Thickness (in) | 1.0 | Percent Collapse (%) | 0.20 |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C- 2**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

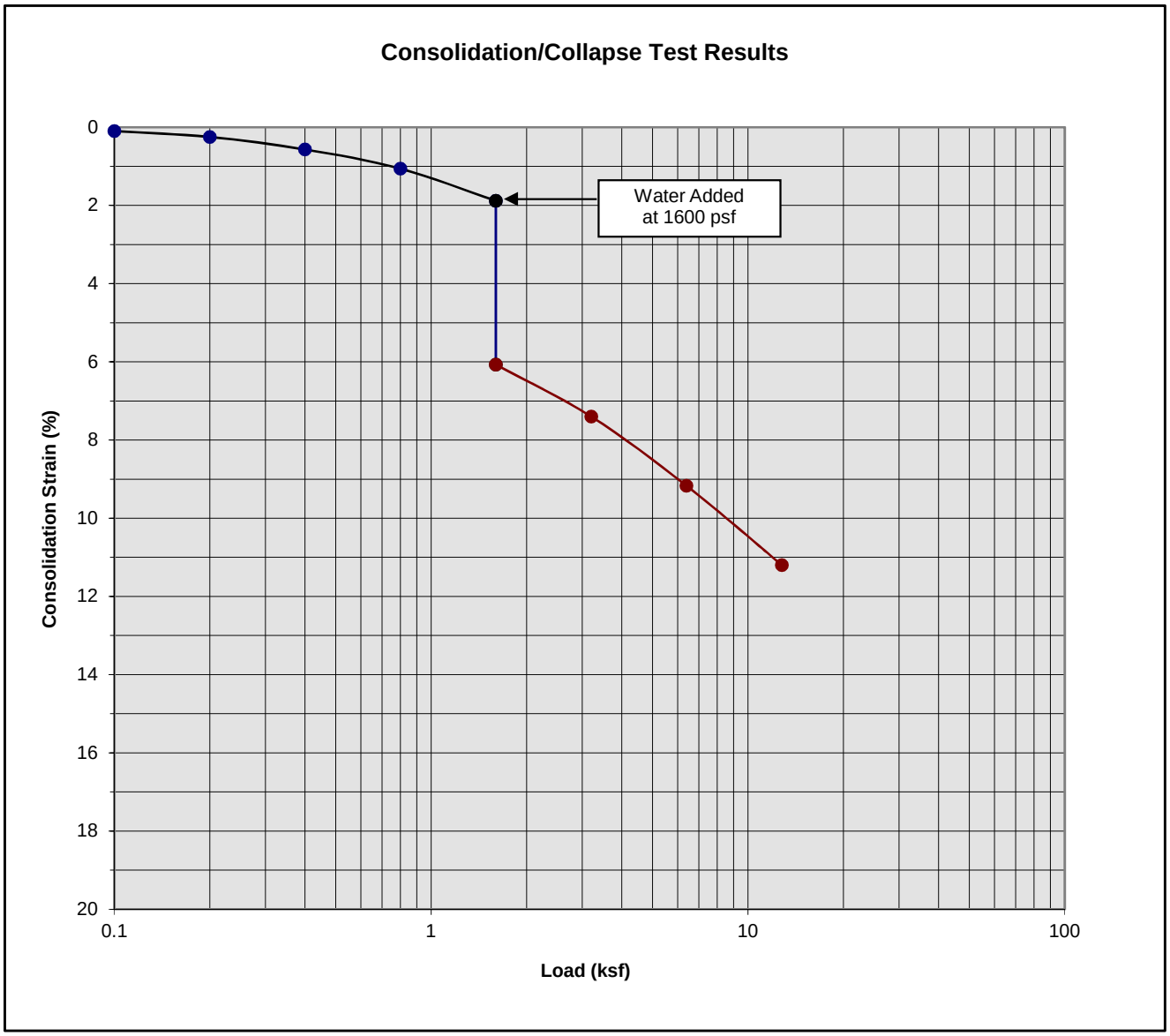



Classification: Light Gray fine to medium Sand, trace Silt

| | | | |
|---|---|---|---|
| Boring Number: | B-1 | Initial Moisture Content (%) | 1 |
| Sample Number: | --- | Final Moisture Content (%) | 8 |
| Depth (ft) | 7 to 8 | Initial Dry Density (pcf) | 106.8 |
| Specimen Diameter (in) | 2.4 | Final Dry Density (pcf) | 121.4 |
| Specimen Thickness (in) | 1.0 | Percent Collapse (%) | 0.82 |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C- 3**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

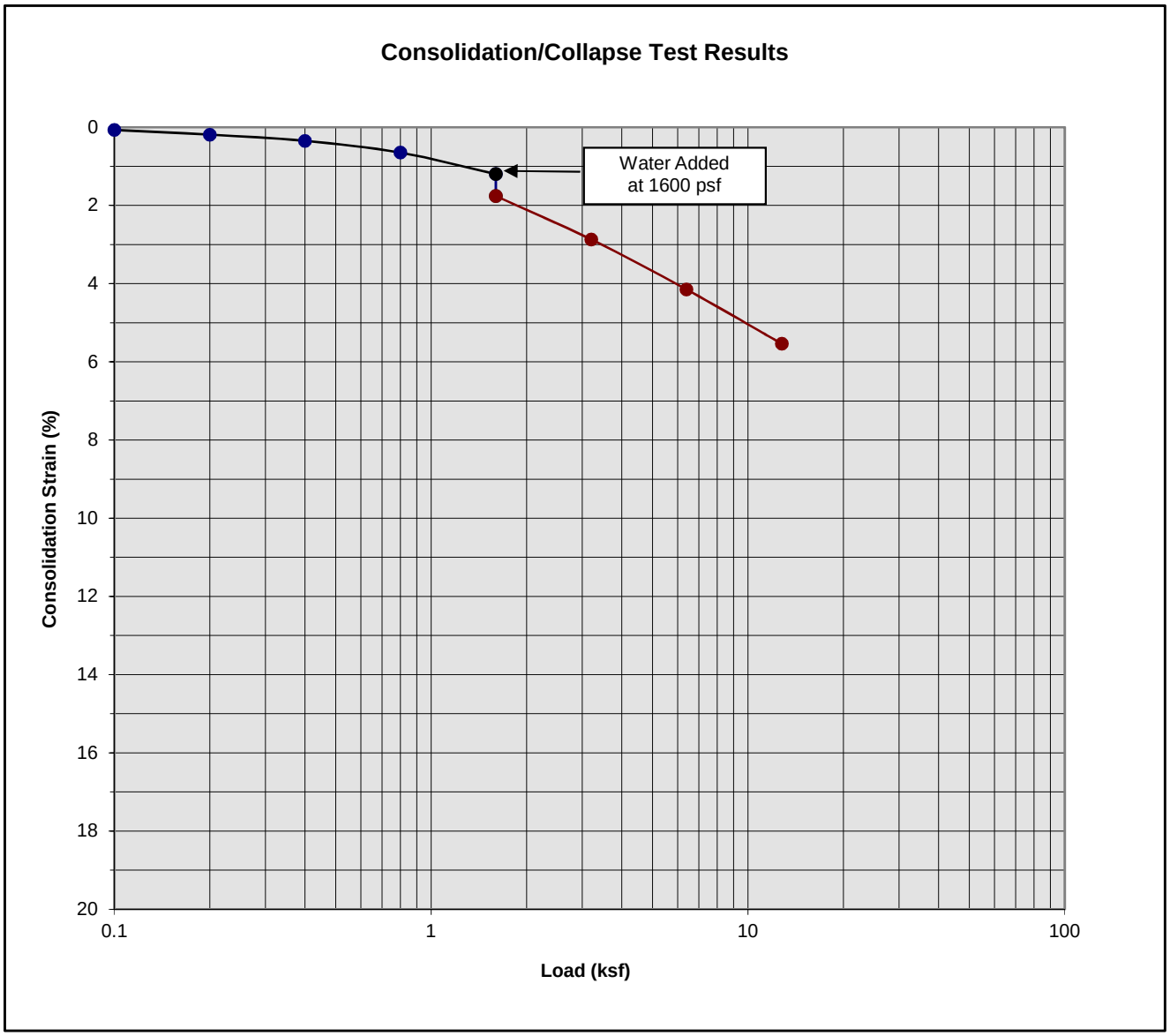



Classification: Light Brown Silty fine Sand, trace medium Sand

| | | | |
|---|---|---|---|
| Boring Number: | B-2 | Initial Moisture Content (%) | 3 |
| Sample Number: | --- | Final Moisture Content (%) | 18 |
| Depth (ft) | 3 to 4 | Initial Dry Density (pcf) | 103.8 |
| Specimen Diameter (in) | 2.4 | Final Dry Density (pcf) | 116.3 |
| Specimen Thickness (in) | 1.0 | Percent Collapse (%) | 4.19 |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C- 4**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

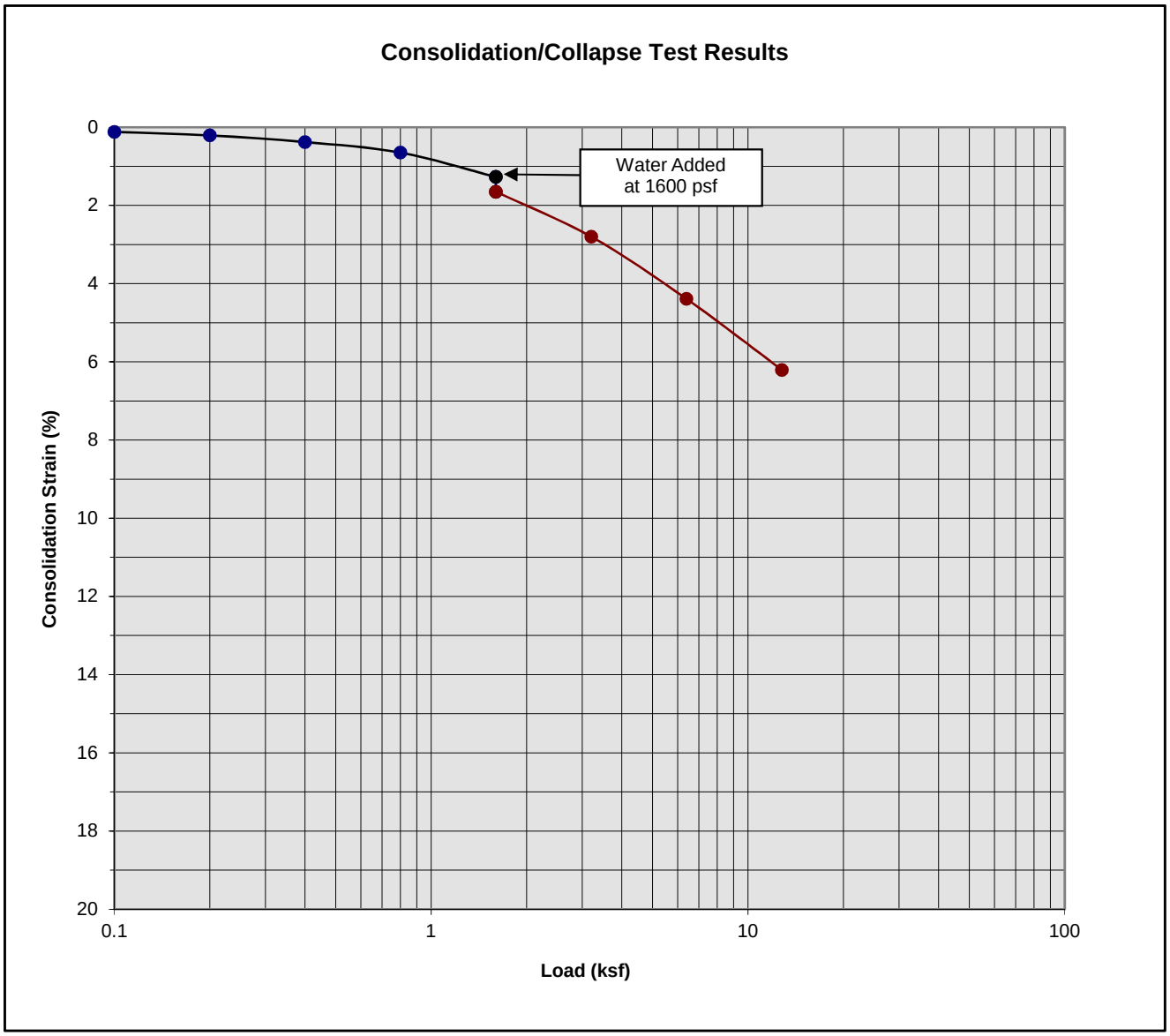



Classification: Light Gray Brown Silt, trace fine to medium Sand

| | | | |
|---|---|---|---|
| Boring Number: | B-3 | Initial Moisture Content (%) | 1 |
| Sample Number: | --- | Final Moisture Content (%) | 7 |
| Depth (ft) | 7 to 8 | Initial Dry Density (pcf) | 119.6 |
| Specimen Diameter (in) | 2.4 | Final Dry Density (pcf) | 127.0 |
| Specimen Thickness (in) | 1.0 | Percent Collapse (%) | 0.56 |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C- 5**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

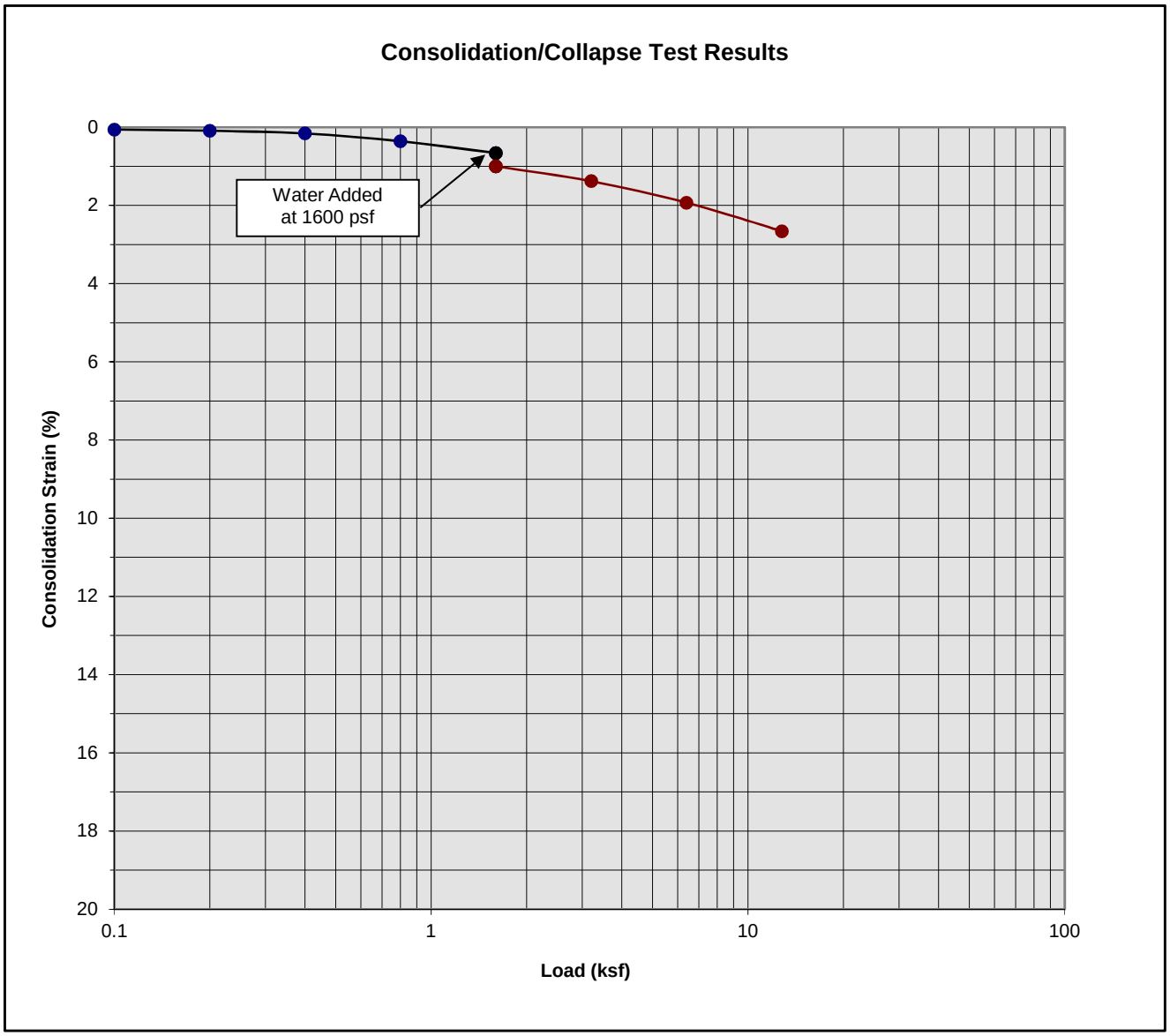



Classification: Light Gray Brown Silt, trace fine to medium Sand

| | | | |
|---|---|---|---|
| Boring Number: | B-3 | Initial Moisture Content (%) | 2 |
| Sample Number: | --- | Final Moisture Content (%) | 7 |
| Depth (ft) | 9 to 10 | Initial Dry Density (pcf) | 102.3 |
| Specimen Diameter (in) | 2.4 | Final Dry Density (pcf) | 121.1 |
| Specimen Thickness (in) | 1.0 | Percent Collapse (%) | 0.38 |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C- 6**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

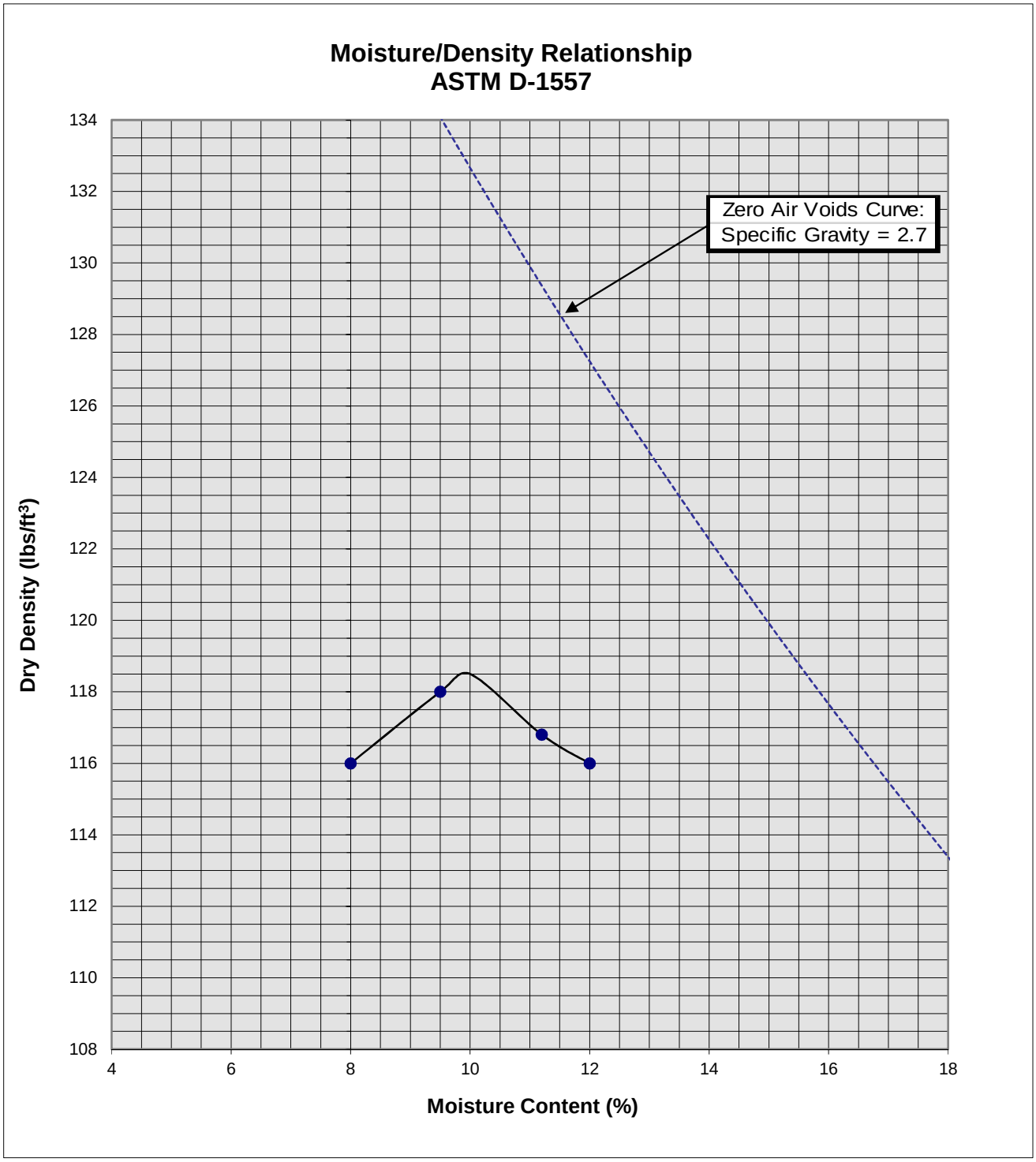



Classification: Light Gray Brown fine to coarse Sand, some fine to coarse Gravel

| | | | |
|---|---|---|---|
| Boring Number: | B-5 | Initial Moisture Content (%) | 1 |
| Sample Number: | --- | Final Moisture Content (%) | 14 |
| Depth (ft) | 7 to 8 | Initial Dry Density (pcf) | 119.7 |
| Specimen Diameter (in) | 2.4 | Final Dry Density (pcf) | 121.8 |
| Specimen Thickness (in) | 1.0 | Percent Collapse (%) | 0.34 |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C- 7**

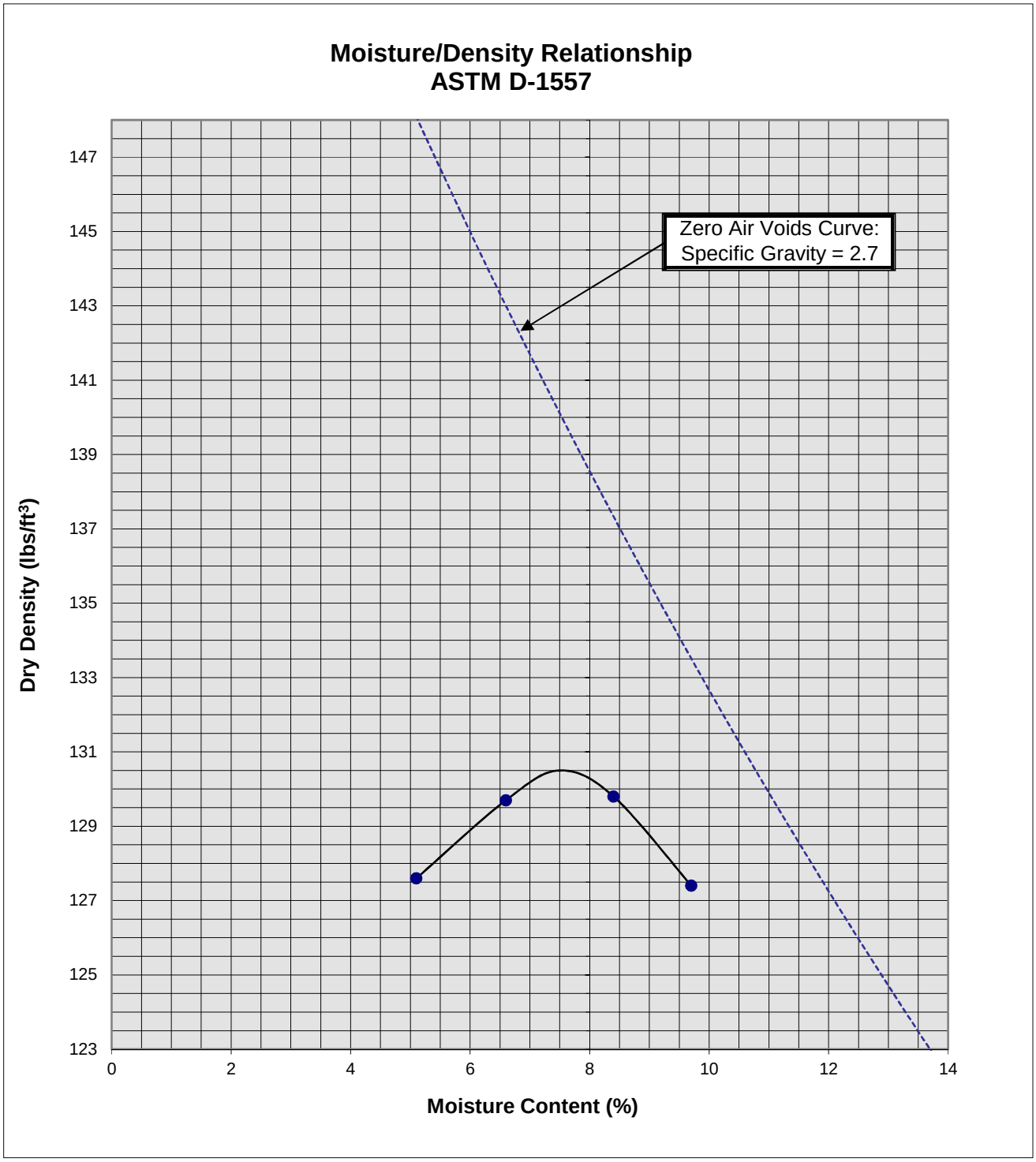
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation




| | |
|---|---|
| Soil ID Number | B-2 @ 0-5' |
| Optimum Moisture (%) | 10 |
| Maximum Dry Density (pcf) | 118.5 |
| Soil Classification | Light Gray Brown to Light Brown Silty fine Sand, trace medium to coarse Sand, trace fine Gravel |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C-8**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation




| | |
|---|---|
| Soil ID Number | B-4 @ 0-5' |
| Optimum Moisture (%) | 7.5 |
| Maximum Dry Density (pcf) | 130.5 |
| Soil Classification | Light Gray Brown Silty fine to medium Sand, trace coarse Sand, trace fine Gravel |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-1
**PLATE C-9**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# APPENDIX D

# GRADING GUIDE SPECIFICATIONS

These grading guide specifications are intended to provide typical procedures for grading operations. They are intended to supplement the recommendations contained in the geotechnical investigation report for this project. Should the recommendations in the geotechnical investigation report conflict with the grading guide specifications, the more site specific recommendations in the geotechnical investigation report will govern.

## General

- The Earthwork Contractor is responsible for the satisfactory completion of all earthwork in accordance with the plans and geotechnical reports, and in accordance with city, county, and applicable building codes.

- The Geotechnical Engineer is the representative of the Owner/Builder for the purpose of implementing the report recommendations and guidelines. These duties are not intended to relieve the Earthwork Contractor of any responsibility to perform in a workman-like manner, nor is the Geotechnical Engineer to direct the grading equipment or personnel employed by the Contractor.

- The Earthwork Contractor is required to notify the Geotechnical Engineer of the anticipated work and schedule so that testing and inspections can be provided. If necessary, work may be stopped and redone if personnel have not been scheduled in advance.

- The Earthwork Contractor is required to have suitable and sufficient equipment on the job-site to process, moisture condition, mix and compact the amount of fill being placed to the approved compaction. In addition, suitable support equipment should be available to conform with recommendations and guidelines in this report.

- Canyon cleanouts, overexcavation areas, processed ground to receive fill, key excavations, subdrains and benches should be observed by the Geotechnical Engineer prior to placement of any fill. It is the Earthwork Contractor's responsibility to notify the Geotechnical Engineer of areas that are ready for inspection.

- Excavation, filling, and subgrade preparation should be performed in a manner and sequence that will provide drainage at all times and proper control of erosion. Precipitation, springs, and seepage water encountered shall be pumped or drained to provide a suitable working surface. The Geotechnical Engineer must be informed of springs or water seepage encountered during grading or foundation construction for possible revision to the recommended construction procedures and/or installation of subdrains.

## Site Preparation

- The Earthwork Contractor is responsible for all clearing, grubbing, stripping and site preparation for the project in accordance with the recommendations of the Geotechnical Engineer.

- If any materials or areas are encountered by the Earthwork Contractor which are suspected of having toxic or environmentally sensitive contamination, the Geotechnical Engineer and Owner/Builder should be notified immediately.

- Major vegetation should be stripped and disposed of off-site. This includes trees, brush, heavy grasses and any materials considered unsuitable by the Geotechnical Engineer.

- Underground structures such as basements, cesspools or septic disposal systems, mining shafts, tunnels, wells and pipelines should be removed under the inspection of the Geotechnical Engineer and recommendations provided by the Geotechnical Engineer and/or city, county or state agencies. If such structures are known or found, the Geotechnical Engineer should be notified as soon as possible so that recommendations can be formulated.

- Any topsoil, slopewash, colluvium, alluvium and rock materials which are considered unsuitable by the Geotechnical Engineer should be removed prior to fill placement.

- Remaining voids created during site clearing caused by removal of trees, foundations basements, irrigation facilities, etc., should be excavated and filled with compacted fill.

- Subsequent to clearing and removals, areas to receive fill should be scarified to a depth of 10 to 12 inches, moisture conditioned and compacted

- The moisture condition of the processed ground should be at or slightly above the optimum moisture content as determined by the Geotechnical Engineer. Depending upon field conditions, this may require air drying or watering together with mixing and/or discing.

Compacted Fills

- Soil materials imported to or excavated on the property may be utilized in the fill, provided each material has been determined to be suitable in the opinion of the Geotechnical Engineer. Unless otherwise approved by the Geotechnical Engineer, all fill materials shall be free of deleterious, organic, or frozen matter, shall contain no chemicals that may result in the material being classified as “contaminated,” and shall be very low to non-expansive with a maximum expansion index (EI) of 50. The top 12 inches of the compacted fill should have a maximum particle size of 3 inches, and all underlying compacted fill material a maximum 6-inch particle size, except as noted below.

- All soils should be evaluated and tested by the Geotechnical Engineer. Materials with high expansion potential, low strength, poor gradation or containing organic materials may require removal from the site or selective placement and/or mixing to the satisfaction of the Geotechnical Engineer.

- Rock fragments or rocks less than 6 inches in their largest dimensions, or as otherwise determined by the Geotechnical Engineer, may be used in compacted fill, provided the distribution and placement is satisfactory in the opinion of the Geotechnical Engineer.

- Rock fragments or rocks greater than 12 inches should be taken off-site or placed in accordance with recommendations and in areas designated as suitable by the Geotechnical Engineer. These materials should be placed in accordance with Plate D-8 of these Grading Guide Specifications and in accordance with the following recommendations:

    - Rocks 12 inches or more in diameter should be placed in rows at least 15 feet apart, 15 feet from the edge of the fill, and 10 feet or more below subgrade. Spaces should be left between each rock fragment to provide for placement and compaction of soil around the fragments.

    - Fill materials consisting of soil meeting the minimum moisture content requirements and free of oversize material should be placed between and over the rows of rock or

concrete. Ample water and compactive effort should be applied to the fill materials as they are placed in order that all of the voids between each of the fragments are filled and compacted to the specified density.

- Subsequent rows of rocks should be placed such that they are not directly above a row placed in the previous lift of fill. A minimum 5-foot offset between rows is recommended.

- To facilitate future trenching, oversized material should not be placed within the range of foundation excavations, future utilities or other underground construction unless specifically approved by the soil engineer and the developer/owner representative.

- Fill materials approved by the Geotechnical Engineer should be placed in areas previously prepared to receive fill and in evenly placed, near horizontal layers at about 6 to 8 inches in loose thickness, or as otherwise determined by the Geotechnical Engineer for the project.

- Each layer should be moisture conditioned to optimum moisture content, or slightly above, as directed by the Geotechnical Engineer. After proper mixing and/or drying, to evenly distribute the moisture, the layers should be compacted to at least 90 percent of the maximum dry density in compliance with ASTM D-1557-78 unless otherwise indicated.

- Density and moisture content testing should be performed by the Geotechnical Engineer at random intervals and locations as determined by the Geotechnical Engineer. These tests are intended as an aid to the Earthwork Contractor, so he can evaluate his workmanship, equipment effectiveness and site conditions. The Earthwork Contractor is responsible for compaction as required by the Geotechnical Report(s) and governmental agencies.

- Fill areas unused for a period of time may require moisture conditioning, processing and recompaction prior to the start of additional filling. The Earthwork Contractor should notify the Geotechnical Engineer of his intent so that an evaluation can be made.

- Fill placed on ground sloping at a 5-to-1 inclination (horizontal-to-vertical) or steeper should be benched into bedrock or other suitable materials, as directed by the Geotechnical Engineer. Typical details of benching are illustrated on Plates D-2, D-4, and D-5.

- Cut/fill transition lots should have the cut portion overexcavated to a depth of at least 3 feet and rebuilt with fill (see Plate D-1), as determined by the Geotechnical Engineer.

- All cut lots should be inspected by the Geotechnical Engineer for fracturing and other bedrock conditions. If necessary, the pads should be overexcavated to a depth of 3 feet and rebuilt with a uniform, more cohesive soil type to impede moisture penetration.

- Cut portions of pad areas above buttresses or stabilizations should be overexcavated to a depth of 3 feet and rebuilt with uniform, more cohesive compacted fill to impede moisture penetration.

- Non-structural fill adjacent to structural fill should typically be placed in unison to provide lateral support. Backfill along walls must be placed and compacted with care to ensure that excessive unbalanced lateral pressures do not develop. The type of fill material placed adjacent to below grade walls must be properly tested and approved by the Geotechnical Engineer with consideration of the lateral earth pressure used in the design.

Foundations

- The foundation influence zone is defined as extending one foot horizontally from the outside edge of a footing, and proceeding downward at a ½ horizontal to 1 vertical (0.5:1) inclination.

- Where overexcavation beneath a footing subgrade is necessary, it should be conducted so as to encompass the entire foundation influence zone, as described above.

- Compacted fill adjacent to exterior footings should extend at least 12 inches above foundation bearing grade. Compacted fill within the interior of structures should extend to the floor subgrade elevation.

Fill Slopes

- The placement and compaction of fill described above applies to all fill slopes. Slope compaction should be accomplished by overfilling the slope, adequately compacting the fill in even layers, including the overfilled zone and cutting the slope back to expose the compacted core

- Slope compaction may also be achieved by backrolling the slope adequately every 2 to 4 vertical feet during the filling process as well as requiring the earth moving and compaction equipment to work close to the top of the slope. Upon completion of slope construction, the slope face should be compacted with a sheepsfoot connected to a sideboom and then grid rolled. This method of slope compaction should only be used if approved by the Geotechnical Engineer.

- Sandy soils lacking in adequate cohesion may be unstable for a finished slope condition and therefore should not be placed within 15 horizontal feet of the slope face.

- All fill slopes should be keyed into bedrock or other suitable material. Fill keys should be at least 15 feet wide and inclined at 2 percent into the slope. For slopes higher than 30 feet, the fill key width should be equal to one-half the height of the slope (see Plate D-5).

- All fill keys should be cleared of loose slough material prior to geotechnical inspection and should be approved by the Geotechnical Engineer and governmental agencies prior to filling.

- The cut portion of fill over cut slopes should be made first and inspected by the Geotechnical Engineer for possible stabilization requirements. The fill portion should be adequately keyed through all surficial soils and into bedrock or suitable material. Soils should be removed from the transition zone between the cut and fill portions (see Plate D-2).

Cut Slopes

- All cut slopes should be inspected by the Geotechnical Engineer to determine the need for stabilization. The Earthwork Contractor should notify the Geotechnical Engineer when slope cutting is in progress at intervals of 10 vertical feet. Failure to notify may result in a delay in recommendations.

- Cut slopes exposing loose, cohesionless sands should be reported to the Geotechnical Engineer for possible stabilization recommendations.

- All stabilization excavations should be cleared of loose slough material prior to geotechnical inspection. Stakes should be provided by the Civil Engineer to verify the location and dimensions of the key. A typical stabilization fill detail is shown on Plate D-5.

- Stabilization key excavations should be provided with subdrains. Typical subdrain details are shown on Plates D-6.

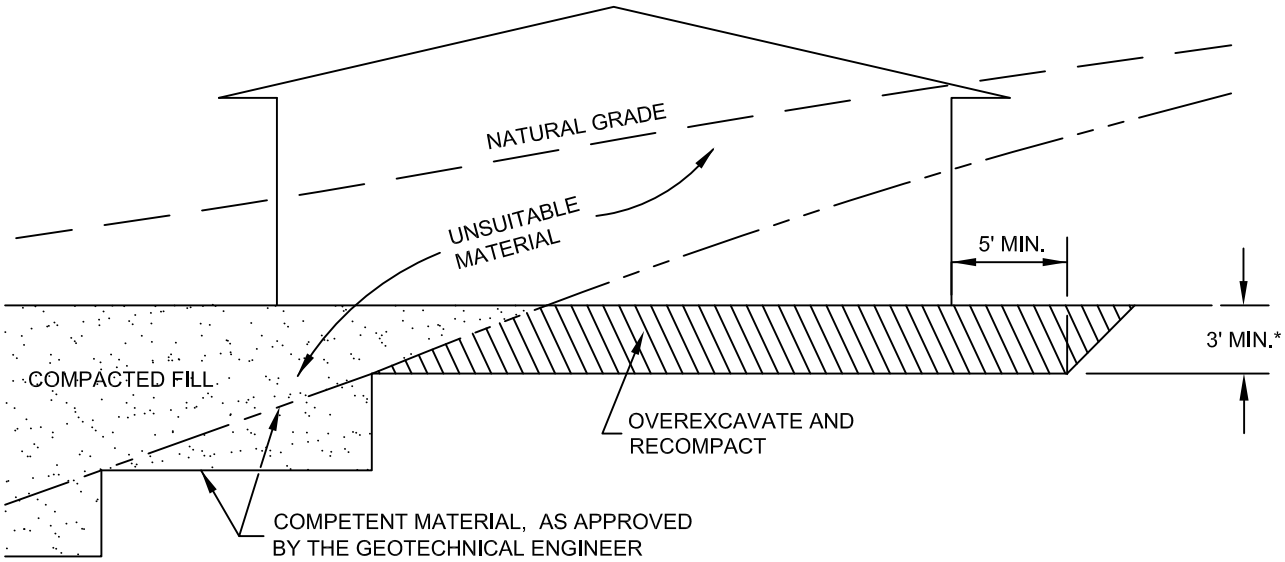
Subdrains

- Subdrains may be required in canyons and swales where fill placement is proposed. Typical subdrain details for canyons are shown on Plate D-3. Subdrains should be installed after approval of removals and before filling, as determined by the Soils Engineer.

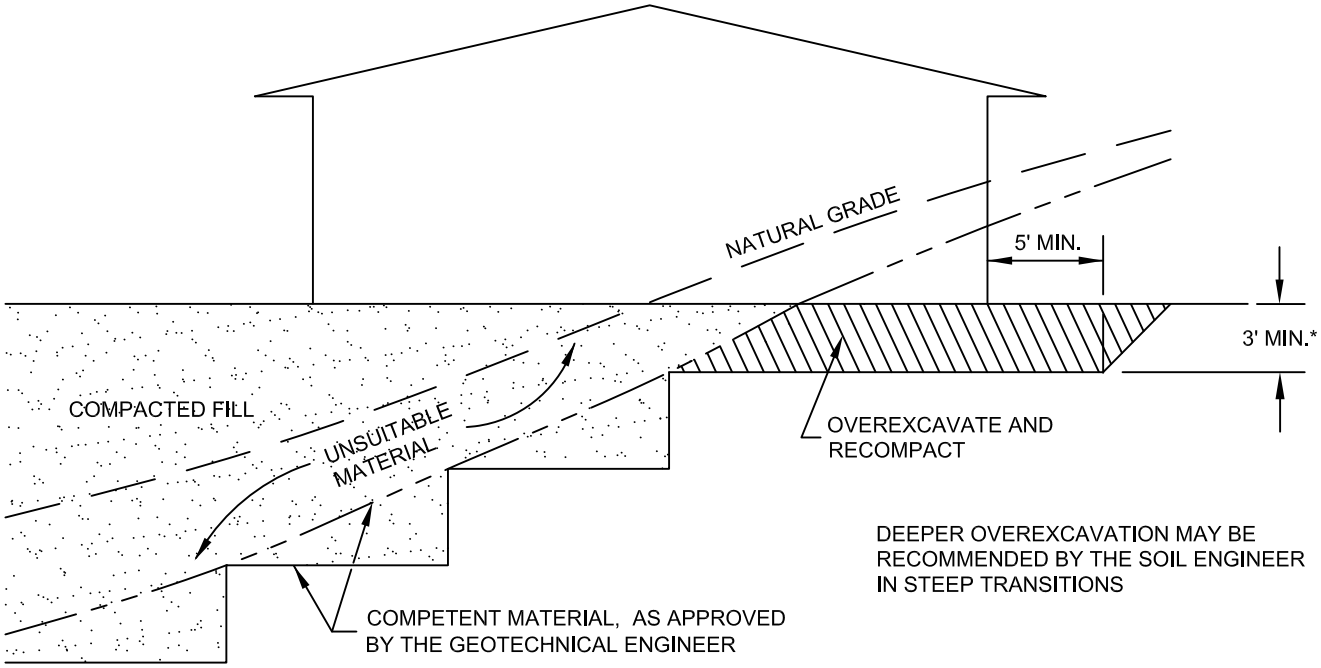
- Plastic pipe may be used for subdrains provided it is Schedule 40 or SDR 35 or equivalent. Pipe should be protected against breakage, typically by placement in a square-cut (backhoe) trench or as recommended by the manufacturer.

- Filter material for subdrains should conform to CALTRANS Specification 68-1.025 or as approved by the Geotechnical Engineer for the specific site conditions. Clean ¾-inch crushed rock may be used provided it is wrapped in an acceptable filter cloth and approved by the Geotechnical Engineer. Pipe diameters should be 6 inches for runs up to 500 feet and 8 inches for the downstream continuations of longer runs. Four-inch diameter pipe may be used in buttress and stabilization fills.

## CUT LOT




## CUT/FILL LOT (TRANSITION)




*SEE TEXT OF REPORT FOR SPECIFIC RECOMMENDATION. ACTUAL DEPTH OF OVEREXCAVATION MAY BE GREATER.

**TRANSITION LOT DETAIL**

GRADING GUIDE SPECIFICATIONS

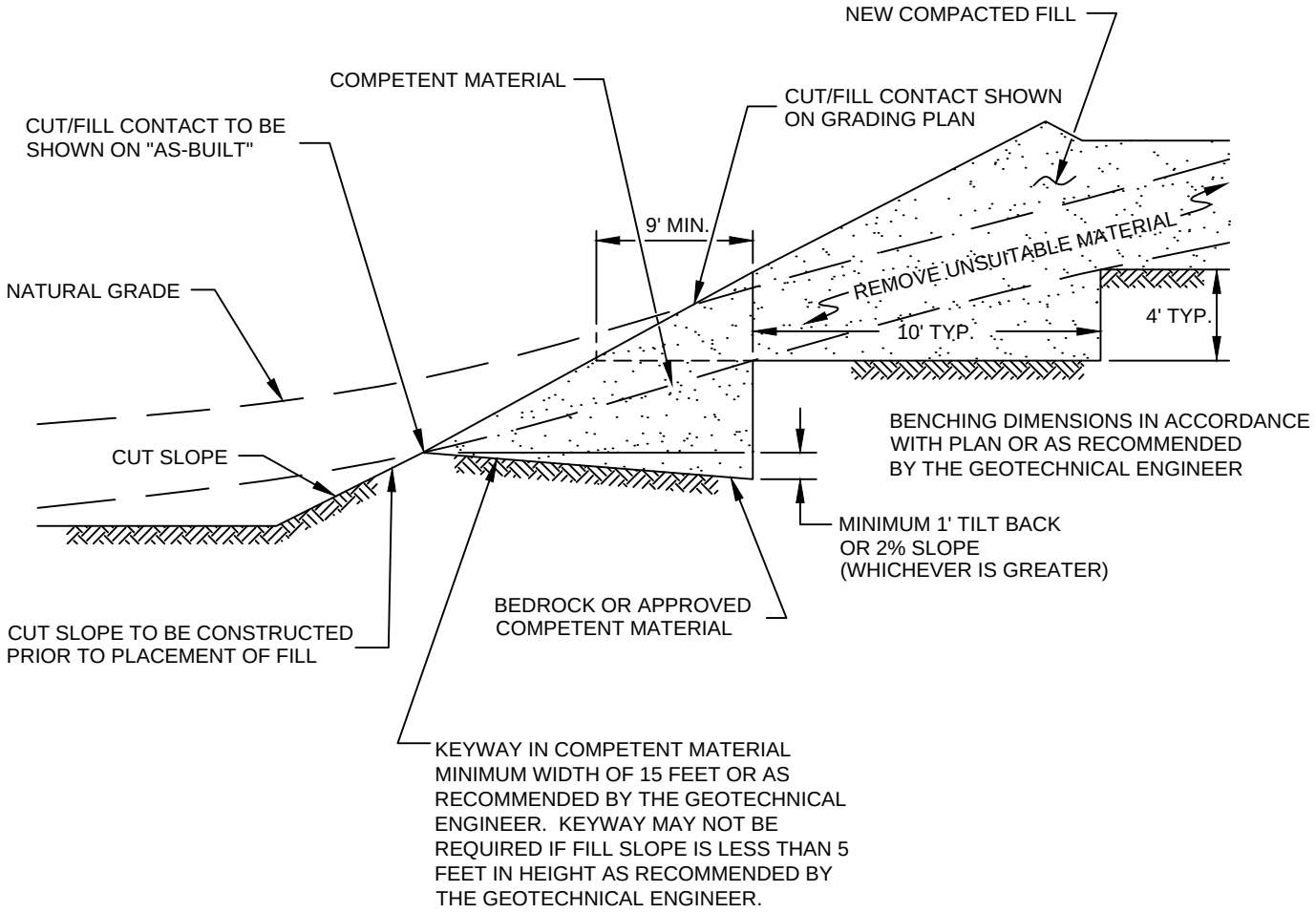
NOT TO SCALE

DRAWN: JAS
CHKD: GKM

**PLATE D-1**

SoCalGeo

SOUTHERN CALIFORNIA GEOTECHNICAL




**FILL ABOVE CUT SLOPE DETAIL**

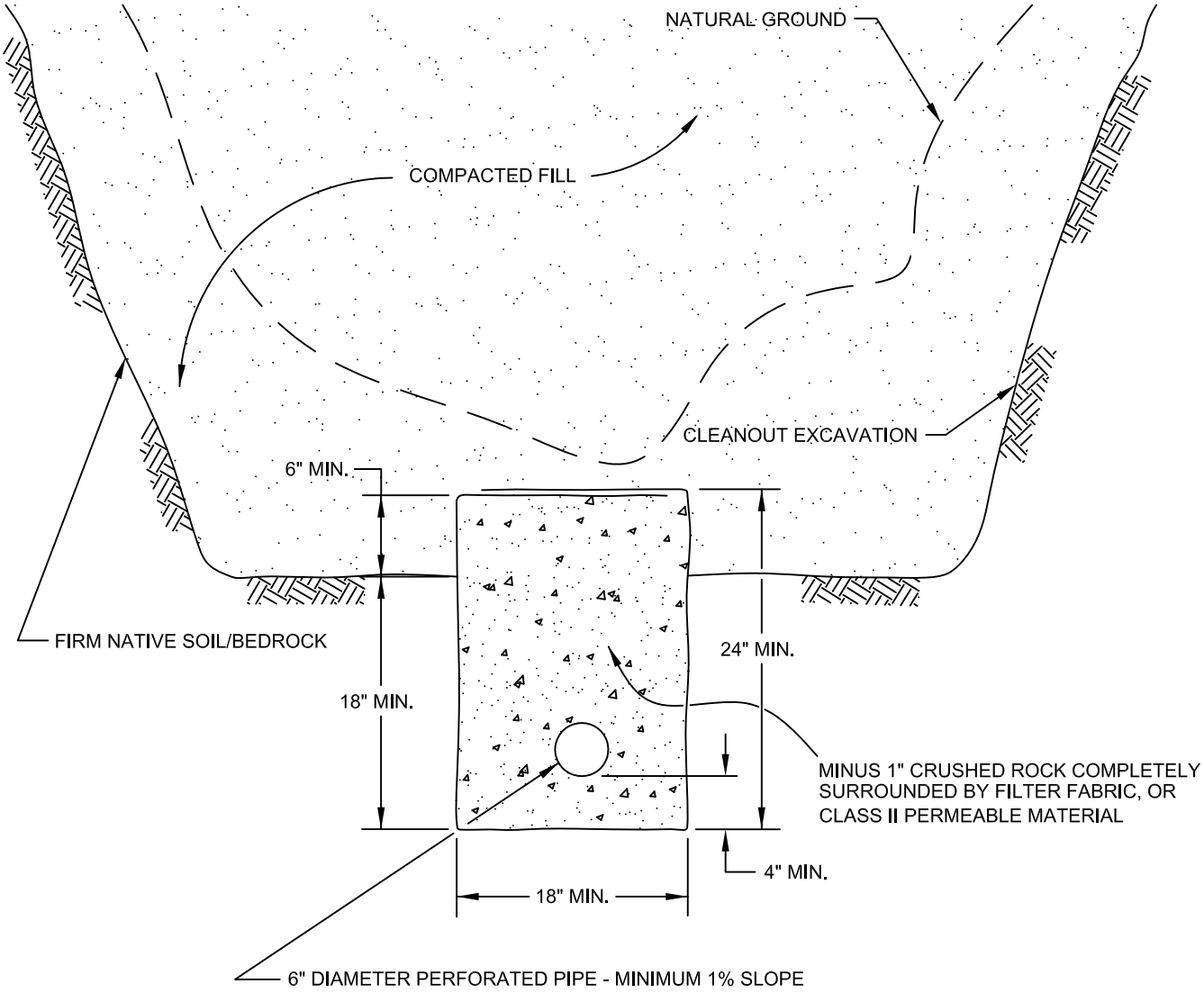
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

**PLATE D-2**

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL




| PIPE MATERIAL | DEPTH OF FILL OVER SUBDRAIN |
|---|---|
| ADS (CORRUGATED POLETHYLENE) | 8 |
| TRANSITE UNDERDRAIN | 20 |
| PVC OR ABS: SDR 35 | 35 |
| SDR 21 | 100 |

**SCHEMATIC ONLY**
**NOT TO SCALE**

**CANYON SUBDRAIN DETAIL**

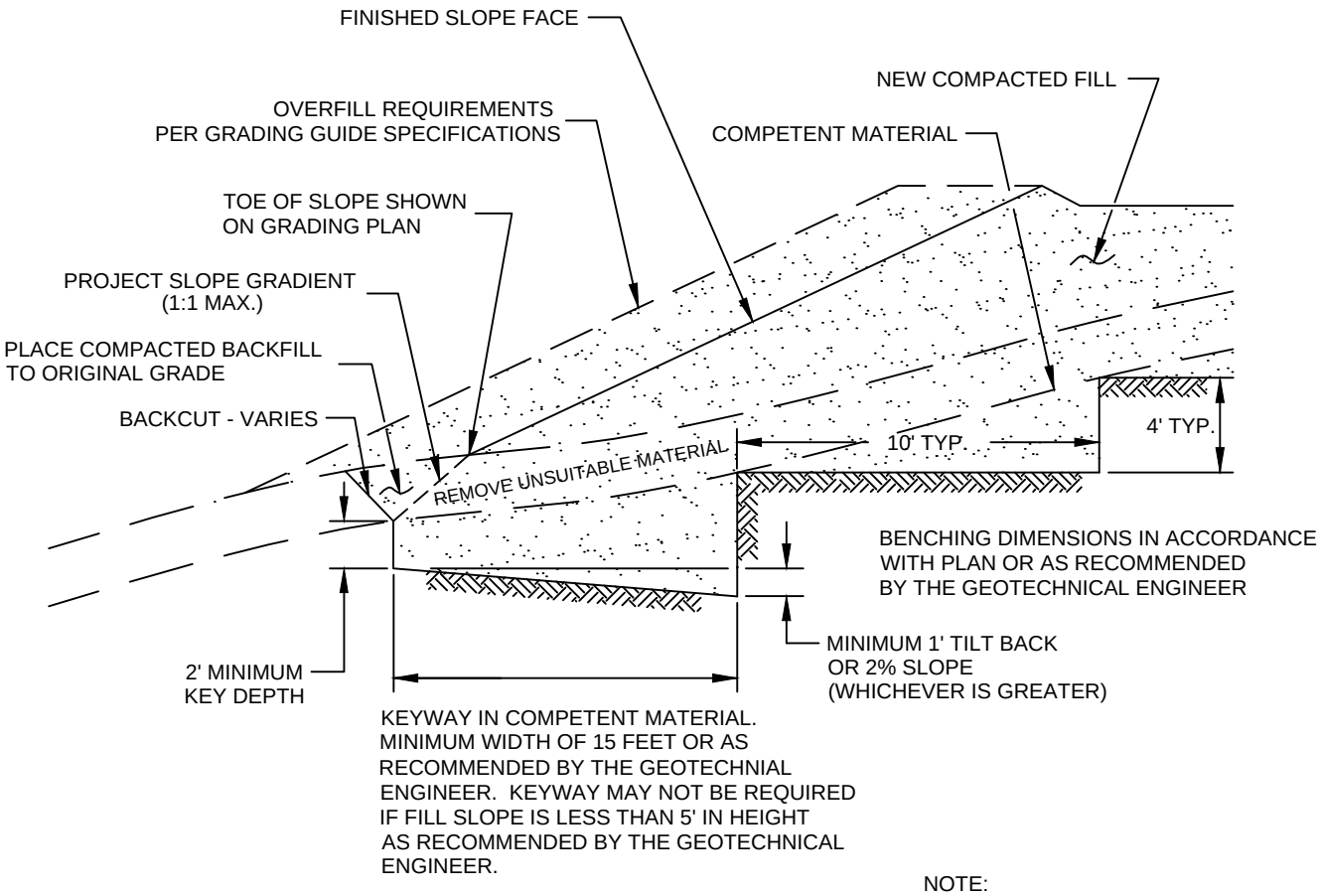
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

**PLATE D-3**

SOUTHERN CALIFORNIA GEOTECHNICAL




NOTE:
BENCHING SHALL BE REQUIRED
WHEN NATURAL SLOPES ARE
EQUAL TO OR STEEPER THAN 5:1
OR WHEN RECOMMENDED BY
THE GEOTECHNICAL ENGINEER.

**FILL ABOVE NATURAL SLOPE DETAIL**

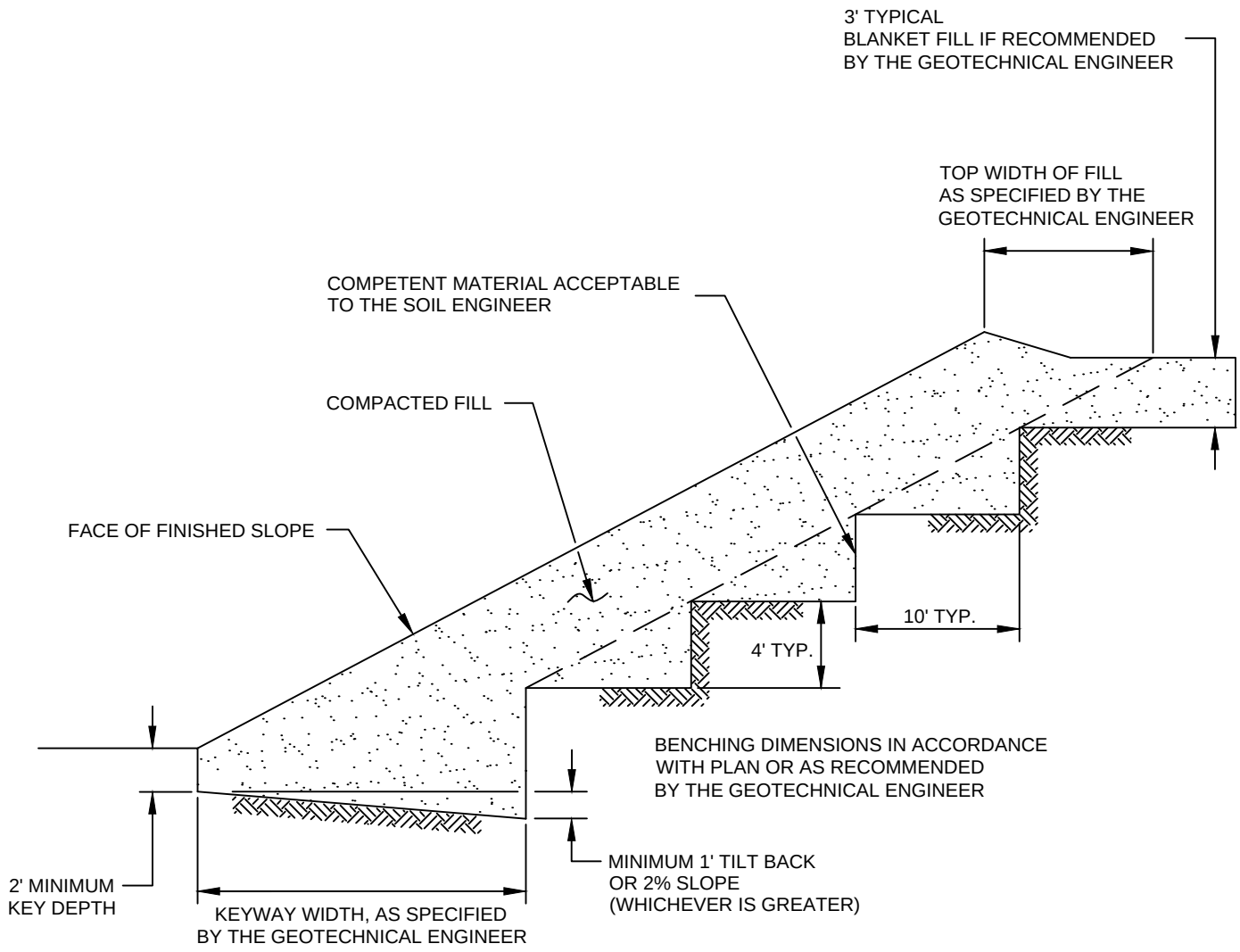
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

**PLATE D-4**

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL




**STABILIZATION FILL DETAIL**

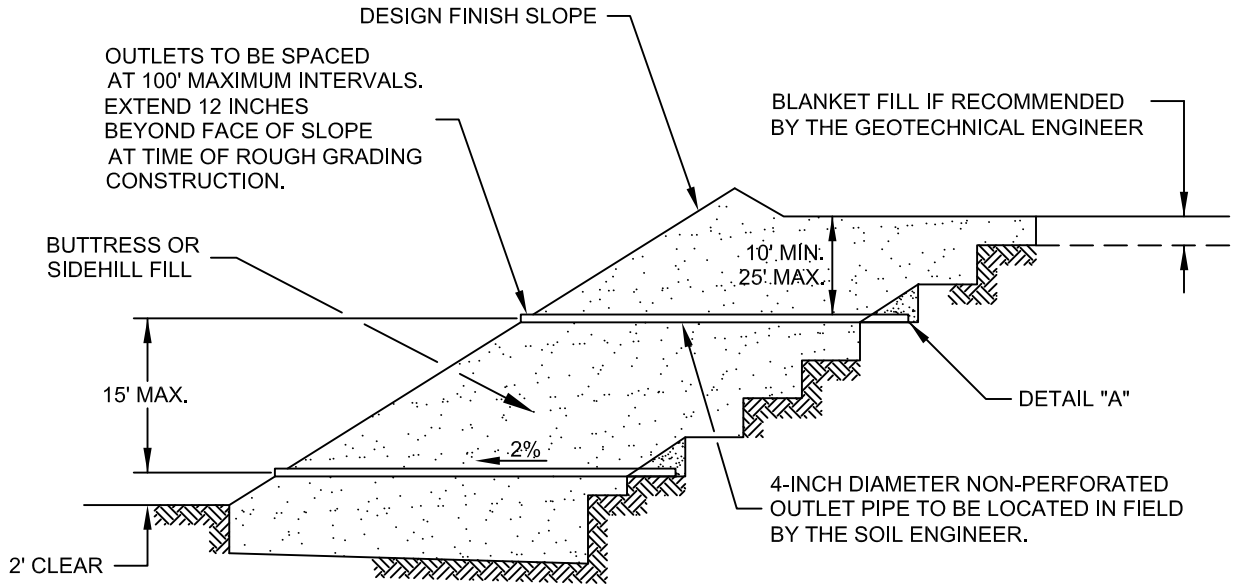
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

**PLATE D-5**

SOUTHERN CALIFORNIA GEOTECHNICAL



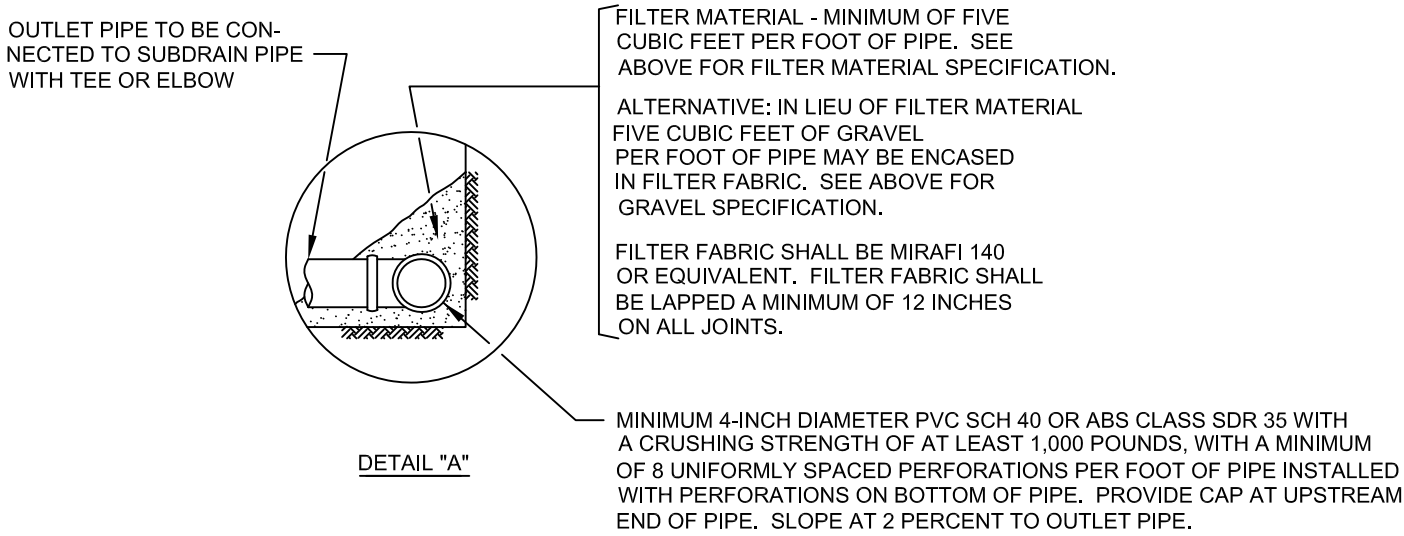

"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

| SIEVE SIZE | PERCENTAGE PASSING |
|---|---|
| 1" | 100 |
| 3/4" | 90-100 |
| 3/8" | 40-100 |
| NO. 4 | 25-40 |
| NO. 8 | 18-33 |
| NO. 30 | 5-15 |
| NO. 50 | 0-7 |
| NO. 200 | 0-3 |

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

| SIEVE SIZE | MAXIMUM PERCENTAGE PASSING |
|---|---|
| 1 1/2" | 100 |
| NO. 4 | 50 |
| NO. 200 | 8 |

SAND EQUIVALENT = MINIMUM OF 50




DETAIL "A"

NOTES:
1. TRENCH FOR OUTLET PIPES TO BE BACKFILLED WITH ON-SITE SOIL.

**SLOPE FILL SUBDRAINS**

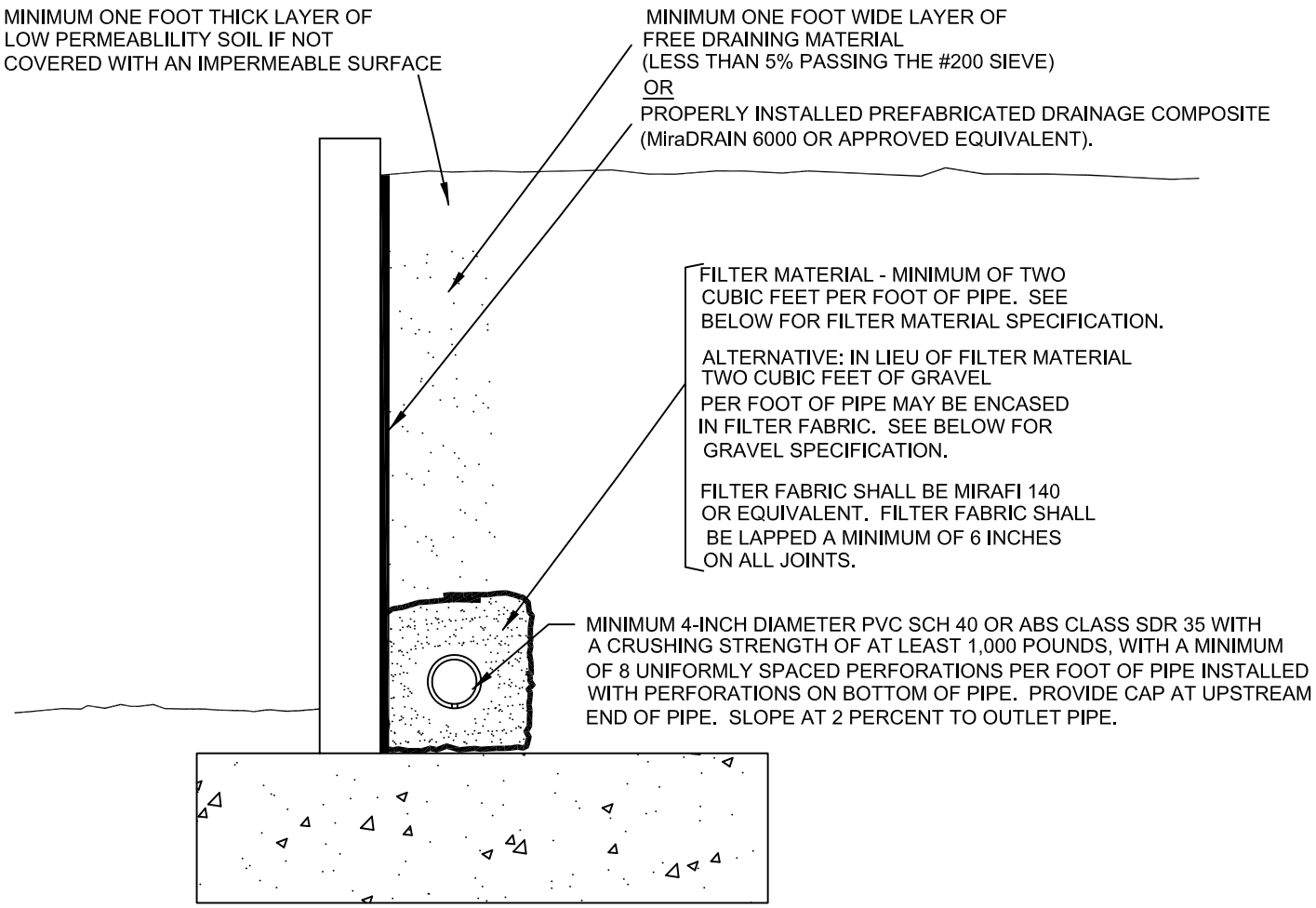
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

**PLATE D-6**

SOUTHERN CALIFORNIA GEOTECHNICAL




"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

| SIEVE SIZE | PERCENTAGE PASSING |
|---|---|
| 1" | 100 |
| 3/4" | 90-100 |
| 3/8" | 40-100 |
| NO. 4 | 25-40 |
| NO. 8 | 18-33 |
| NO. 30 | 5-15 |
| NO. 50 | 0-7 |
| NO. 200 | 0-3 |

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

| SIEVE SIZE | MAXIMUM PERCENTAGE PASSING |
|---|---|
| 1 1/2" | 100 |
| NO. 4 | 50 |
| NO. 200 | 8 |

SAND EQUIVALENT = MINIMUM OF 50

**RETAINING WALL BACKDRAINS**

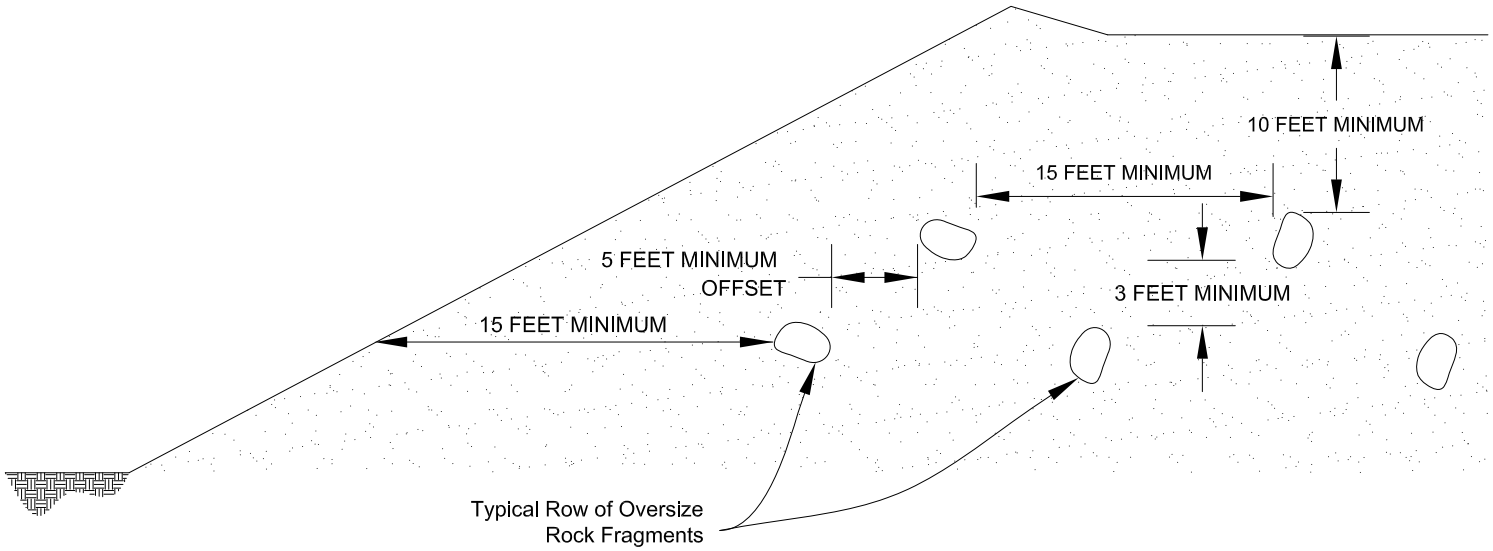
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

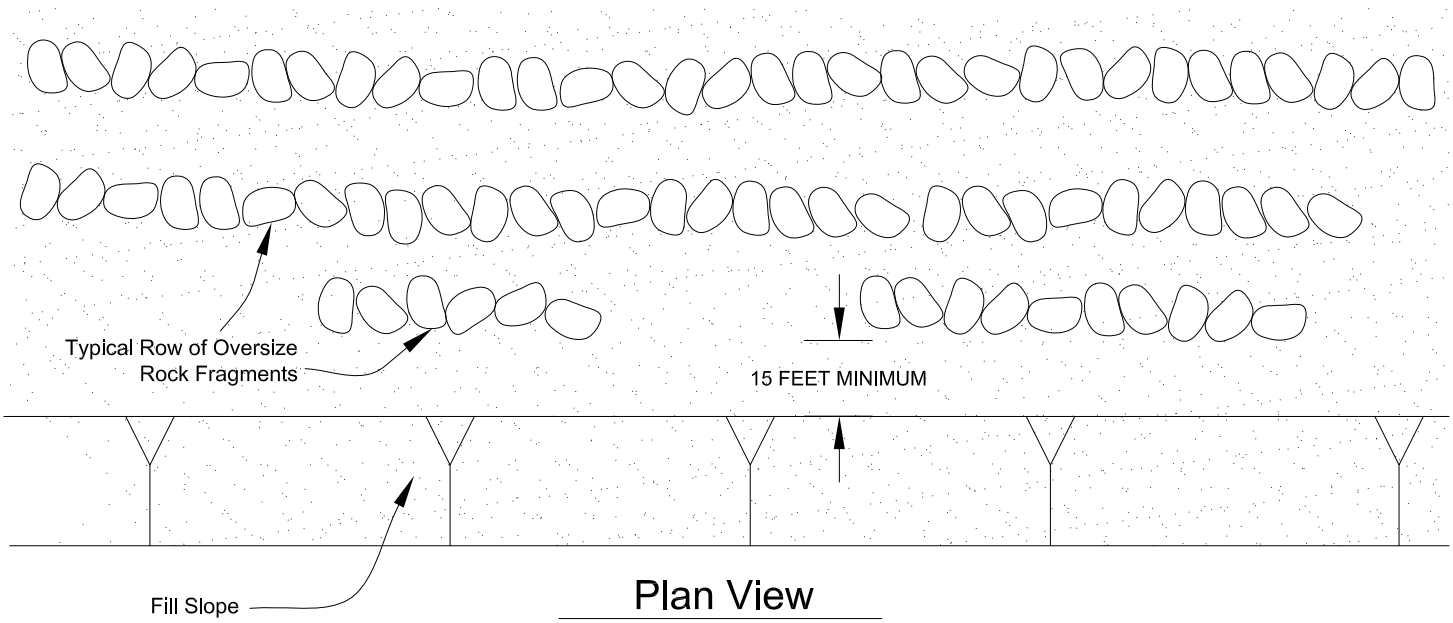
DRAWN: JAS
CHKD: GKM

**PLATE D-7**

SOUTHERN CALIFORNIA GEOTECHNICAL




Section View




Plan View

**PLACEMENT OF OVERSIZED MATERIAL**

GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: PM
CHKD: GKM

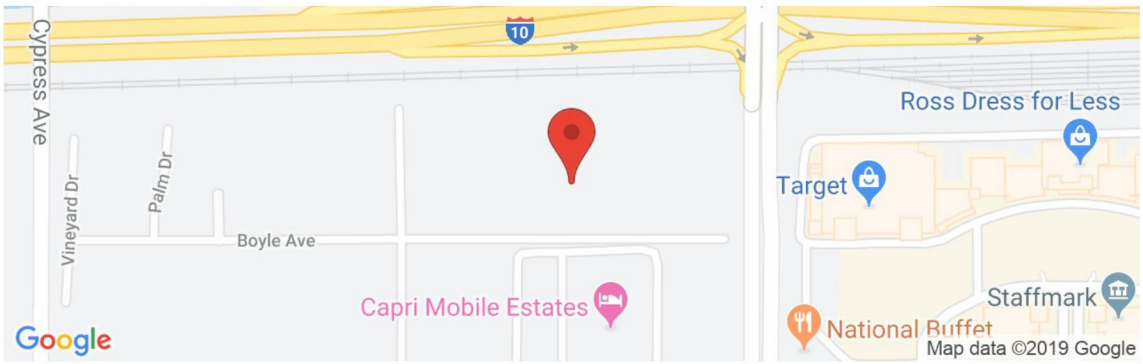
**PLATE D-8**

SOUTHERN CALIFORNIA GEOTECHNICAL

# APPENDIX E

OSHPD

**Latitude, Longitude: 34.06550674, -117.43792066**

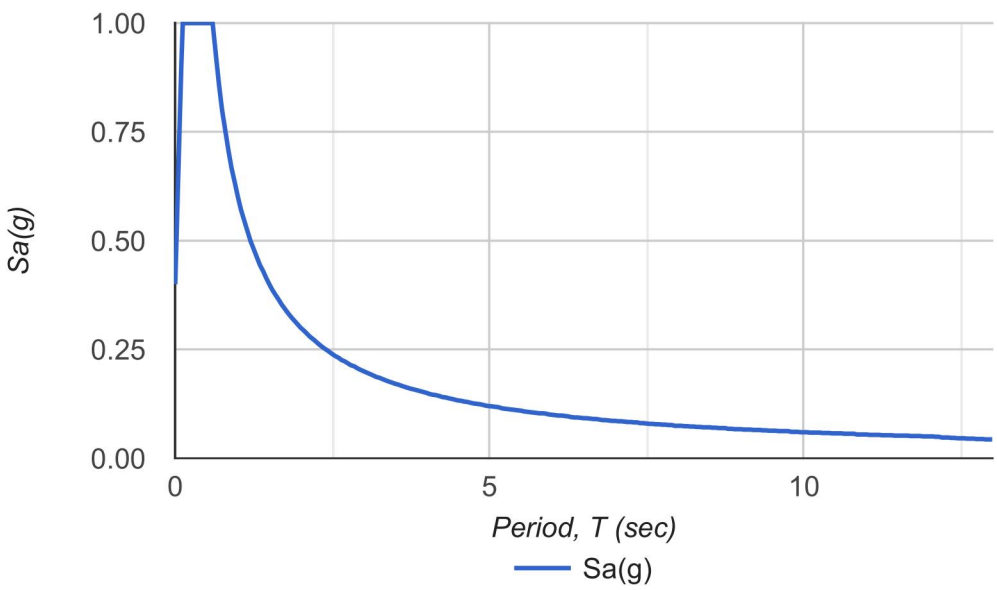



| | |
|---|---|
| **Date** | 10/29/2019, 11:08:44 AM |
| **Design Code Reference Document** | ASCE7-10 |
| **Risk Category** | III |
| **Site Class** | D - Stiff Soil |

| Type | Value | Description |
|---|---|---|
| $S_S$ | 1.5 | $MCE_R$ ground motion. (for 0.2 second period) |
| $S_1$ | 0.6 | $MCE_R$ ground motion. (for 1.0s period) |
| $S_{MS}$ | 1.5 | Site-modified spectral acceleration value |
| $S_{M1}$ | 0.9 | Site-modified spectral acceleration value |
| $S_{DS}$ | 1 | Numeric seismic design value at 0.2 second SA |
| $S_{D1}$ | 0.6 | Numeric seismic design value at 1.0 second SA |

| Type | Value | Description |
|---|---|---|
| SDC | D | Seismic design category |
| $F_a$ | 1 | Site amplification factor at 0.2 second |
| $F_v$ | 1.5 | Site amplification factor at 1.0 second |
| PGA | 0.52 | $MCE_G$ peak ground acceleration |
| $F_{PGA}$ | 1 | Site amplification factor at PGA |
| $PGA_M$ | 0.52 | Site modified peak ground acceleration |

## Design Response Spectrum




SOURCE: SEAOC/OSHPD Seismic Design Maps Tool
<https://seismicmaps.org/>

**SEISMIC DESIGN PARAMETERS - 2016 CBC**

TWO PROPOSED WAREHOUSES

FONTANA, CALIFORNIA

DRAWN: RNK
CHKD: RGT

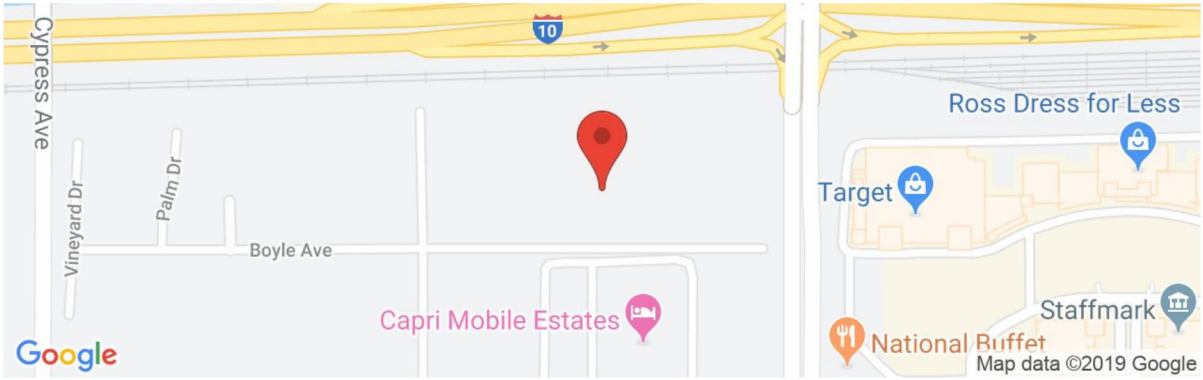
SCG PROJECT
19G218-1

**PLATE E-1A**

SOUTHERN CALIFORNIA GEOTECHNICAL

OSHPD

**Latitude, Longitude: 34.06550674, -117.43792066**




| | |
|---|---|
| **Date** | 10/29/2019, 11:09:39 AM |
| **Design Code Reference Document** | ASCE7-16 |
| **Risk Category** | III |
| **Site Class** | D - Stiff Soil |

| Type | Value | Description |
|---|---|---|
| $S_S$ | 1.736 | $MCE_R$ ground motion. (for 0.2 second period) |
| $S_1$ | 0.6 | $MCE_R$ ground motion. (for 1.0s period) |
| $S_{MS}$ | 1.736 | Site-modified spectral acceleration value |
| $S_{M1}$ | null -See Section 11.4.8 | Site-modified spectral acceleration value |
| $S_{DS}$ | 1.157 | Numeric seismic design value at 0.2 second SA |
| $S_{D1}$ | null -See Section 11.4.8 | Numeric seismic design value at 1.0 second SA |

| Type | Value | Description |
|---|---|---|
| SDC | null -See Section 11.4.8 | Seismic design category |
| $F_a$ | 1 | Site amplification factor at 0.2 second |
| $F_v$ | null -See Section 11.4.8 | Site amplification factor at 1.0 second |
| PGA | 0.707 | $MCE_G$ peak ground acceleration |
| $F_{PGA}$ | 1.1 | Site amplification factor at PGA |
| $PGA_M$ | 0.778 | Site modified peak ground acceleration |
| $T_L$ | 12 | Long-period transition period in seconds |
| SsRT | 1.873 | Probabilistic risk-targeted ground motion. (0.2 second) |
| SsUH | 2.012 | Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration |
| SsD | 1.736 | Factored deterministic acceleration value. (0.2 second) |
| S1RT | 0.706 | Probabilistic risk-targeted ground motion. (1.0 second) |
| S1UH | 0.779 | Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration. |
| S1D | 0.6 | Factored deterministic acceleration value. (1.0 second) |
| PGAd | 0.707 | Factored deterministic acceleration value. (Peak Ground Acceleration) |
| $C_{RS}$ | 0.931 | Mapped value of the risk coefficient at short periods |
| $C_{R1}$ | 0.906 | Mapped value of the risk coefficient at a period of 1 s |

SOURCE: SEAOC/OSHPD Seismic Design Maps Tool
<https://seismicmaps.org/>

**SEISMIC DESIGN PARAMETERS - 2019 CBC**

TWO PROPOSED WAREHOUSES

FONTANA, CALIFORNIA

DRAWN: RNK
CHKD: RGT

SCG PROJECT
19G218-1

**PLATE E-1B**

SOUTHERN CALIFORNIA GEOTECHNICAL

# APPENDIX F

# PHASE I ENVIRONMENTAL SITE ASSESSMENT

# PHASE I ENVIRONMENTAL SITE ASSESSMENT

NEC Boyle & Juniper Avenues
Fontana, California 92337

February 3, 2020

AVOCET
ENVIRONMENTAL, INC.

# PHASE I ENVIRONMENTAL SITE ASSESSMENT

NEC Boyle & Juniper Avenues
Fontana, California 92337

February 3, 2020

**PREPARED FOR**

Transwestern Development Company
20250 Acacia Street, Suite 260
Newport Beach, California 92660

**PREPARED BY**

Avocet Environmental, Inc.
1 Technology Drive, Suite C515
Irvine, California 92618-2327

Project No. 1634.001

AVOCET ENVIRONMENTAL, INC.

February 3, 2020 Project No. 1634.001

Mr. Scott Heaviside
Development Manager – Logistics Group
TRANSWESTERN DEVELOPMENT COMPANY
20250 Acacia Street, Suite 260
Newport Beach, California 92660

**Report Transmittal**
**Phase I Environmental Site Assessment**
NEC Boyle & Juniper Avenues
Fontana, California 92337

Dear Mr. Heaviside:

Transmitted herewith is a Phase I environmental site assessment report for an assemblage of six parcels of land, totaling approximately 12.66 acres, on the northeast corner of Boyle and Juniper Avenues in Fontana, California. If you have any questions regarding the report or require additional information, please do not hesitate to contact the undersigned at (949) 296-0977 Ext. 102 or at pmiller@avocetenv.com. As always, Avocet Environmental, Inc. appreciates the opportunity to be of service to Transwestern Development Company.

Respectfully submitted,

AVOCET ENVIRONMENTAL, INC.

Philip Miller, P.E.
Principal

PM:sh
Enclosure

*P:\1634 Transwestern_Boyle_Fontana\001_Phase I ESA\Report\Transwestern_Boyle_Fontana_Phase I ESA_2020-02-03.docx*

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# LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| ACM | asbestos-containing material |
| ADL | Aerially Deposited Lead |
| APN | Assessor's Parcel Number |
| AST | aboveground storage tank |
| ASTM | ASTM International |
| bgs | below ground surface |
| CalEPA | California Environmental Protection Agency |
| CDPH | California Department of Public Health |
| CREC | Controlled REC |
| DOGGR | California Division of Oil, Gas, and Geothermal Resources |
| DTSC | Department of Toxic Substances Control |
| EDR | Environmental Data Resources, Inc. |
| EPA | U.S. Environmental Protection Agency |
| ESA | environmental site assessment |
| HREC | Historical REC |
| LBP | lead-based paint |
| LLC | limited liability company |
| OEF | other environmental feature |
| pCi/L | picocuries per liter |
| REC | Recognized Environmental Condition |
| USGS | U.S. Geological Survey |
| UST | underground storage tank |
| VEC | vapor encroachment condition |
| VIC | vapor intrusion condition |
| VOC | volatile organic compound |

# EXECUTIVE SUMMARY

This report documents a Phase I environmental site assessment (ESA) for an assemblage of six parcels of land, totaling approximately 12.66 acres, on the north side of Boyle Avenue, between Juniper and Sierra Avenues, in Fontana, California (the site). Avocet Environmental, Inc. (Avocet) conducted the Phase I ESA on behalf of Transwestern Development Company (Transwestern), which may create a single-purpose limited liability company (LLC) to acquire and redevelop the site for commercial/industrial purposes. Avocet conducted the Phase I ESA in general accordance with the requirements and limitations of ASTM International (ASTM) Standard E1527-13. The primary objective of the Phase I ESA is to evaluate the history and current condition of the site in the context of the use, storage, handling, and disposal of potentially hazardous substances that could have adversely impacted the underlying vadose zone and/or groundwater. Based on the site's history and current condition, "Recognized Environmental Conditions" (RECs), "Controlled RECs" (CRECs), and "Historical RECs" (HRECs), as defined in ASTM Standard E1527-13 (ASTM, 2013), and "other environmental features" (OEFs) have been identified. For Phase I ESA purposes, OEFs are defined as conditions that do not meet the ASTM definition of a REC, CREC, or HREC but which Avocet believes warrant mention for visibility purposes in the context of acquiring and/or redeveloping the site. The site location is shown in Figure 1 and an aerial photograph of the site and vicinity is presented in Figure 2. A larger-scale aerial photograph of the site is presented in Figure 3.

## OVERVIEW

The site is located immediately south of the San Bernardino (10) Freeway, approximately 1.5 miles north of the Jurupa Hills, 5.75 miles east of State Route 15, and 5.5 miles west-northwest of the Santa Ana River. In terms of arterial streets, the site is in the block bounded by Valley Boulevard to the north, Slover Avenue to the south, Sierra Avenue to the east, and Cypress Avenue to the west. The San Bernardino (10) Freeway and a Southern Pacific Transportation Company (Southern Pacific) railroad track pass through this block and border the site to the north. According to information available online from the County of San Bernardino, the site is comprised of six parcels of land, as follows:

| **Parcel** (Figs. 2 & 3) | **Street Address** | **Assessor's Parcel No. (APN)** | **Acres** |
|---|---|---|---|
| 1 | 16716 Boyle Avenue | 025120212 | 0.85 |
| 2 | 16748 Boyle Avenue | 025120215 | 2.85 |
| 3 | 16796 Boyle Avenue | 025120205 | 3.77 |
| 4 | 16832 Boyle Avenue | 025120206 | 2.12 |
| 5 | 16868 Boyle Avenue | 025120207 | 2.19 |
| 6 | None assigned | 019338101 | 0.84 |
| | | **Total** | **12.66** |

For ease of reference, the parcel numbers listed above are used throughout this report to identify specific locations within the subject site boundary. As shown in Figures 2 and 3, Parcels 1 and 2 are separated from Parcels 3 through 6 by the Rodriguez Pallet facility at 16760 Boyle Avenue.

This property originally was going to be part of the subject site and was included in earlier drafts of this report, but it has since been excluded and is now considered an offsite property.

Historical aerial photographs show that the site was part of a larger orchard, assumed to have been a citrus orchard, from at least as far back as 1938 through the end of World War II. There may have been agricultural structures within the orchard; however, the end of World War II marked the beginning of a transition away from agriculture toward residential land use at and around the site. Specifically, Parcels 1 through 5 were partially or completely cleared of trees to make way for residences, garages, and a few other structures, and it appears that the residents used or leased the balance of their properties for a variety of businesses, including trucking, wooden pallet, electrical supply, marble/granite fabrication, plant supply, and auto repair businesses. Agriculture at the site declined until the last few acres of trees were removed from Parcel 5 sometime between 1990 and 1994. Avocet notes that Parcel 6 does not appear to have featured a residence but was cleared of fruit trees between 1953 and 1959 to accommodate the widening of Sierra Avenue and construction of an overpass over the railroad tracks and the freeway.

Potentially hazardous substances were observed, in generally small quantities only, on Parcels 1 and 5; however, Avocet did not observe any visual or olfactory indications of anything other than *de minimis* spills of motor oil. There are pressurized petroleum pipelines in the Southern Pacific railroad right-of-way immediately north of the site; however, there are no indications these pipelines have leaked in the site vicinity. There are several regional groundwater contamination plumes in the Chino (groundwater) Subbasin; however, the site does not appear to overlie any of them.

## SITE SETTING

Selected information pertaining to the site's physical and hydrogeological setting is as follows:

- The site is located in the Chino Subbasin, a south-trending alluvial groundwater basin within the upper Santa Ana River drainage area. Although there are no nearby wells, regional data suggest the depth to groundwater in the site vicinity is approximately 330 feet bgs.

- California Department of Conservation, Division of Oil, Gas, and Geothermal Resources records available online show that the site is not located within or near the administrative boundary of an oil or gas field and the nearest "wildcat" or "prospect" wells are located too far away to have impacted the subject site.

- Naturally occurring radon levels in the site vicinity are expected to be very low and within regulatory agency criteria.

## RECOGNIZED ENVIRONMENTAL CONDITIONS (RECS)

ASTM (2013) defines RECs as:

> *". . . the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to 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."*

ASTM (2013) goes on to define *de minimis* as:

> "*. . . 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."*

Based on the subject Phase I ESA, Avocet has not identified any RECs at the site.

## CONTROLLED RECS (CRECS)

ASTM (2013) defines CRECs as:

> *". . . 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 implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)."*

Based on the subject Phase I ESA, Avocet has not identified any CRECs at the subject site.

## HISTORICAL RECS (HRECS)

ASTM (2013) defines HRECs 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 any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)."*

Based on the subject Phase I ESA, Avocet has not identified any HRECs at the subject site.

## OTHER ENVIRONMENTAL FEATURES (OEFS)

OEFs are environmental conditions that do not meet the ASTM definition of a REC, CREC, or HREC but which warrant mention in the context of acquiring and redeveloping the site or a portion thereof. OEFs do not necessarily require any action to address their presence or condition but are identified for the sake of thoroughness and completeness. Based on the subject Phase I ESA, Avocet identified seven OEFs at the site, as follows:

- **OEF 1 – Past Agricultural Land Use.** The site was a citrus orchard from at least as far back as 1938 until the early 1990s. Pesticides were widely used throughout the United States during this period; however, historical aerial photographs of the site do not show any aboveground storage tanks such as might have been used to store or mix pesticides, nor do they show distressed vegetation such as might have resulted from pesticide overuse. If pesticides were used at the site and applied in accordance with the manufacturers' recommendations, they should not have significantly impacted near-surface soil in terms of the ongoing presence of residual pesticides and/or related degradation byproducts.

- **OEF 2 – Irrigation Infrastructure.** Large-diameter concrete standpipes protrude from the ground surface at two locations immediately west of the site. These protruding pipes appear to be remnants of a subsurface irrigation system assumed to be associated with the former citrus orchard, of which the site was a part. The lateral extent of the subsurface piping system is unknown but it could underlie the entire site and be encountered during redevelopment grading. There aren't necessarily any environmental concerns related to the protruding standpipes or related subsurface piping other than the possible presence of asbestos in the concrete pipe matrix and/or in the mortar used to seal the pipe joints.

- **OEF 4 – ACMs and LBPs.** Based on available aerial photographs, the buildings at the site predate the restrictions on using asbestos-containing materials (ACMs) and lead-based paint (LBP). As such, it is possible, if not probable, that the structures contain ACMs and LBP, although Avocet did not observe any obvious hazardous conditions, such as damaged and friable ACMs, on the exteriors of the onsite buildings. Regardless, Avocet recommends pre-demolition surveys of the structures at the site for ACMs and LBP. Confirmed ACMs and damaged LBP should be abated by suitably licensed and experienced contractors prior to general structure demolition.

- **OEF 5 – Aerially Deposited Lead (ADL).** The site is located immediately south of a Southern Pacific railroad track and the 10 Freeway, which collectively constitute a major transportation corridor into the Los Angeles area. Near-surface soil adjacent to such transportation corridors can be impacted by ADL related to the use of leaded gasoline and possibly other fuel hydrocarbons. That said, Avocet recently sampled near-surface soil on the adjoining property to the west of the subject site, which is similarly situated with respect to the railroad tracks and freeway, and lead concentrations were not of concern.

- **OEF 6 - Automotive Fluid Storage and Use, Parcel 5.** The automotive workshop at Parcel 5 features numerous potentially hazardous and/or flammable substances, mostly automotive fluids and related compounds (e.g., WD-40) in small containers. Unless the workshop is to be relocated, these hazardous materials containers should be consolidated by similar hazard class and transported offsite for disposal. It may be beyond the ability of the current tenant to manage and pay for the required "lab-

pack-type" profiling and consolidation effort. At a minimum, however, Avocet recommends that these hazardous and/or flammable substances be removed with oversight to minimize the potential for discharges to the ground surface to simplify disposal.

- **OEF 7 – General Site Clearance.** Aside from the specifics in OEFs 6, Parcel 5 is a storage/junk yard and a few of the other parcels that comprise the site are used to store junk that realistically has little or no salvage value. Some of the items in storage, particularly the vehicles at Parcel 5, may contain fuel, lubricating oil, and other automotive fluids and possibly asbestos. Avocet recommends that the site owners and/or their tenants be required to remove all of the stored items. As with OEF 6, Avocet recommends that junk removal be conducted with oversight to minimize the potential for potentially hazardous substances and wastes being discharged onto the ground surface to simplify disposal and/or recycling.

## VAPOR INTRUSION/VAPOR ENCROACHMENT

As part of the Phase I ESA, Avocet evaluated the potential presence of vapor intrusion conditions (VICs) and/or vapor encroachment conditions (VECs) at the subject site. A VIC can occur if volatile organic compounds (VOCs) are present in the vadose zone or in groundwater beneath a property at concentrations such that vapor could intrude into, and accumulate in, an overlying structure at concentrations hazardous to human health. A VEC can occur if VOCs from an offsite source migrate beneath a property. Based on the absence of documentation indicating solvent use at or around the subject site, a VIC and/or a VEC at the site appears unlikely.

# 1.0 INTRODUCTION

This report documents a Phase I environmental site assessment (ESA) for an assemblage of six parcels of land, totaling approximately 12.66 acres, on the north side of Boyle Avenue, between Juniper and Sierra Avenues, in Fontana, California (the site). Avocet Environmental, Inc. (Avocet) conducted the Phase I ESA on behalf of Transwestern Development Company (Transwestern), which may create a single-purpose limited liability company (LLC) to acquire and redevelop the site for commercial/industrial purposes. Avocet conducted the Phase I ESA in general accordance with the requirements and limitations of ASTM International (ASTM) Standard E1527-13. The site location is shown in Figure 1 and an aerial photograph of the site and vicinity is presented in Figure 2. A larger-scale aerial photograph of the site is presented in Figure 3.

## 1.1 OVERVIEW

The site is located immediately south of the San Bernardino (10) Freeway, approximately 1.5 miles north of the Jurupa Hills, 5.75 miles east of State Route 15, and 5.5 miles west-northwest of the Santa Ana River. In terms of arterial streets, the site is in the block bounded by Valley Boulevard to the north, Slover Avenue to the south, Sierra Avenue to the east, and Cypress Avenue to the west. The San Bernardino (10) Freeway and a Southern Pacific Transportation Company (Southern Pacific) railroad track pass through this block and border the site to the north. According to information available online from the County of San Bernardino, the site is comprised of six parcels of land, as follows:

| **Parcel** (Figs. 2 & 3) | **Street Address** | **Assessor's Parcel No. (APN)** | **Acres** |
|---|---|---|---|
| 1 | 16716 Boyle Avenue | 025120212 | 0.85 |
| 2 | 16748 Boyle Avenue | 025120215 | 2.85 |
| 3 | 16796 Boyle Avenue | 025120205 | 3.77 |
| 4 | 16832 Boyle Avenue | 025120206 | 2.12 |
| 5 | 16868 Boyle Avenue | 025120207 | 2.19 |
| 6 | None assigned | 019338101 | 0.84 |
| | | **Total** | **12.66** |

For ease of reference, the parcel numbers listed above (and shown in Figures 2 and 3) are used throughout this report to identify specific locations within the subject site boundary.

Historical aerial photographs show that the site was part of a larger orchard, assumed to have been a citrus orchard, from at least as far back as 1938 through the end of World War II. There may have been agricultural structures within the orchard; however, the end of World War II marked the beginning of a transition away from agriculture toward residential land use at and around the site. Specifically, Parcels 1 through 5 were partially or completely cleared of trees to make way for residences, garages, and a few other structures, and it appears the residents used or leased the balance of their properties for a variety of businesses including trucking, wooden pallet, electrical supply, marble/granite fabrication, plant supply, and auto repair businesses. Agriculture at the site

declined until the last few acres of trees were removed from Parcel 5 sometime between 1990 and 1994. Avocet notes that Parcel 6 does not appear to have featured a residence but was cleared of fruit trees between 1953 and 1959 to accommodate the widening of Sierra Avenue and construction of an overpass over the railroad tracks and the freeway.

Potentially hazardous substances were observed, in generally small quantities only, on Parcels 1 and 6; however, Avocet did not observe any visual or olfactory indications of anything other than *de minimis* spills of motor oil. There are pressurized petroleum pipelines in the Southern Pacific railroad right-of-way immediately north of the site; however, there are no indications these pipelines have leaked in the site vicinity. There are several regional groundwater contamination plumes in the Chino (groundwater) Subbasin; however, the site does not appear to overlie any of them.

## 1.2 PHASE I ESA OBJECTIVES

The overall objective of the Phase I ESA documented herein is to assess the site in the context of the possible presence of hazardous substances in soil, soil vapor, and/or groundwater as a result of onsite operations or offsite releases. Specific objectives of the Phase I ESA are to:

- Document the history of the site in the context of the use, storage, handling, treatment, and disposal of potentially hazardous substances.
- Review and evaluate available information related to the investigation and remediation of known or suspected subsurface impacts, if any.
- Assess the potential for previously unidentified hazardous substances to be present in the subsurface as a result of their past use, storage, handling, or disposal within or near the site.
- Identify "Recognized Environmental Conditions" (RECs), "Controlled" RECs (CRECs), and historical RECs (HRECs), as defined in ASTM Standard E1527-13 (ASTM, 2013).
- Identify "other environmental features" (OEFs), defined for Phase I ESA purposes as existing or former site features or conditions that do not meet the ASTM definition of a REC, CREC, or HREC but which warrant mention for visibility purposes in the context of acquiring and redeveloping the site.

## 1.3 APPROACH

The subject Phase I ESA was conducted in general accordance with the scope and limitations of ASTM E1527-13 (ASTM, 2013) and included:

- A review of relevant background information, including the history of the site and adjacent properties, past land use, and regional hydrogeological conditions.

- A review of aerial photographs, topographic maps, and environmental records pertaining to the site.
- A walkover survey of the site and vicinity on October 15, 2019.
- A review of potential offsite sources of contamination that could adversely impact the subsurface environment beneath the site, including a search of regulatory agency databases and visual surveys of adjoining properties.

The format of this Phase I ESA report is different from that recommended by ASTM; however, all of the elements required by ASTM E1527-13 are included or otherwise addressed.

## 1.4 LIMITATIONS

This Phase I ESA was performed in general accordance with the scope and limitations of current ASTM practice (ASTM, 2013) and the standard of care customary in the environmental consulting industry as of the date of this report. The conclusions in this Phase I ESA report are based on the information available to Avocet from the sources cited; however, Avocet makes no warranty regarding the accuracy or completeness of this information. Moreover, this Phase I ESA specifically excludes any evaluation of geotechnical conditions, the stability of onsite or adjacent slopes or retaining walls, flooding hazards, seismicity, and the possible impact, if any, of electromagnetic fields associated with nearby electrical facilities. Also, this report cannot and does not include any evaluation of undocumented activities at the site or on adjacent or nearby properties. The exclusions noted above should not be interpreted to mean that the subject Phase I ESA is otherwise all inclusive in terms of considering every other condition or potential condition that might exist.

Avocet conducted this Phase I ESA on behalf of Transwestern to document environmental conditions for decision making in the context of an affiliated LLC acquiring the site and redeveloping it for commercial/industrial purposes. Transwestern and TDC Acquisitions LLC may rely upon the information provided in this Phase I ESA report for a period of 180 days from the date of issue. After 180 days, this Phase I ESA should be updated in accordance with ASTM guidance. Avocet will not be liable for any consequential damages arising from the use of this report for other than its intended purpose, for use of this report beyond 180 days of its issue date, or from unauthorized use by third parties.

## 1.5 REPORT ORGANIZATION

Including the introduction, this report is organized into six sections. Section 2.0 describes the various sources of information utilized in conducting the Phase I ESA. Section 3.0 presents a summary of relevant background and regional information. Section 4.0 describes the history and current condition of the site. Section 5.0 presents a summary of information gathered from a review of environmental databases maintained by local, state, and federal government agencies and describes the properties adjoining the site and selected nearby properties. Section 6.0 presents conclusions and recommendations in terms of identified and sequentially numbered RECs, CRECs, HRECs, and OEFs.

Supporting information is contained in tables, figures, and six appendices, all of which follow the text of this report. Appendices A and B contain historical topographic maps and historical aerial photographs, respectively, marked up with the approximate site boundary. Appendix C contains a Certified Sanborn® Map Report, although no fire insurance maps were available. Appendix D is a City Directory report summarizing entries recorded in business, telephone, and other directories. Appendix E contains photographs of the site taken during Avocet's walkover surveys on October 15, 2019. Appendix F is a report summarizing information available from a review of environmental databases maintained by local, state, and federal government agencies.

# 2.0 SOURCES OF INFORMATION

Sources of information utilized in preparing this Phase I ESA report included historical topographic maps; historical aerial photographs; a walkover survey of the site; records available at selected local and state regulatory agencies; environmental databases maintained by local, state, and federal government agencies; and other records available from commercial and online sources.

## 2.1 TOPOGRAPHIC MAPS

To evaluate the history of the site and past land uses, Avocet obtained copies of historical U.S. Geological Survey (USGS) topographic maps published between 1896 and 2012 from Environmental Data Resources, Inc. (EDR), of Shelton, Connecticut. The maps, which EDR marks up with the approximate site boundary, are included in chronological order in Appendix A.

## 2.2 AERIAL PHOTOGRAPHS

To further evaluate the site's history, Avocet obtained a "Decade Package" of historical aerial photographs from EDR. EDR's Decade Package typically includes at least one aerial photograph from each decade from the 1920s through the present day. For the subject project, EDR provided aerial photographs taken between 1938 and 2016. The photographs, which EDR marks up with the approximate site boundary, are included in chronological order in Appendix B.

## 2.3 FIRE INSURANCE MAPS

At Avocet's request, EDR conducted a search for fire insurance map coverage of the site; however, EDR reported that the site is an "unmapped property." A copy of EDR's "Certified Sanborn® Map Report" to that effect is included as Appendix C to this report.

## 2.4 CITY DIRECTORIES

Telephone and business directories have been published for cities and counties across the United States since the 1700s and often contain potentially useful information on past land uses and the types of business that operated at individual street addresses. EDR extracts information from such directories and consolidates it in "The EDR-City Directory Abstract," a copy of which is included as Appendix D to this report.

## 2.5 WALKOVER SURVEY AND INTERVIEWS

Avocet personnel conducted a walkover survey of the site and vicinity on October 15, 2019. In conjunction with the walk-over survey, and in subsequent telephone conversations, Avocet interviewed the following individuals:

- Mr. Enrique Rodriguez, the owner of Rodriguez Pallets, the current tenant at 16760 Boyle Avenue. Avocet notes that this lot originally was to have been part of the subject transaction but later was removed.

- Mr. Manfred Bals and Mr. Hector Guzman, the owner and current tenant, respectively, for 16868 Boyle Avenue (Parcel 5).

Selected photographs taken during the walkover surveys are included in Appendix E.

## 2.6 GOVERNMENT DATABASES

EDR conducted a government records search to document potential sources of contamination at or near the site. The search included databases maintained by federal, state, and local agencies for the site and for other properties within ASTM-standard radii of the site. The records search is summarized in Section 5.0 and a copy of "The EDR Radius Map™ Report with GeoCheck®" is included in its entirety as Appendix F. As recommended by ASTM, all but a few of the databases searched were "current," i.e., had been updated within 90 days prior to the search date.

## 2.7 RECORDS AVAILABLE ONLINE

Avocet searched the GeoTracker and EnviroStor websites maintained by the California Environmental Protection Agency (CalEPA) for additional environmental records pertaining to the site, as well as records pertaining to selected nearby properties. Relevant information from this research is incorporated or referred to, as appropriate, throughout the remainder of this report.

## 2.8 INFORMATION FROM REGULATORY AGENCIES

On October 14, 2019, Avocet contacted selected federal, state, and local regulatory agencies to determine whether they have potentially relevant environmental records pertaining to the site, including, in particular, records relating to underground storage tanks (USTs), aboveground storage tanks (ASTs), environmental permits, enforcement orders, reports and correspondence related to site investigation/assessment, soil sampling, monitoring, cleanup/remediation, removal actions, closures, or any records related to conditions in air, soil, surface water, groundwater, or other environmental media. The agencies contacted and Avocet's interactions with them were as follows:

- Avocet searched the U.S. Environmental Protection Agency (EPA) "MyProperty" website for each of the known street addresses associated with the site; however, no records were found.

- Written records requests were emailed to the California Department of Toxic Substances Control (DTSC) offices in Chatsworth, Cypress, and Sacramento. In a letter dated October 16, 2019, DTSC's Chatsworth office responded that it has no records responsive to Avocet's request. No response had been received from DTSC's Cypress or Sacramento offices as of the date of this report.

- A records request letter was emailed to the City of Fontana, which responded on October 17, 2019 that it does not have any records responsive to Avocet's request.

- A records request form was faxed to San Bernardino County Fire Department; however, no response had been received as of the date of this report.

- A records request form was faxed to San Bernardino County Division of Environmental Health Services; however, no response had been received as of the date of this report.
- A written request was mailed to San Bernardino County Department of Public Works; however, no response had been received as of the date of this report.
- A written request was emailed to Santa Ana Regional Water Quality Control Board, which responded via email on October 24, 2019 that it has no records responsive to Avocet's request.
- A request form was submitted to South Coast Air Quality Management District, which responded on October 22, 2019 that is has no records responsive to Avocet's request.

The lack of responses from certain of the agencies listed above is generally consistent with land use at the site, which is to say there have been few if any industrial land uses that would have necessitated regulatory agency involvement.

## 2.9 Oil and Gas Records

To assess the possible presence of oil and/or natural gas wells at or in the vicinity of the site, Avocet reviewed information available online from the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). The findings of this review are summarized in Section 3.4.

## 2.10 Radon Gas Records

To assess the possible presence of naturally occurring radon gas in the subsurface in the site vicinity, Avocet reviewed data available through the EPA and the California Department of Public Health (CDPH). Radon gas data were also included in the EDR Radius Map Report (Appendix F). The available radon gas data are summarized in Section 3.5.

# 3.0 BACKGROUND AND REGIONAL INFORMATION

Background and regional information considered relevant to the subject Phase I ESA includes the site's physiographic setting and regional geologic and hydrogeologic conditions.

## 3.1 PHYSIOGRAPHIC SETTING

In a regional physiographic context, the site is situated in the Upper Santa Ana River Valley, a broad, alluvium-filled valley between the San Gabriel Mountains to the north, the Puente and Chino Hills to the southwest, and the San Jacinto Mountains to the southeast. The San Andreas Fault and the San Bernardino Mountains beyond are located approximately 12 miles to the northeast of the site. The Santa Ana River is the main drainage in the valley. The ground surface in the site vicinity slopes uniformly to the south southwest and the elevation at the site is around 1,101 feet above mean sea level.

## 3.2 REGIONAL GEOLOGY

The site is located in the Chino Subbasin, a south-trending alluvial groundwater basin covering approximately 240 square miles (California Department of Water Resources, January 20, 2006). As shown in Figure 4, the subbasin is bounded by the Rialto-Colton Fault to the northeast, by contact with the impermeable rocks of the Jurupa Mountains and La Sierra Hills to the southeast, by the Chino fault to the southwest, by the San Jose Fault to the northwest, and by the San Gabriel Mountains and the Cucamonga Fault to the north (Koehler, June 1983). The major faults are significant in that they are barriers to groundwater flow within the aquifer sediments and, hence, define some of the boundaries of the basin by influencing the magnitude and direction of groundwater flow.

From a geological perspective, the Chino Subbasin features several stratigraphic units overlying consolidated bedrock of the pre-Tertiary basement complex. From most recent to oldest, these units consist of Younger Alluvium (Holocene), Older Alluvium (Pleistocene), partly consolidated sediments of the Fernando Group (Plio-Pleistocene), and consolidated sedimentary and volcanic rocks ranging from the late Cretaceous to the Miocene. The site is situated on a younger (Holocene) alluvial fan consisting primarily of sediments eroded from the San Gabriel Mountains to the north. The unconsolidated alluvial sediments are composed of coarse sand and gravel interbedded with finer-grained layers of silt and clay. The Younger Alluvium is commonly light yellow, brown, or gray. It consists of rounded fragments derived from erosion of bedrock, from reworked Older Alluvium, and from the mechanical breakdown of larger fragments within the Younger Alluvium itself. The partly consolidated sediments of the Fernando Group consist of gravel, sand, and clay of marine and non-marine origin and underlie the alluvial deposits until cropping out as the Chino Hills to the west. Further underlying these are the pre-Pliocene consolidated formations consisting of well stratified marine sandstones, conglomerates, shales, and interlayered lava flows. The basement complex underlying all of the above consists of deformed and recrystallized metamorphic rocks interwoven with granitic and igneous material (Wildermuth Environmental, Inc. [Wildermuth], July 2003).

Although there have been no known subsurface investigations at the subject site, subsurface investigation at a property located approximately 1,500 feet to the southeast indicated that subsurface conditions in the immediate vicinity consist largely of fine-grained materials to around 100 feet below ground surface (bgs). Beyond 100 feet bgs, the layers of fine-grained material and sands become interbedded with gravel to up to 200 feet bgs. The depth to groundwater in the site vicinity is expected to be at approximately 330 feet bgs (SECOR International, Inc., April 17, 2000).

## 3.3 HYDROGEOLOGY

Groundwater recharge to the Chino Subbasin occurs primarily through percolation of direct precipitation and stream flow in the Santa Ana River and its tributaries that drain the surrounding mountain ranges. Additional recharge to the subbasin is believed to include underflow across the bounding faults, underflow from the Temescal Basin, and returns from beneficial use. The general direction of groundwater flow in the subbasin is to the southwest, toward the Santa Ana River and the Prado Flood Control Basin. While considered a single basin from a geologic perspective, the Chino Subbasin has been subdivided into five flow systems that act as separate and distinct hydrologic units, each of which is considered a separate Management Zone. The subject site is located within Management Zone 3.

The Chino Subbasin has been extensively investigated for water resource purposes and also because groundwater in the basin has been impacted by nitrates, attributed to past agriculture and wastewater discharge, and industrial contaminants. Figure 4 shows the approximate extent of the various "regional" contaminant plumes within the subbasin; however, the subject site does not appear to overlie any of them. Avocet notes that the Former Kaiser Steel Mill and Stringfellow Plumes, the closest regional plumes, are roughly 3.5 and 2.5 miles from the subject site and neither are considered hydraulically upgradient based on groundwater flow to the south or southwest.

Consistent with the regional groundwater flow direction toward Prado Dam (Figure 4), groundwater beneath the site is assumed to flow to the south-southwest (Wildermuth, September 6, 2018). Based on data from a groundwater supply well located approximately 1,500 feet southeast of the site, groundwater is expected to be encountered at approximately 330 feet bgs.

## 3.4 OIL, GAS, AND GEOTHERMAL WELLS

According to DOGGR records available online, the site is not within or near the administrative boundary of an oil field (DOGGR, October 14, 2019) and there are no oil or natural gas wells, active or abandoned, within 1 mile of the site. The closest oil or gas well is located approximately 3 miles northwest of the subject site. Based on the above, it is not likely that the subject site has been impacted by historical oil production operations in the area.

## 3.5 RADON GAS

EPA recommends avoiding long-term exposure to radon levels greater than 4 picocuries per liter (pCi/L). CDPH maintains indoor radon test result records for California sorted by zip code (CDPH, February 2016). In brief, indoor radon measurements were performed throughout the

state, and the percentage of buildings with reported radon levels greater than 4 pCi/L within each zip code was reported, along with the number of buildings tested. All three of the buildings tested within the 92337 zip code, in which the subject site is located, contained radon at levels less than 4 pCi/L. In addition to the above, EPA and USGS maintain a Map of Radon Zones for the United States, organized by county (EPA, 2016). According to the map, San Bernardino County is a Radon Zone 2, indicating that radon levels in buildings are expected to be between 2 and 4 pCi/L. EDR's Radius Map Report (Appendix F) indicates that the average radon activity on the ground floor of residential structures within San Bernardino County was 0.678 pCi/L, which is less than EPA's recommended maximum exposure level. Based on the above, naturally occurring radon is unlikely to be of concern in the vicinity of the site.

# 4.0 SITE HISTORY AND CURRENT CONDITION

This section documents the history and current condition of the site, with emphasis on current or former environmental features, to the extent known and to the extent there are or were any.

## 4.1 SITE HISTORY

The history of the site and vicinity has been compiled based on information from the sources outlined in Section 2.0, particularly the historical aerial photographs and topographic maps. For discussion purposes, the site's history has been broken up according to the primary site use(s) with, to the extent available, approximate date ranges.

### 4.1.1 Orchard, < 1938 to ~1950

The earliest records reviewed for Phase I ESA purposes were topographic maps published in 1896, 1898, and 1901 (Appendix A). These near identical maps show the existing Southern Pacific railroad track and an unnamed road bordering the site to the north but little else in the way of streets or development in the area. Present day Citrus and Sierra Avenues are shown on all three maps, although the former appears not to have extended south of the railroad tracks. Another unnamed road joined the road south of the railroad track to the west of the site. The only structure shown on the maps was a small, square building approximately 0.5 mile west of the site. The Jurupa Hills are depicted on the topographic maps approximately 1.5 miles south of the site.

The earliest aerial photograph reviewed for Phase I ESA purposes was taken in 1938 (Appendix B) and shows the site was planted with trees, as was a large majority of the surrounding area. Given the history of the area, the trees are assumed to have been citrus, probably orange or lemon trees, although there were rows of larger eucalyptus trees, presumably windbreaks, along the northern, eastern, and southern site boundaries. Also, by 1938, most of the present day street grid had been constructed, with present day Juniper Avenue, Boyle Avenue, and Sierra Avenue bordering the site to the west, south, and east, respectively. The site appears to have been a single parcel in 1938 or possibly part of a larger parcel. Although it is difficult to differentiate between structures and clearings where trees have been removed, the site appears to have featured at least one structure, a long shed oriented east-west on Parcel 5 (16868 Boyle Avenue). Absent any commercial or industrial land use in the vicinity, the structure was probably agricultural in nature, possibly a fruit packing shed or similar. The adjacent properties to the south and east of the site were also planted with what are assumed to have been fruit trees, and the other surrounding properties appeared to have been agricultural smallholdings, each featuring a residence and agricultural outbuildings. Topographic maps published in 1942 and 1943 (Appendix A) show four and three structures, respectively, within the site boundary; however, they may have been misinterpretations of clearings within the orchard, which resemble buildings in the aerial photographs. The 1942 and 1943 maps also indicate expansion and development in Fontana to the north of the site.

An aerial photograph taken in 1948 (Appendix B) shows the site and the surrounding area essentially unchanged, although an east-west row of eucalyptus trees had been planted through the middle of site, continuing offsite to the west. As noted above, it is difficult to differentiate between

structures and clearings in the aerial photographs; however, the 1948 photograph suggests there may have been at least one long shed inside the eastern site boundary. If the feature was indeed a shed, Avocet assumes it was for agricultural purposes as there was no commercial or industrial development in the vicinity. To the north of the site, the predecessor to the 10 Freeway had been constructed as a divided highway, annotated on later maps as State Highway 99.

### 4.1.2 Citrus Orchard and Residential, ~1950 to ~1990

As was typical throughout the Inland Empire, it appears that the end of World War II marked the beginning of a transition away from agriculture toward residential land use at and around the site. Consistent with this trend, an aerial photograph taken in 1953 (Appendix B) shows that at least three, possibly four, residential structures had been built at the site, one of which (at 16716 Boyle Avenue) is still present. The third structure was inside the western site boundary of what is now 16748 Boyle Avenue. There may also have been additional shed-like structures or canopies within the orchard. To the south and southwest of the site, the 1953 photograph shows that residences were being constructed within the adjoining orchards. A topographic map published in 1953 (Appendix A) shows the same four structures from previous topographic maps; however, another map published one year later shows two additional structures at the site, one each in the northeast and southeast corner, respectively.

The next aerial photograph provided by EDR is particularly sharp and shows that by 1959, Parcels 1, 4, and 6 had been cleared or largely cleared of fruit trees and additional structures had been built at the site (Appendix B). Absent tree cover, the two residential structures (or possibly a residence and detached garage) on Parcel 1 (16716 Boyle Avenue) are clearly visible in the 1959 photograph. To the west of the site, Sierra Avenue had been widened and the existing overpass over the railroad tracks and freeway had been completed. The eastern boundary of APN 019338101 (Figure 3) is curved to accommodate the earthen embankment for the overpass and probably explains the absence of trees in this area of the site. Although the trees had been removed, it does not appear from the 1959 photograph that any use was being made of the cleared areas. At least one additional shed had been constructed or installed among the assumed fruit trees by 1959, an east-west oriented structure on Parcel 2, at 16748 Boyle Avenue. Consistent with the structures visible in the 1959 aerial photograph being residences, EDR's City Directory Abstract (Appendix D) lists individuals, as opposed to businesses, at the six addresses associated with the site in 1955 and 1960. Also, by 1959, residential development north of the present day 10 Freeway had intensified, with at least two housing tracts located to the northwest of the site. Areas of the orchard on the adjacent properties to the south and west of the site had also been cleared for residential development, albeit with individual homes as opposed to housing tracts.

An aerial photograph taken in 1967 (Appendix B) shows that at least one additional building had been constructed on Parcel 5, at 16832 Boyle Avenue, and that the northwestern portion of the cleared parcel was being used for storage or some other non-residential purpose. That said, EDR's City Directory Abstract (Appendix D) lists only individuals at 16832 Boyle Avenue. Topographic maps published in 1967, 1973, 1975, and 1980 (Appendix A) reflect the additional structures at the site but do not provide any additional information of relevance for Phase I ESA purposes. South of the site, these maps show the construction of the existing mobile home park.

An aerial photograph taken in 1975 (Appendix B) shows a small, rectangular structure, possibly a shed, on Parcel 6, the westernmost of the six parcels that comprise the site; otherwise, the remainder of the site appeared relatively unchanged. The existing mobile home park to the south of the site, on the south side of Boyle Avenue, is also visible in the 1975 photograph. An aerial photograph taken in 1985 (Appendix B) shows that the citrus trees on Parcel 2, at 16748 Boyle Avenue, had been removed and the remaining fruit trees throughout the remainder of the site were being allowed to die.

### 4.1.3 Residential and Commercial, ~1990 – Present

By 1990, the only remaining fruit trees at the site were on Parcel 5, at 16868 Boyle Avenue, and several additional structures had been built, at least one of which could have been commercial. Specifically, an aerial photograph taken in 1990 (Appendix B) shows the existing "T-shaped" residence and the existing commercial building to the north at Parcel 4, at 16832 Boyle Avenue. The commercial building is a metal-clad, steel-framed structure that is believed to have been used to store electrical supplies and, more recently, to have been used as a marble and granite fabrication shop. EDR's City Directory Abstract (Appendix D), however, does not list any businesses at 16832 Boyle Avenue so it is not clear what the structure was used for in 1990. Parcel 6, at the east side of the site, was being used for outdoor storage in 1990; however, the nature of the items in storage cannot be determined from the 1990 photograph.

Between 1990 and 1994, Parcel 5, the last to feature fruit trees, was completely cleared and portions of the other parcels that comprise the site were being used for outdoor storage or for parking trailers. To varying degrees, this type of mixed usage continued throughout the 1990s and into the early 2000s on all of the parcels at the site. According to the City Directory Abstract (Appendix D), Aguirre Trucking first occupied Parcel 1, at 16716 Boyle Avenue, as early as 2003. Consistent with this listing, an aerial photograph taken in 2006 (Appendix B) shows that the northern part of Parcel 1 featured several parked trucks, or at least truck trailers, and additional trucks or trailers were parked on Parcel 2, at 16748 Boyle Avenue. Sometime between 1994 and 2006, Parcel 6 was cleared of the items in storage. The subject site has remained more or less in its current configuration since 2006.

## 4.2 CURRENT SITE CONDITIONS

Avocet conducted a walkover survey of the site on October 15, 2019 to visually assess current conditions. Selected photographs taken during the surveys are included in Appendix E and are referenced as appropriate below.

### 4.2.1 Parcel 1, 16716 Boyle Avenue

Parcel 1 is divided into a northern portion and a smaller southern portion by an east-west chain link fence. The smaller southern portion fronts onto Boyle Avenue and features a single-family residence with a carport and a detached garage (Photographs E-1 and E-2). The residence appears to have been added onto, but the original structure may date back as far as 1953. It is a wooden structure with a stucco exterior and a composite pitched roof (Photograph E-2). Avocet did not

enter the residence or the garage but did not observe any indication it or they are or have been used for anything other than residential purposes.

The northern portion of Parcel 1 is a fenced but unpaved storage yard. As of October 15, 2019, it featured several parked cars and pickup trucks, several shipping containers, a few tractor/trailer combinations, several unattached trailers, a roll-off bin filled with what appeared to be scrap metal, and a forklift (Photographs E-3 and E-4). These vehicles and containers were located around the perimeter of the storage yard, leaving the center clear. One of the containers features doors on the side, suggesting it may serve as an office or similar (Photograph E-4). The yard was locked and guarded by two large dogs. As such, Avocet was unable to enter, but based on observations through the locked gate, it appears the storage yard is just that, a storage yard. Avocet did not see any indications that vehicles are maintained in the yard, but that possibility cannot be ruled out and/or it is possible truck and vehicle maintenance could have been conducted in the past.

### 4.2.2 Parcel 2, 16748 Boyle Avenue

Parcel 2 wraps around Parcel 1 and has frontage onto Boyle Avenue to the south and the vacated Juniper Avenue right-of-way to the west (Figure 3). Parcel 2 features a boarded up single-family residence that fronts onto Boyle Avenue. Like the residence on Parcel 1, the residence on Parcel 2 is a wooden structure with a stucco exterior and a composite pitched roof (Photograph E-5). Avocet did not enter the residence, which may be occupied by homeless persons, but did not observe any indication it is or has been used for anything other than residential purposes.

The remainder of Parcel 2 essentially is vacant (Photographs E-6, E-7, and E-10) apart from a severely dilapidated mobile/trailer home (Photograph E-8) that may be occupied by homeless persons. The trailer home is located along the northern fence line between Parcels 1 and 2. Accumulations of trash were observed throughout the vacant part of Parcel 2, notably around a large tree north of the trailer home (Photograph E-9). The trash included discarded clothing, food wrappers, empty water bottles, and the like. Avocet did not observe anything likely to be a hazardous waste among the trash, such as motor oil containers or the like.

### 4.2.3 Parcel 3, 16796 Boyle Avenue

Parcel 3, at 16796 Boyle Avenue, is devoid of structures and essentially featureless apart from a few large trees, notably the large windbreak trees along the northern parcel boundary (Photographs E-11, E-12, and E-13). The parcel is accessible from Boyle Avenue via a gate in the chain link fence (Photograph E-11) and has clearly been used for unauthorized dumping. Specifically, Avocet observed several piles of debris, including tires, plastic pallets, a large cable spool, and panels of chain link fence (Photographs E-12, E-13, E-15, and E-17). Some of the debris appeared to have been burned but none appeared hazardous, with the possible exception of a 1-gallon container of motor oil, the contents of which appeared to have been emptied onto the ground surface (Photograph E-16). Along the western edge of Parcel 3 is a large pile of scrap wood, which appears to be an accumulation of scraps that have been thrown toward a scrap wood bin on the other side of the block wall at the Rodriguez Pallet facility (Photograph E-14). The Rodriguez Pallet facility is discussed in Section 5.3. Along the northern edge of Parcel 3, Avocet

observed large pieces of concrete (Photograph E-18), including one piece that may be a remnant of a former irrigation system for the original citrus orchard.

### 4.2.4 Parcel 4, 16832 Boyle Avenue

Parcel 4, at 16832 Boyle Avenue, features a large, single-story, single-family residence (Photograph E-19) set back from Boyle Avenue and accessed via a gate and a long concrete driveway. The gate was locked and there was a large dog in the enclosed yard so Avocet was unable to enter, but based on observations from Boyle Avenue and the adjoining parcels, Avocet did not observe any indication that the residence is or has been used for anything other than residential purposes.

Behind the residence is an approximately 2,400-square-foot commercial building, specifically a metal clad, metal-framed building on a concrete foundation pad (Photographs E-20 and E-21). To the south of this structure were wooden crates of marble and/or granite slabs (Photograph E-21) and discarded stone-cutting equipment (Photograph E-22). Consistent with this, Avocet understands from Mr. Bals, the owner of Parcel 5, that the most recent use of the commercial structure was as a marble/granite fabrication shop. The commercial building could not be accessed without going through the yard with the dog, so Avocet could not inspect the interior; however, there were no indications of hazardous substance storage or use around the outside of the building.

Between the residence and the commercial structure is a fenced enclosure with a canopy over a backhoe (Photograph E-20). Behind (north of) the commercial structure is a concrete pad with a raised curb along its northern edge (Photograph E-23). The purpose of this slab is not clear, but it is large enough to have accommodated a large parked vehicle. Inside the western boundary of Parcel 4, Avocet observed a 5-gallon pail, a plastic dish containing what appeared to be used motor oil, and an automotive coolant container (Photograph E-24). These items suggest that vehicles, possibly personal vehicles, have been maintained at Parcel 4. Although there was no indication motor oil or other automotive fluids had been spilled at the observed location, the dish of oil would overflow under heavy precipitation, although the impact likely would be *de minimis*.

### 4.2.5 Parcel 5, 16868 Boyle Avenue

Parcel 5, at 16868 Boyle Avenue, features a single-story, single-family residence fenced off from the remainder of the parcel, which is being used by Mr. Guzman as a storage/junk yard. Like the other original residences at the site, the residence at 16868 Boyle Avenue is a wood-framed structure with a composite pitched roof. Based on the mailboxes outside, the residence appears to have been divided into three (16868A, B, and C Boyle Avenue).

The unpaved storage/junk yard wraps around the northern and western sides of the residence (Figure 3). Mr. Bals, the owner, stated the yard area had been used in the past by a nursery to store potted plant material, and a broken down "Instant Jungle" truck was observed at the site (Photograph E-25). Among the other items observed in storage were automobiles, pickup trucks and parts thereof, a London taxi, wheels and tires, mobile homes, camper shells, boats, a "fifth wheel" trailer, modular office buildings, a roll-off bin, bathroom fixtures (tub, sink, toilet), wooden pallets, a ride-on mower, and children's play furniture (Photographs E-26 through E-32). While

the vehicles likely contain fuel and other automotive fluids, Avocet did not observe any indication that hazardous substances are stored or used in anything other than *de minimis* quantities. That said, several *de minimis* oil stains were observed on the ground surface where Avocet assumes other vehicles had been parked in the past (Photograph E-32).

Immediately north of the residence, and within the storage yard, are a wooden garage and a ramshackle workshop. The garage was not accessible, in part due to junk piled around it (Photograph E-33), but Mr. Bals and Mr. Guzman stated it had been used in the past to park cars. The workshop is a corrugated metal structure with an attached corrugated metal canopy supported by circular steel pipes (Photographs E-35 and E-36). In essence, it appears to be an automotive workshop complete with tools and spare parts. Several vehicles in various stages of repair were present outside the workshop, although none appeared to have been worked on recently. Numerous potentially hazardous substances were observed in the workshop, mostly automotive fluids and related compounds (e.g., WD-40) in small containers (Photographs E-35 and E-36). That said, Avocet did not observe any visual or olfactory indication of recent spills.

### 4.2.6 Parcel 6, APN 019338101

Parcel 6 adjoins the Sierra Avenue right-of-way and its irregular eastern boundary is assumed to be tailored around the earthen embankment for the freeway and railroad overpass (Figure 3). Although this parcel has been used for storage in the past, it was completely vacant at the time of Avocet's walkover site survey (Photograph E-37) and appears to serve as an access road to the railroad tracks that bound the subject site to the north. The southern end of the parcel features two or three power poles (Photograph E-39). Runoff, including irrigation runoff, from the adjoining Sierra Avenue embankment sheet flows onto Parcel 6, and runoff from the embankment is also concentrated into a concrete drainage channel (Photograph E-40) that discharges directly onto Parcel 6.

## 4.3 ASTM E1527-13 FEATURES

ASTM E1527-13 includes a list of potential environmental features, such as USTs, ASTs, sumps, and the like, that are to be addressed in a Phase I ESA for a commercial or industrial property. The affirmative presence or absence of these features is indicated below.

| Potential Environmental Feature or Condition | Absent | Present | Comments |
|---|---|---|---|
| Hazardous Substances and Petroleum Products in Connection with Identified Uses | | ✓ | Automotive fluids on Parcel 5 and possibly other parcels. |
| Storage Tanks | ✓ | | |
| Odors | ✓ | | |
| Pools of Liquid | ✓ | | None other than excess irrigation runoff on Parcel 6. |
| Drums | ✓ | | |
| Hazardous Substance and Petroleum Products Containers | | ✓ | Automotive fluids on Parcel 5. |
| Unidentified Substance Containers | ✓ | | |

| | | | |
|---|---|---|---|
| Polychlorinated Biphenyls (PCBs) | ✓ | | |
| Heating/Cooling | | ✓ | Residences are assumed to have heating and air conditioning. |
| Stains or Corrosion | ✓ | | |
| Drains and Sumps | ✓ | | |
| Pits, Ponds, or Lagoons | ✓ | | |
| Stained Soil or Pavement | ✓ | | |
| Stressed Vegetation | ✓ | | |
| Solid Waste | | ✓ | Several parcels feature trash and nonhazardous waste containers |
| Wastewater | ✓ | | No industrial wastewater |
| Wells | ✓ | | |
| Septic Systems | ✓ | | None observed |

## 4.4 PREVIOUS INVESTIGATIONS

So far as Avocet has been able to determine, there have been no previous subsurface investigations at the site. Specifically, there are no indications of any such investigations in the government agency records available for review, Avocet did not observe any indications of borings or groundwater monitoring wells, and, based on the site's history, there are no obvious reasons why any such investigations would have been conducted.

# 5.0 ADJOINING AND NEARBY PROPERTIES

This section summarizes a search by EDR of environmental databases and describes properties adjoining the subject site and selected nearby properties. The descriptions of adjoining and selected nearby properties are based on Avocet's observations from public rights-of-way, information included in EDR's report (Appendix F), and information available from the GeoTracker and EnviroStor websites maintained by CalEPA.

## 5.1 DATABASE LISTINGS

EDR's search encompassed over 90 databases maintained by local, state, and federal government agencies, including all of the databases specified in ASTM E1527-13, Section 8.2.1. The "target property" addresses used by EDR for records search purposes were as follows:

| **Parcel** (Fig. 3) | **Street Address** | **APN** |
|---|---|---|
| 1 | 16716 Boyle Avenue | 25120212 |
| 2 | 16748 Boyle Avenue | 25120215 |
| 3 | 16796 Boyle Avenue | 25120205 |
| 4 | 16832 Boyle Avenue | 25120206 |
| 5 | 16868 Boyle Avenue | 25120207 |

EDR's October 2, 2019 Radius Map Report with GeoCheck®, which is included in Appendix F, includes database listings for a few of the target property addresses and multiple listings for offsite properties within ASTM-recommended search radii. These listings are summarized in Table 1, but in the interest of providing a concise review and making relevant information more accessible, the following summaries focus on those database listings considered potentially relevant to the objectives of the subject Phase I ESA, specifically those pertaining to the subject site and to nearby properties with documented hazardous substance releases with the potential to have impacted the site. Other properties/database listings not considered indicative of a hazardous substance release, database listings for hydraulically downgradient/crossgradient properties, and database listings with "Completed – Case Closed" status have generally been screened out. It is noted in this regard that inclusion in certain of the databases searched by EDR is not, in and of itself, an indication that hazardous substances have been released or that the subsurface beneath the properties is contaminated. For example, inclusion in the HAZNET or similar databases indicates that a facility generates hazardous waste, but the generator is following the proper manifest procedures. Similarly, the fact that USTs or ASTs are or were operated at a property and were registered with the state is not, in and of itself, of concern unless the tanks(s) had leaked, in which case the property should be included in other databases.

## 5.2 TARGET PROPERTY LISTINGS

The 16716 Boyle Avenue address is listed in the HWT, FINDS, ECHO, RCRA NonGen/NLR databases. The NonGen/NLR listing indicates that no hazardous waste is currently generated onsite. The HWT listing indicates that Aguirre Trucking, which is the business operating at

16716 Boyle Avenue, is a registered hazardous waste transporter. The transport of hazardous materials is not, in and of itself, an indication that a release of hazardous materials has occurred. The FINDS and ECHO database listings are indicators that the property is listed in other databases, in this case the HWT and RCRA nonGen/NLR databases.

## 5.3 16760 Boyle Avenue (Rodriguez Pallet)

As shown in Figures 2 and 3, Parcels 1 and 2 are separated from Parcels 3 through 6 by the property at 16760 Boyle Avenue, which is currently occupied by Rodriguez Pallet, which manufactures and refurbishes wooden pallets. The 16760 Boyle Avenue address is listed in the FINDS, San Bernardino County Permit, and CERS databases under Woodland Pallets, believed to have been a former tenant. The San Bernardino County Permit listing indicates that the business used hazardous materials onsite, although it does not specify the materials or the quantities. The CERS database lists various instances of noncompliance associated with the storage of regulated chemicals; however, all of the instances appear to be associated with administrative noncompliance, such as not submitting an annual review of the site's business plan or not reporting annual safety training of employees. None of the instances document a release of hazardous materials at the site. As above, the FINDS database listing is an indicator the property is listed in other databases.

As the Rodriguez Pallet facility originally was going to be part of the subject site, Avocet inspected it on October 15, 2019. On entering the property, Avocet met Mr. Enrique Rodriguez, the owner of the business, who invited Avocet to walk around and take photographs. Mr. Rodriguez said Rodriguez Pallet had occupied the property for less than six months, but the parcel had previously been occupied by another pallet company. The parcel features the original single-family residence, which Rodriguez uses as an office, and a woodshop area; the balance of the parcel is a paved storage area featuring stacks of wooden pallets separated by narrow access aisles.

Like the other residences at the site, the single-family residence on Parcel 3 fronts onto Boyle Avenue and is a wooden structure with a stucco exterior and a composite pitched roof. Rodriguez uses the residence as an office; however, it was locked at the time of the walkover site survey so Avocet was not able to access the interior. Around the exterior of the residence were 5-gallon water bottles and other office-related items. Avocet did not observe any indication that the residence is or has been used for anything other than residential or office purposes. The woodshop and storage areas behind (north of) the office are accessed by concrete-paved driveways on either side of the office. The woodshop area features two corrugated metal canopies, supported by steel pipe columns, over pallet assembly and repair operations. Equipment beneath the canopies includes band saws, table saws, and air compressors for nail guns. Around the edges of the woodshop are stacks of raw material (lumber) and bins for scrap wood. Along the west side of the woodshop area, Avocet observed a tractor, an air compressor, and several forklifts. Along the east side, Avocet observed a concrete block enclosure containing racks for 5-gallon propane tanks for forklifts and a few 55-gallon plastic drums used for trash accumulation. Avocet did not observe hazardous substance use or storage in the woodshop area, although there may have been small containers of lubricant and the like for the air compressors and saws.

The paved storage area north of the woodshop is, as previously noted, almost entirely filled with stacks of wooden pallets separated by narrow access aisles. In addition to wooden pallets, however, Avocet observed inactive equipment and numerous steel and plastic 55-gallon drums. Inactive equipment included a table saw, a band saw, an air compressor, and disassembled steel storage racks. Most of the drums were in orderly stacks on wooden pallets but there were several "loose" drums on their sides or mixed in with wooden pallets. Not all of the drums were accessible, but of the drums that Avocet assessed, all but one appeared to be empty, although it is not clear whether the drums had been rinsed or may contain residual product. The single full 55-gallon steel drum was observed in the northeast corner of the storage yard and, according to the label, contained "Solvent 142 <1% Low Aromatic." The drum label indicates this is a flammable petroleum distillate containing Stoddard Solvent, ethylbenzene, naphthalene, and nonane. That said, it is not clear whether the drum contains the product indicated on the label. According to their labels, the empty drums at the Rodriguez Pallet property formerly contained, among other things, "Norfox SLS," "Triethanolamine 99%," "Isopropanol 99%," "Ultrazol® 9585," "Glycol Ether EB," "Glucopon® 425 N," "Berol DR," and "Brennsil SDS-350." As noted previously, not all of the drums were accessible and it is possible there may be more full drums and possible, if not probable, that the empty drums previously stored more products than indicated above. Mr. Rodriguez apparently had left the property before Avocet could ask him why the drums are stored at the property, and Avocet has since left several telephone voice mails for Mr. Rodriguez but has not received a call back. As such, it is unclear why the drums are being stored at the Rodriguez Pallet property.

## 5.4 Adjoining Properties to the North

The site is bounded to the north by a Southern Pacific railroad track, beyond which is the 10 Freeway. There appears to be at least one petroleum pipeline within the railroad right-of-way; however, there are no indications it has leaked. With the exception of the subsurface petroleum pipeline, there were no visible indications of hazardous substance use or storage in the railroad right-of-way and it does not feature in any of the databases searched by EDR or on the GeoTracker or EnviroStor websites maintained by CalEPA. Absent additional information to the contrary, there is no reason to believe that operations at the adjoining properties to the north have impacted the subject site.

## 5.5 Adjoining Properties to the South

The site is bounded to the south by Boyle Avenue, beyond which are single-family residences and The Capri Mobile Estates mobile home park. None of the south adjoining properties feature in any of the databases searched by EDR or on the GeoTracker or EnviroStor websites maintained by CalEPA. Absent additional information to the contrary, there is no reason to believe that operations at the adjoining properties to the south have impacted the subject site.

## 5.6 Adjoining Properties to the East

The site is bounded to the east by Sierra Avenue, across which is the Palm Court shopping center, which is anchored by a Target store and a CVS Pharmacy. The Target store and CVS Pharmacy are listed in the RCRA-VSQG, San Bernardino County Permit, CERS HAZ WASTE, and RCRA-

LQG databases. All of these listings pertain to the storage of small quantities of hazardous materials and the generation of small quantities of hazardous waste. However, none of these listings indicate a hazardous substance or waste release has occurred. Moreover, none of the properties within the Palm Court shopping center are featured on the GeoTracker or EnviroStor websites. Absent information to the contrary, there is no reason to suspect that operations at the commercial properties across Sierra Avenue to the east have impacted the subsurface beneath the subject site.

## 5.7 ADJOINING PROPERTIES TO THE WEST

The site is bordered to the west by vacant, formerly residential parcels, beyond which are several occupied residential properties. The properties to the east were part of the same citrus orchard that formerly occupied the subject site and their histories are like the subject site's in that the orchard was gradually displaced by single-family residences and commercial land uses. The properties directly west of the site are not listed in any of the databases searched by EDR, nor are they featured on the GeoTracker or EnviroStor websites. Absent information to the contrary, there is no reason to suspect that operations at the properties to the west have impacted the subsurface beneath the subject site.

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

This section presents the conclusions of the Phase I ESA for the subject site in terms of sequentially numbered RECs, CRECs, HRECs, and OEFs. It also includes recommendations and summarizes the potential for vapor encroachment and/or vapor intrusion conditions at the site.

## 6.1 RECOGNIZED ENVIRONMENTAL CONDITIONS (RECS)

ASTM (2013) defines RECs as:

> *". . . the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to 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."*

ASTM (2013) goes on to define *de minimis* as:

> *". . . 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."*

Based on the subject Phase I ESA, Avocet has not identified any RECs at the site.

## 6.2 CONTROLLED RECS (CRECS)

ASTM (2013) defines CRECs as:

> *". . . 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 implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)."*

Based on the subject Phase I ESA, Avocet has not identified any CRECs at the site.

## 6.3 HISTORICAL RECS (HRECS)

ASTM (2013) defines HRECs 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 any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)."*

Based on the subject Phase I ESA, Avocet has not identified any HRECs at the site.

## 6.4 OTHER ENVIRONMENTAL FEATURES (OEFS)

OEFs are environmental conditions that do not meet the ASTM definition of a REC, CREC, or HREC but which warrant mention in the context of acquiring and redeveloping the site or a portion thereof. OEFs do not necessarily require any action to address their presence or condition but are identified for the sake of thoroughness and completeness. Based on the subject Phase I ESA, Avocet identified seven OEFs at the site as follows:

- **OEF 1 – Past Agricultural Land Use.** The site was a citrus orchard from at least as far back as 1938 until the early 1990s. Pesticides were widely used throughout the United States during this period; however, historical aerial photographs of the site do not show any ASTs, such as might have been used to store or mix pesticides, nor do they show distressed vegetation, such as might have resulted from pesticide overuse. If pesticides were used at the site and applied in accordance with the manufacturers' recommendations, they should not have significantly impacted near-surface soil in terms of the ongoing presence of residual pesticides and/or related degradation byproducts.

- **OEF 2 – Irrigation Infrastructure.** Large-diameter concrete standpipes protrude from the ground surface at two locations immediately west of the site. These protruding pipes appear to be remnants of a subsurface irrigation system assumed to be associated with the former citrus orchard, of which the site was a part. The lateral extent of the subsurface piping system is unknown, but it could underlie the entire site and be encountered during redevelopment grading. There aren't necessarily any environmental concerns related to the protruding standpipes or related subsurface piping other than the possible presence of asbestos in the concrete pipe matrix and/or in the mortar used to seal the pipe joints.

- **OEF 4 – ACMs and LBPs.** Based on available aerial photographs, the buildings at the site predate the restrictions on using asbestos-containing materials (ACMs) and lead-based paint (LBP). As such, it is possible, if not probable, that the structures contain ACMs and LBP, although Avocet did not observe any obvious hazardous conditions, such as damaged and friable ACMs, on the exteriors of the onsite buildings. Regardless, Avocet recommends pre-demolition surveys of the structures at the site for ACMs and LBP. Confirmed ACMs and damaged LBP should be abated by suitably licensed and experienced contractors prior to general structure demolition.

- **OEF 5 – Aerially Deposited Lead (ADL).** The site is located immediately south of a Southern Pacific railroad track and the 10 Freeway, which collectively constitute a major transportation corridor into the Los Angeles area. Near-surface soil adjacent to such transportation corridors can be impacted by ADL related to the use of leaded gasoline and possibly other fuel hydrocarbons. That said, Avocet

recently sampled near-surface soil on the adjoining property to the west of the subject site, which is similarly situated with respect to the railroad tracks and freeway, and lead concentrations were not of concern.

- **OEF 6 - Automotive Fluid Storage and Use, Parcel 2.** The automotive workshop at Parcel 5 features numerous potentially hazardous and/or flammable substances, mostly automotive fluids and related compounds (e.g., WD-40) in small containers. Unless the workshop is to be relocated, these hazardous materials containers should be consolidated by similar hazard class and transported offsite for disposal. It may be beyond the ability of the current tenant to manage and pay for the required "lab-pack-type" profiling and consolidation effort. At a minimum, however, Avocet recommends that these hazardous and/or flammable substances be removed with oversight to minimize the potential for discharges to the ground surface to simplify disposal.

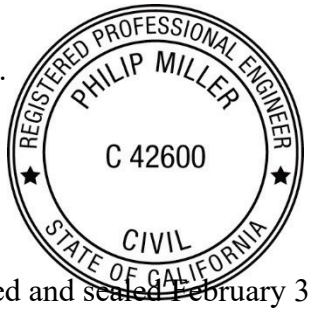
- **OEF 7 – General Site Clearance.** Aside from the specifics in OEFs 6, Parcel 5 is a storage/junk yard and a few of the other parcels that comprise the site are used to store junk that realistically has little or no salvage value. Some of the items in storage, particularly the vehicles at Parcel 5, may contain fuel, lubricating oil, and other automotive fluids and possibly asbestos. Avocet recommends that the site owners and/or their tenants be required to remove all of the stored items. As with OEF 6, Avocet recommends that junk removal be conducted with oversight to minimize the potential for potentially hazardous substances and wastes being discharged onto the ground surface to simplify disposal and/or recycling.

## 6.5 VAPOR INTRUSION/VAPOR ENCROACHMENT

As part of the Phase I ESA, Avocet evaluated the potential presence of vapor intrusion conditions (VICs) and/or vapor encroachment conditions (VECs) at the subject site. A VIC can occur if volatile organic compounds (VOCs) are present in the vadose zone or in groundwater beneath a property at concentrations such that vapor could intrude into, and accumulate in, an overlying structure at concentrations hazardous to human health. A VEC can occur if VOCs from an offsite source migrate beneath a property. Based on the absence of documentation indicating solvent use at or around the subject site, a VIC and/or a VEC at the site appears unlikely.

Respectfully submitted,

AVOCET ENVIRONMENTAL, INC.




Philip Miller, P.E.
Principal

Signed and sealed February 3, 2020

# REFERENCES

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Wildermuth Environmental, Inc., July 2003, "Optimum Basin Management Program, Chino Basin Dry-Year Program Modeling Report," prepared for Chino Basin Watermaster Inland Empire Utilities Agency.

Wildermuth Environmental, Inc., September 6, 2018, "2018 Recharge Master Plan," prepared for Chino Basin Watermaster Inland Empire Utilities Agency.

# *Tables*

AVOCET
ENVIRONMENTAL, INC.

**Table 1**
**EDR Database Listings**
16716 - 16868 Boyle Avenue
Fontana, California

| Site Name | Address | Database | Distance (miles) | Direction | With Respect to Groundwater | Discussed Further |
|---|---|---|---|---|---|---|
| Aguirre Trucking | 16716 Boyle Avenue | HWT, FINDS, ECHO, RCRA NonGen / NLR | TP | TP | TP | Yes |
| Woodland Pallets | 16760 Boyle Ave | FINDS, San Bern. Co. Permit, CERS | TP | TP | TP | Yes |
| CVS Pharmacy #16187 | 16964 Slover Ave Ste B | RCRA-VSQG | 0.098 | ESE | Adjacent | Yes |
| CVS Pharmacy #16187 | 16964 Slover Ave Ste A | San Bern. Co. Permit, CERS HAZ WASTE | 0.098 | ESE | Adjacent | Yes |
| Target Store T0660 | 16964 Slover Ave | RCRA-LQG | 0.098 | ESE | Adjacent | Yes |
| Circle K Store#5233<br>Stop 'n Go Markets | 16880 Slover Ave | San Bern. Co. Permit, LUST, HIST UST, CA FID UST, SWEEPS UST, HIST CORTESE | 0.123 | SSE | Downgradient | |
| Del Taco #1071 | 16805 Slover Ave | San Bern. Co. Permit | 0.171 | S | Downgradient | |
| Sierra Em Chevron<br>M Klas Inc Dba Sierra Em Chevron | 10510 Sierra Ave | San Bern. Co. Permit, CERS HAZ WASTE, CERS TANKS, RCRA NonGen / NLR, UST | 0.173 | SSE | Crossgradient | |
| Pep Boys #680 | 16711 Valley Blvd | San Bern. Co. Permit, CERS HAZ WASTE, RCRA NonGen / NLR | 0.191 | NNW | Crossgradient | |
| Food 4 Less #389 | 16991 Valley Blvd | RCRA NonGen / NLR, San Bern. Co. Permit, CERS HAZ WASTE | 0.195 | NE | Upgradient | |
| Western Dental Services, Inc. | 10144 Sierra Ave | RCRA NonGen / NLR, San Bern. Co. Permit, CERS HAZ WASTE | 0.205 | NNE | Upgradient | |
| Mcguire Contracting | 16579 Slover Avenue | RCRA NonGen / NLR | 0.212 | SW | Downgradient | |
| Bath & Body Works #1840 | 17030 Slover Ave Ste A-105 | San Bern. Co. Permit, CERS HAZ WASTE, RCRA NonGen / NLR | 0.214 | ESE | Crossgradient | |
| O'Reilly Auto Parts #4945 | 10560 Sierra Ave | San Bern. Co. Permit, CERS HAZ WASTE, RCRA NonGen / NLR | 0.234 | SSE | Crossgradient | |
| Sierra Fuel Inc<br>Sierra Valero Inc<br>Exxon Service Station #7-7098<br>Valley Texaco<br>Texaco Service Station | 10115 Sierra Ave | San Bern. Co. Permit, RCRA NonGen / NLR, CA FID UST, SWEEPS UST, UST, HIST UST, LUST, RCRA-SQG, CERS HAZ WASTE, HIST CORTESE, CERS TANKS | 0.242 | NNE | Upgradient | |
| Act Compliance Dba Fleetserv | 16516 Washington Dr | RCRA NonGen / NLR, San Bern. Co. Permit, CERS HAZ WASTE | 0.244 | WNW | Crossgradient | |
| Ross Dress For Less #0318<br>Five Below Inc | 17084 Slover Ave Ste 102 | San Bern. Co. Permit, CERS HAZ WASTE, RCRA NonGen / NLR | 0.248 | ESE | Crossgradient | |
| Sally Beauty Supplies | 16771 Valley Blvd | RCRA NonGen / NLR, San Bern. Co. Permit, CERS HAZ WASTE | 0.248 | N | Crossgradient | |
| Bp West Coast Products Llc 01815 | 10087 Sierra | LUST | 0.291 | NNE | Upgradient | |
| Ponce Recycling | 9954 Sierra Ave | SWRCY | 0.439 | NNE | Upgradient | |

**Table 1**
**EDR Database Listings**
16716 - 16868 Boyle Avenue
Fontana, California

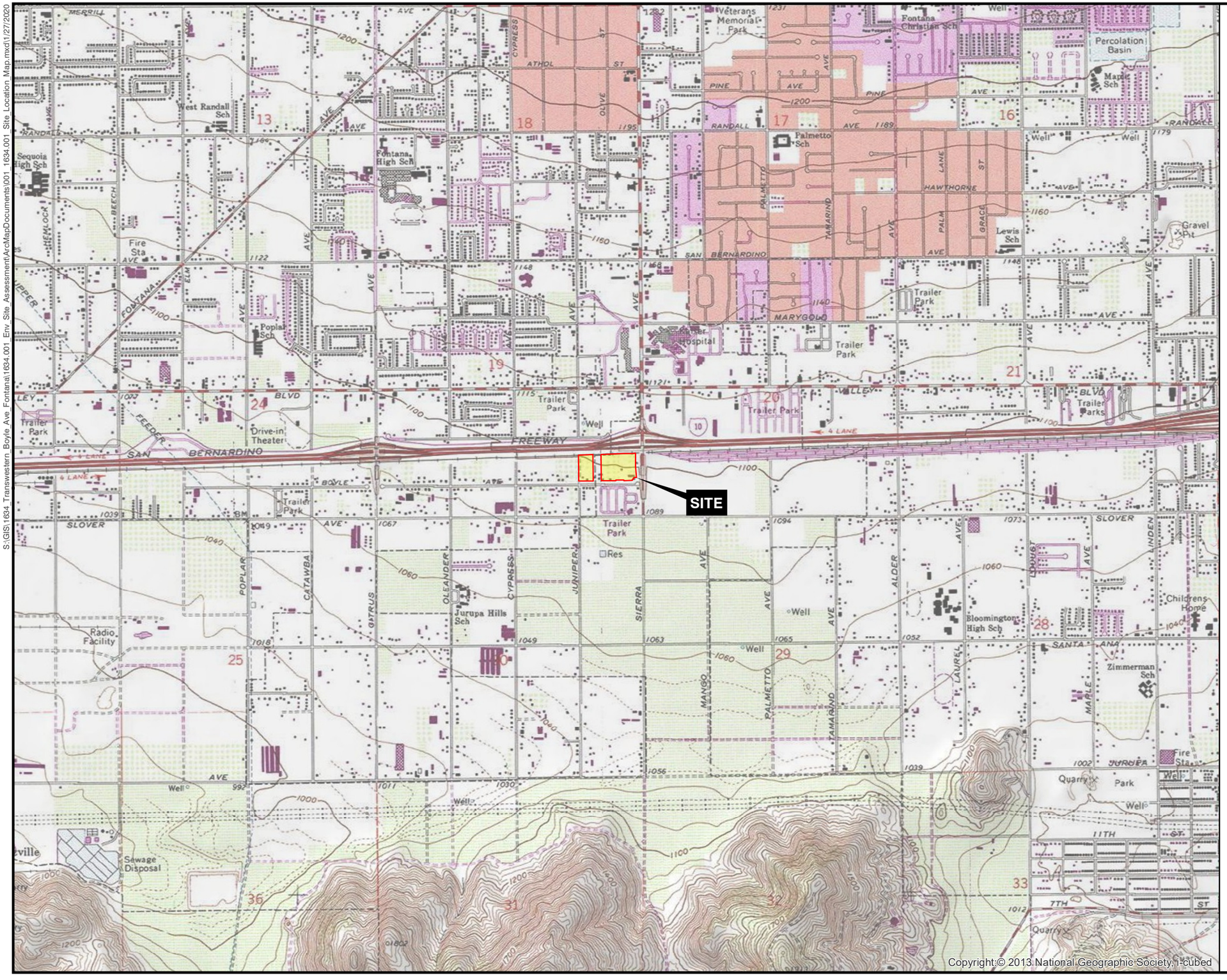
| Site Name | Address | Database | Distance (miles) | Direction | With Respect to Groundwater | Discussed Further |
|---|---|---|---|---|---|---|
| Kaiser Foundation Hospital | 9961 Sierra Avenue | ENVIROSTOR | 0.455 | NE | Upgradient | |
| Cypress Continuation High School | Santa Ana/cypress Avenue | ENVIROSTOR | 0.717 | SSW | Downgradient | |
| Birch Continuation High School Addition | Locust Avenue/barbee Street | ENVIROSTOR | 0.725 | WSW | Downgradient | |
| Elementary School No. 28 | Randall Avenue/beech Avenue | ENVIROSTOR | 0.725 | WSW | Downgradient | |
| New Citrus Continuation High School | Cypress Avenue/santa Ana Avenue | ENVIROSTOR | 0.725 | WSW | Downgradient | |
| Lytle Creek High School No. 4 | Lytle Creek Road/summit Avenue | ENVIROSTOR | 0.725 | WSW | Downgradient | |
| New Elementary School No. 29 | Palmetto / Merrill Avenue | ENVIROSTOR | 0.725 | WSW | Downgradient | |
| Elementary School No. 31 | 7316, 7398 Cypress Avenue | ENVIROSTOR | 0.725 | WSW | Downgradient | |
| High School No. 5 (aka Galleano) | Oleander Avenue/santa Ana Avenue | ENVIROSTOR | 0.725 | WSW | Downgradient | |
| Elementary No. 30 | San Bernardino Avenue/catawba Avenue | ENVIROSTOR | 0.725 | WSW | Downgradient | |

**Notes:**
Gray shading indicates database listing is hydraulically downgradient or crossgradient and/or is a closed case
Blue shading indicates database listing does not necessarily indicate a release or contamination

# *Figures*

AVOCET
ENVIRONMENTAL, INC.

S:\GIS\1634_Transwestern_Boyle_Ave_Fontana\1634.001_Env_Site_Assessment\ArcMapDocuments\001_1634.001_Site_Location_Map.mxd\1/27/2020



**VICINITY MAP**

N

0 2,000 4,000 FEET

FIGURE 1

**SITE LOCATION MAP**

NEC BOYLE & JUNIPER
FONTANA, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

S:\GIS\1634_Transwestern_Boyle_Ave_Fontana\1634.001_Env_Site_Assessment\ArcMapDocuments\002_1634.001_Site_and_Vicinity.mxd\1/27/2020

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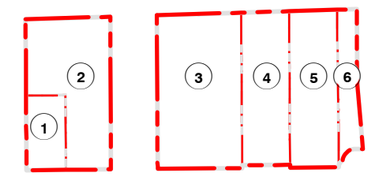



**KEY MAP**

| PARCEL | BOYLE ADDRESS | APN | ACRES |
|---|---|---|---|
| 1 | 16716 | 025120212 | 0.85 |
| 2 | 16748 | 025120215 | 2.85 |
| 3 | 16796 | 025120205 | 3.77 |
| 4 | 16832 | 025120206 | 2.12 |
| 5 | 16868 | 025120207 | 2.19 |
| 6 | NONE | 019338101 | 0.84 |
| | | TOTAL | 12.66 |

0 400 800 FEET

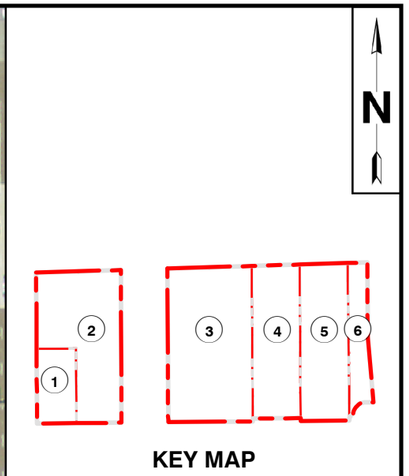
FIGURE 2

**SITE AND VICINITY**

NEC BOYLE & JUNIPER
FONTANA, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

S:\GIS\1634_Transwestern_Boyle Ave_Fontana\1634.001_Env_Site_Assessment\ArcMapDocuments\003_1634.001_Site_Plan.mxd\1/27/2020




KEY MAP

| PARCEL | BOYLE ADDRESS | APN | ACRES |
|---|---|---|---|
| 1 | 16716 | 025120212 | 0.85 |
| 2 | 16748 | 025120215 | 2.85 |
| 3 | 16796 | 025120205 | 3.77 |
| 4 | 16832 | 025120206 | 2.12 |
| 5 | 16868 | 025120207 | 2.19 |
| 6 | NONE | 019338101 | 0.84 |
| | | TOTAL | 12.66 |

REFERENCE:
USGS AERIAL PHOTOGRAPH
DATED: MAY 25, 2014

0 100 200 FEET

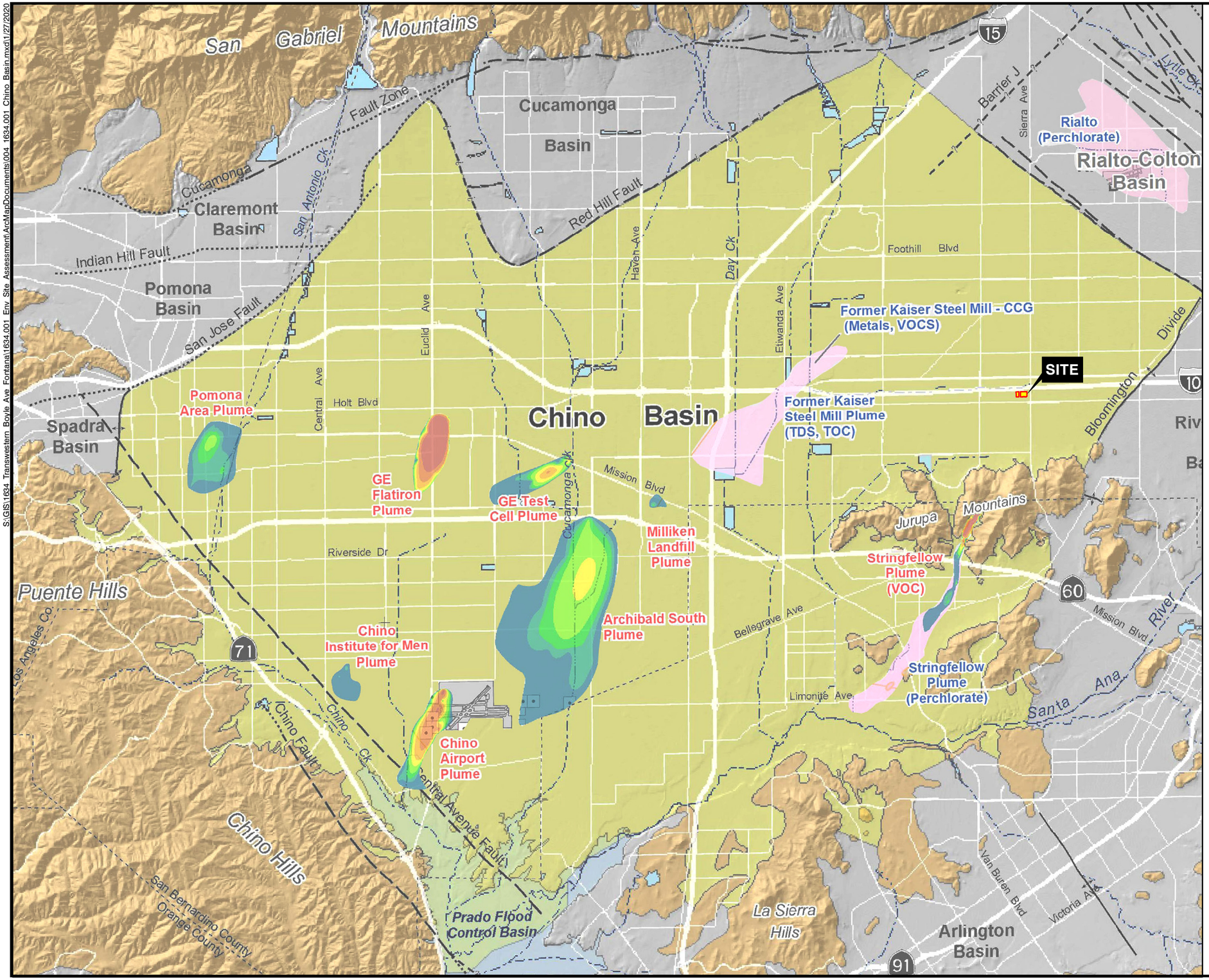
FIGURE 3

**SITE PLAN**

NEC BOYLE & JUNIPER
FONTANA, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

S:\GIS\1634 Transwestern Boyle Ave Fontana\1634.001 Env Site Assessment\ArcMapDocuments\004 1634.001 Chino Basin.mxd\1/27/2020



N

Main Features

Chino Basin

Geology

*Water-Bearing Sediments*

Quaternary Alluvium

*Consolidated Bedrock*

Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

*Faults & Groundwater Divides*

Location Certain
Location Approximate
Location Concealed
Location Uncertain
Groundwater Divide

Other Features

Flood Control and Conservation Basins

VOC Concentration (ug/L)

> 0 and ≤ 5
> 5 and ≤ 10
> 10 and ≤ 20
> 20 and ≤ 50
> 50 and ≤ 100
> 100 and ≤ 200
> 200 and ≤ 500
> 500

The VOC plumes shown on this map are generalized illustrations of the estimated spatial extent of TCE or PCE, based on maximum concentration measured over the five-year period of August 2007 to July 2012. The VOC plume illustrations were created with the Geostatistical Analyst extension in ESRI's ArcView 10.1 using an ordinary kriging interpolation model with model input parameter estimation and optimization performed by semivariogram analysis in Golden Software's Surfer 8.09. Interpretations of plume extent and boundary delineation were made based on measured concentrations and local groundwater flow patterns as predicted by the Chino Basin groundwater flow model.

Other plumes (labeled by name and dominant contaminant)

SOURCES:
1. WILDERMUTH ENVIRONMENTAL, INC. FIGURE 2-1, CHINO BASIN AND OTHER SURROUNDING GROUNDWATER BASINS. FILE: FIGURE 2-1.MXD. DATED: JUNE 16, 2003
2. WILDERMUTH ENVIRONMENTAL, INC. EXHIBIT 44, DELINEATION OF GROUNDWATER CONTAMINATION PLUMES AND POINT SOURCES OF CONCERN.

0 1 2 4 Miles

FIGURE 4

**CHINO BASIN**

NEC BOYLE & JUNIPER
FONTANA, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

# *Appendix A*

*EDR Historical Topo Map Report*

AVOCET
ENVIRONMENTAL, INC.

Transwestern Boyle Fontana

16716 - 16868 Boyle Avenue

Fontana, CA 92337

Inquiry Number: 5811754.4

October 01, 2019

# 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

10/01/19

| Site Name: | Client Name: |
|---|---|
| Transwestern Boyle Fontana | Avocet Environmental, Inc. |
| 16716 - 16868 Boyle Avenue | 1 Technology Drive Suite C515 |
| Fontana, CA 92337 | Irvine, CA 92618-0000 |
| EDR Inquiry # 5811754.4 | Contact: Philip Miller |

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Avocet Environmental, 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.#** 1634.001

**Project:** Transwestern, Boyle, Fontana

***Coordinates:***

| | |
|---|---|
| **Latitude:** | 34.065772 34° 3' 57" North |
| **Longitude:** | -117.438037 -117° 26' 17" West |
| **UTM Zone:** | Zone 11 North |
| **UTM X Meters:** | 459579.29 |
| **UTM Y Meters:** | 3769535.24 |
| **Elevation:** | 1101.00' above sea level |

**Maps Provided:**

| | |
|---|---|
| 1896 | 1973 |
| 1898 | 1975 |
| 1901 | 1980 |
| 1942 | 2012 |
| 1943 | |
| 1953 | |
| 1954 | |
| 1967 | |

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## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

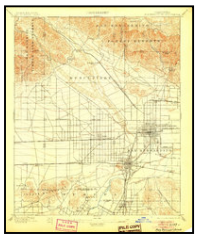
### 1896 Source Sheets

San Bernardino
1896
15-minute, 62500

### 1898 Source Sheets

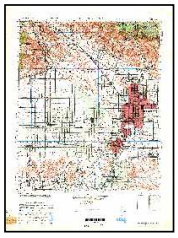
San Bernardino
1898
15-minute, 62500

### 1901 Source Sheets



San Bernardino
1901
15-minute, 62500

### 1942 Source Sheets



SAN BERNARDINO
1942
15-minute, 50000

## *Topo Sheet Key*

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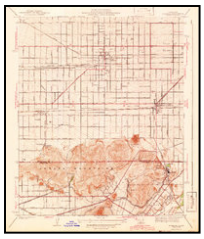
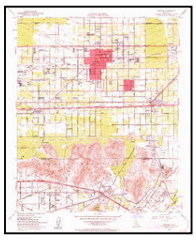


Fontana
1943
7.5-minute, 31680

### 1953 Source Sheets

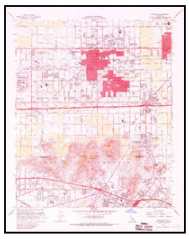


Fontana
1953
7.5-minute, 24000
Aerial Photo Revised 1952

### 1954 Source Sheets

San Bernardino
1954
15-minute, 62500
Aerial Photo Revised 1952

### 1967 Source Sheets



Fontana
1967
7.5-minute, 24000
Aerial Photo Revised 1966

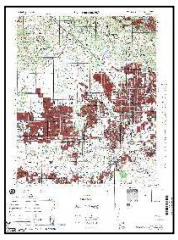
## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1973 Source Sheets

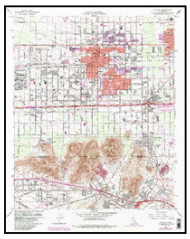
Fontana
1973
7.5-minute, 24000
Aerial Photo Revised 1973

### 1975 Source Sheets



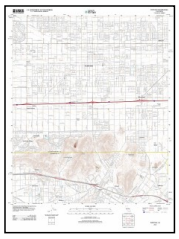
SAN BERNARDINO
1975
15-minute, 50000

### 1980 Source Sheets



Fontana
1980
7.5-minute, 24000
Aerial Photo Revised 1978

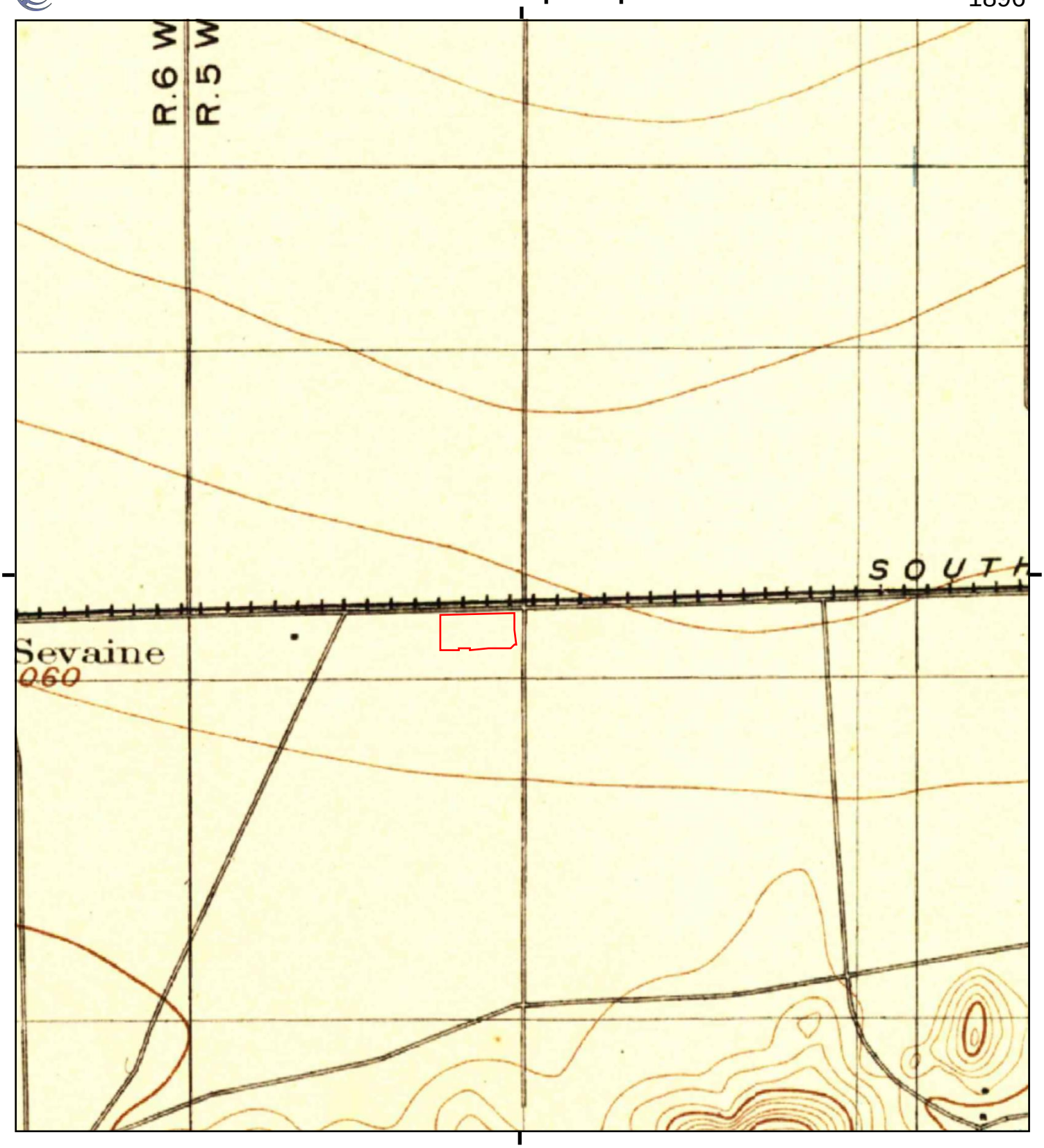
### 2012 Source Sheets



Fontana
2012
7.5-minute, 24000

# Historical Topo Map

1896




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

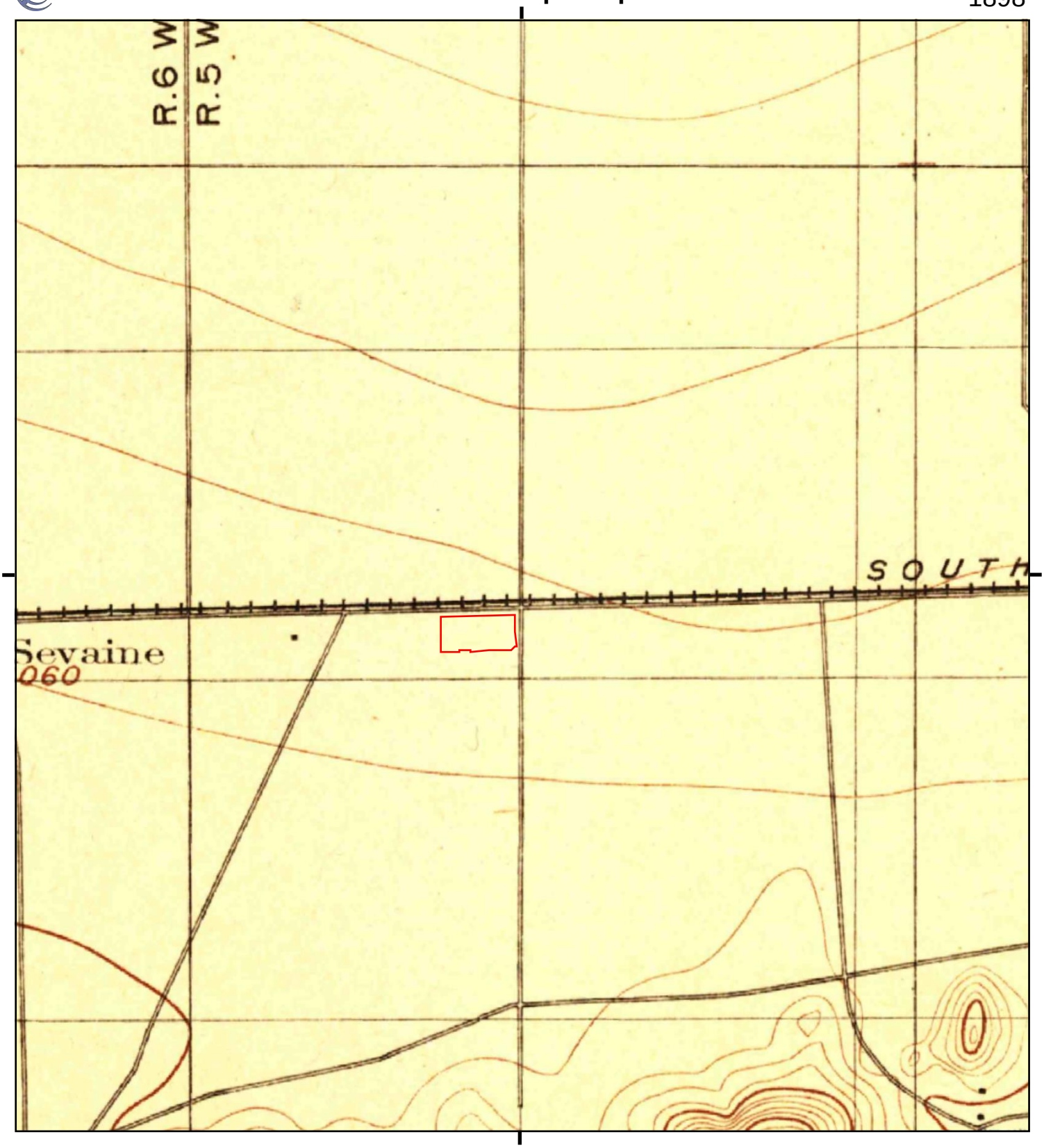
TP, San Bernardino, 1896, 15-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

1898




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

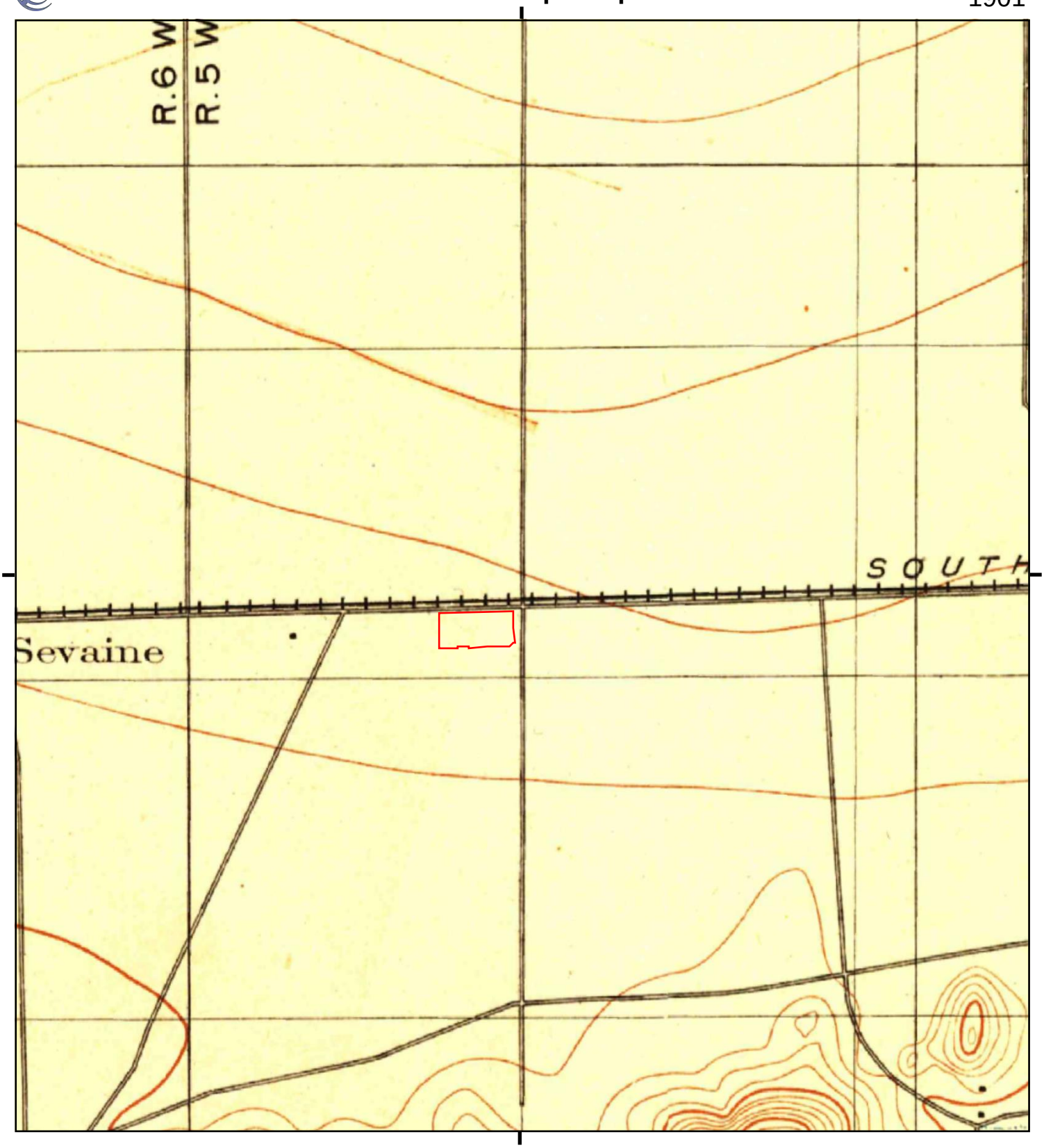
TP, San Bernardino, 1898, 15-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

1901




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

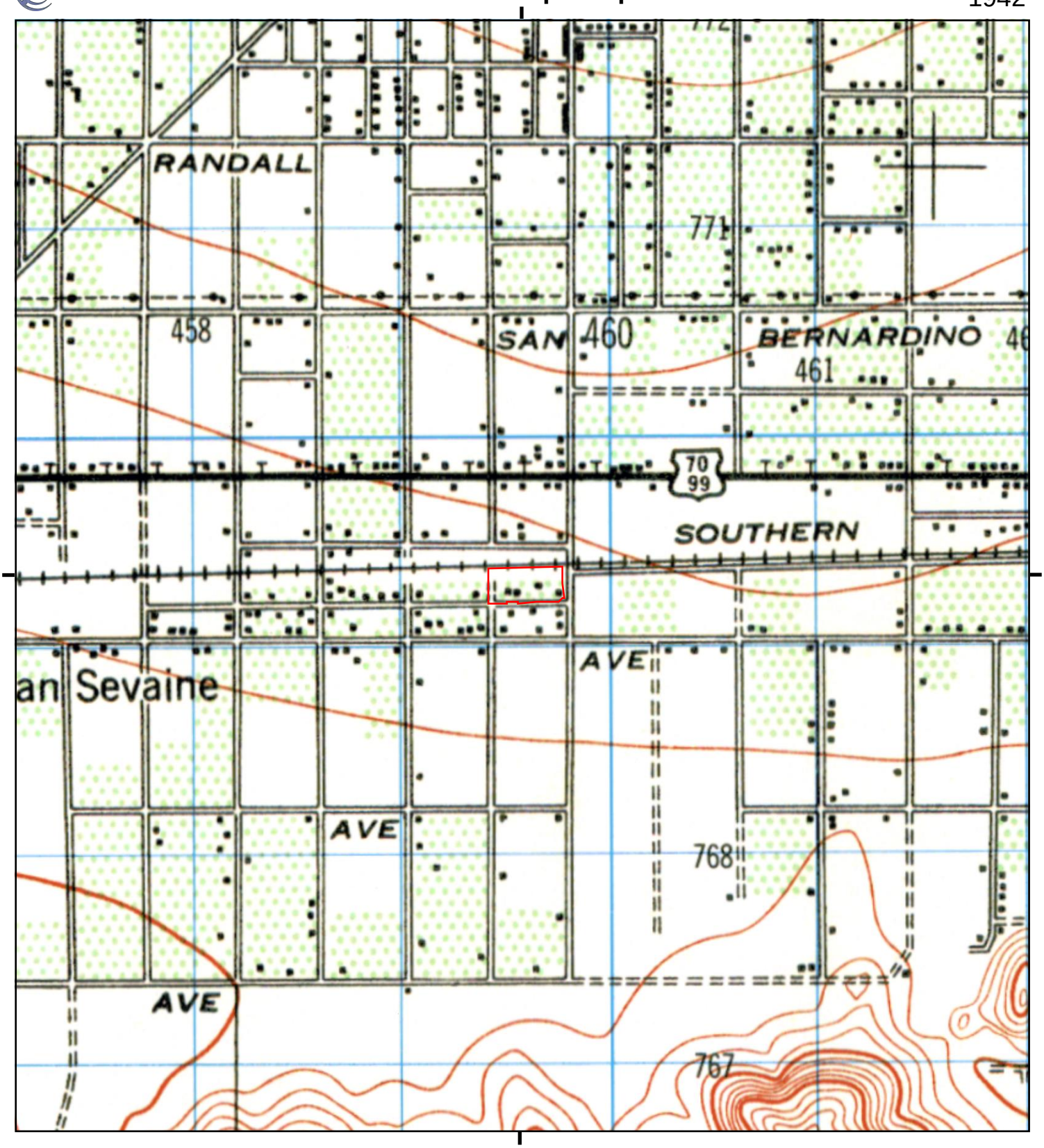
TP, San Bernardino, 1901, 15-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

1942




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

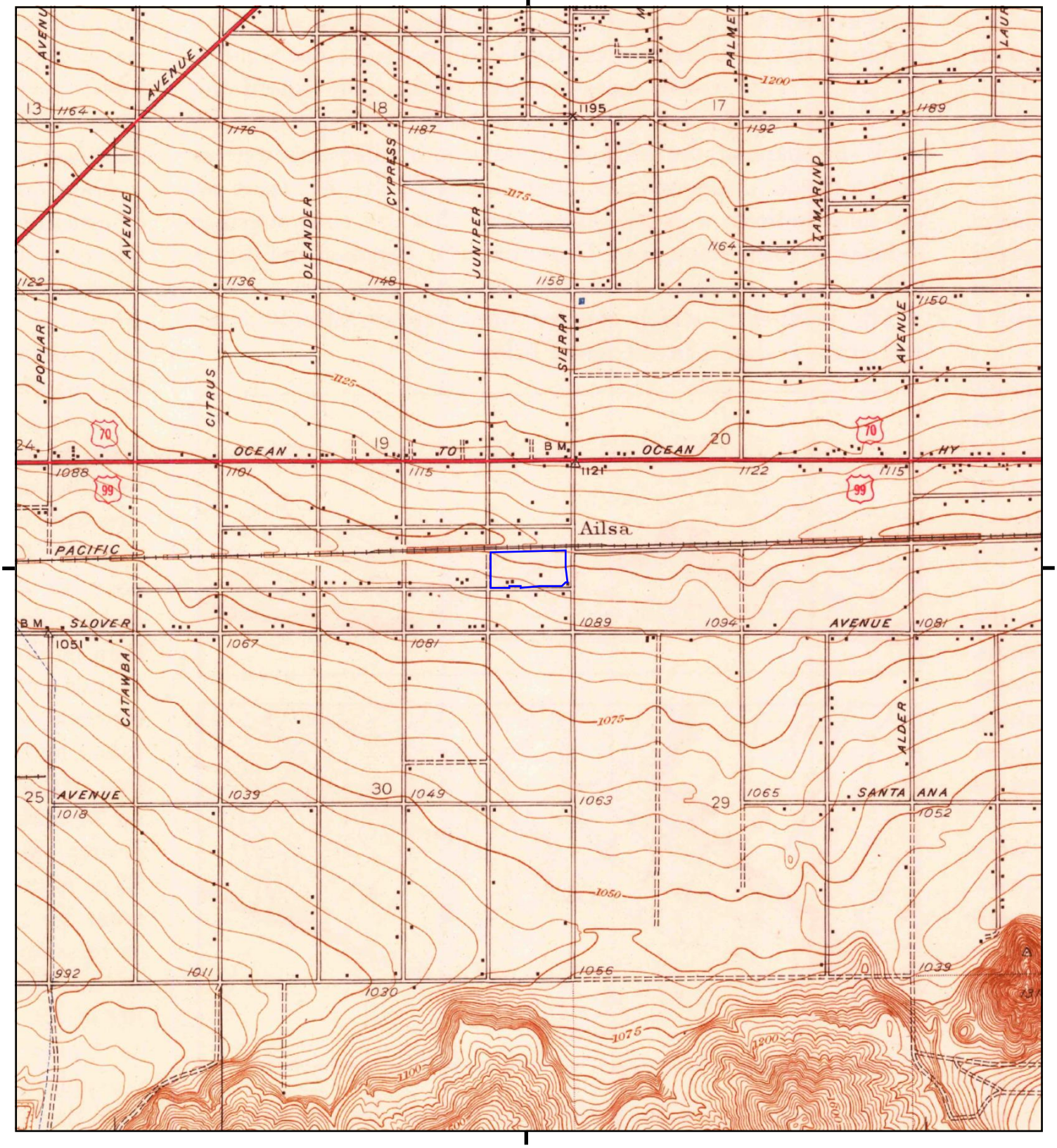
TP, SAN BERNARDINO, 1942, 15-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

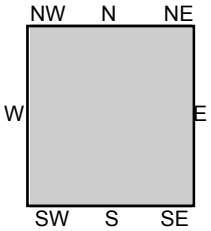
# Historical Topo Map

1943




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



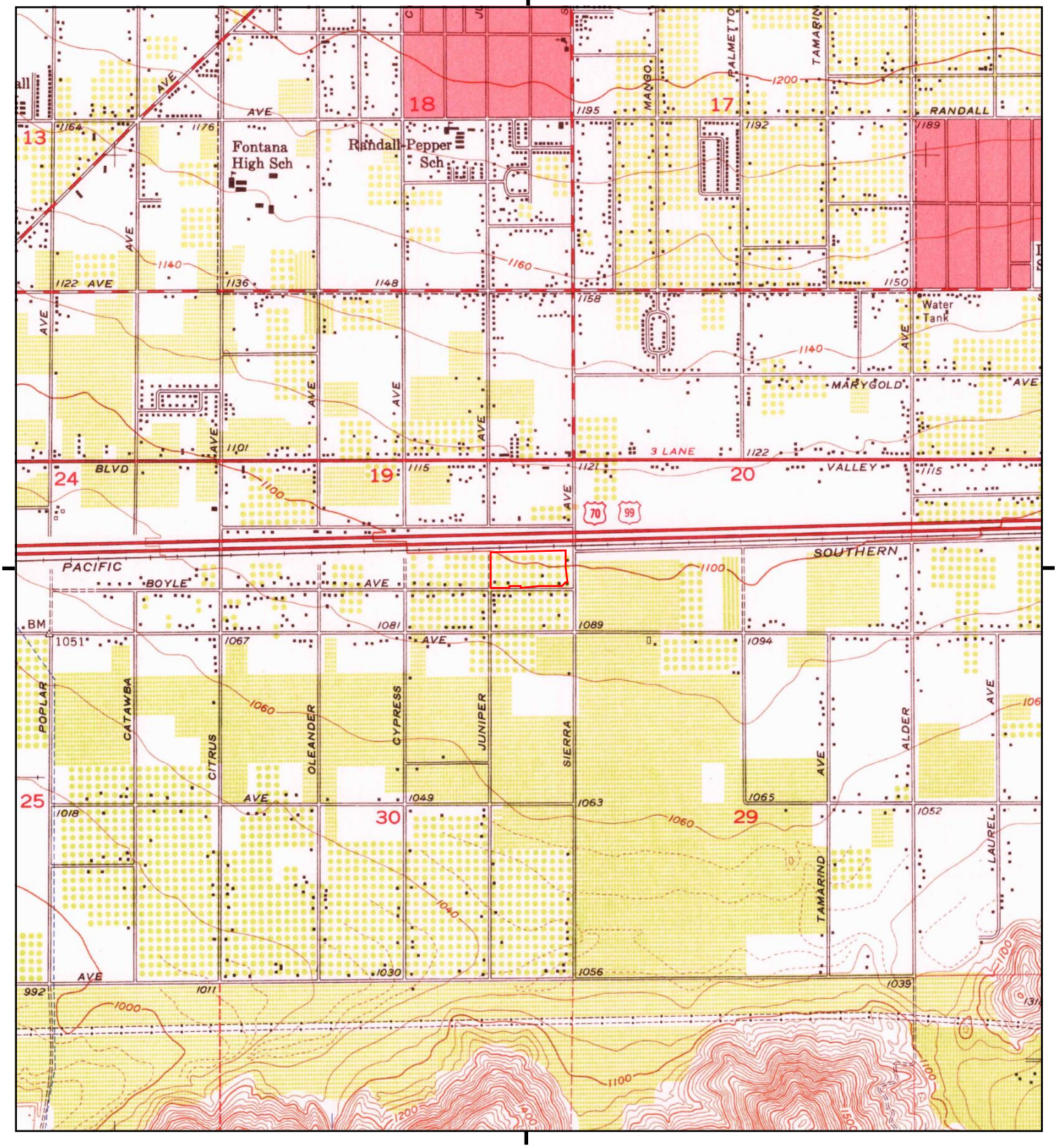

TP, Fontana, 1943, 7.5-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

1953




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

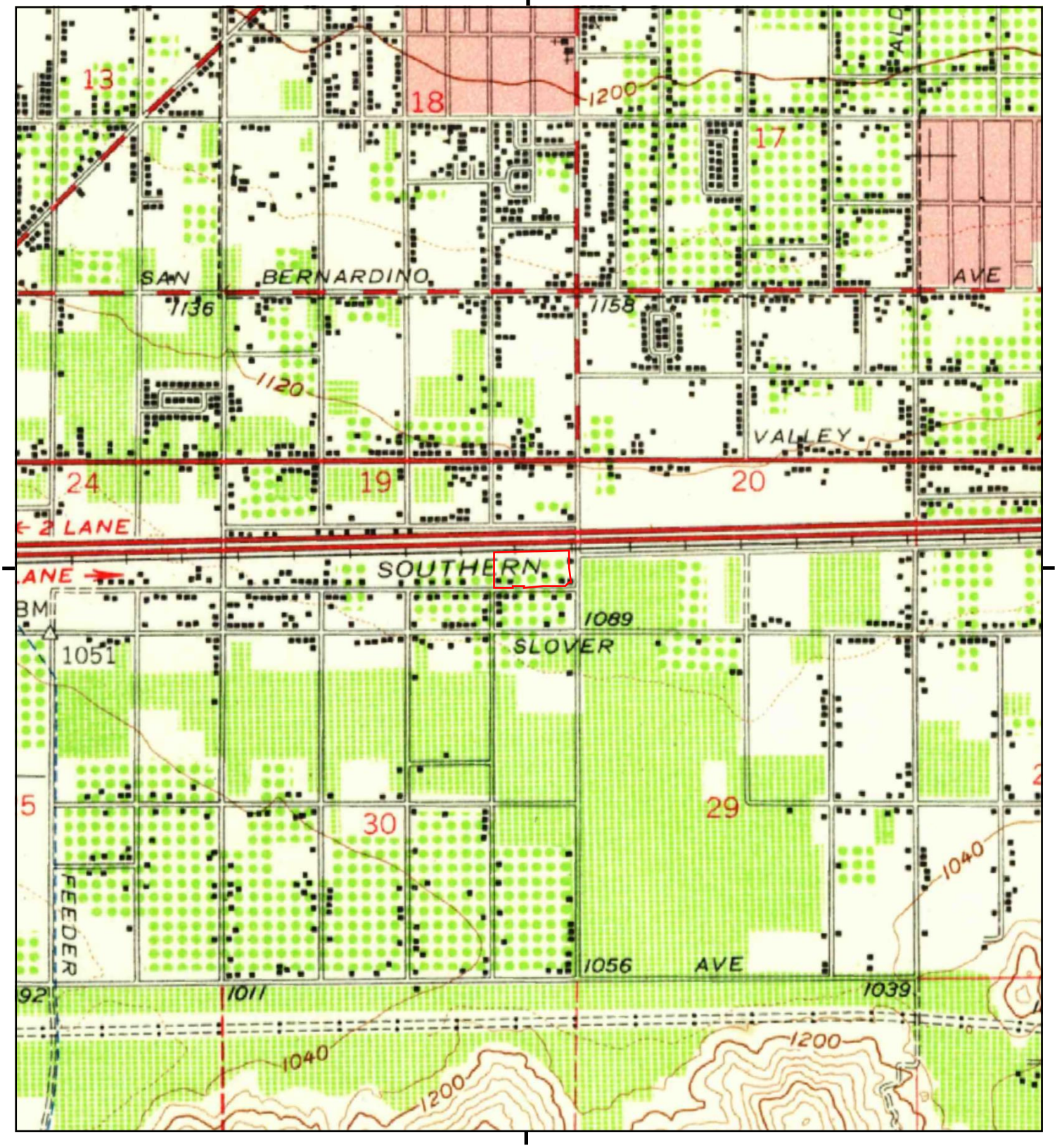
TP, Fontana, 1953, 7.5-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

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

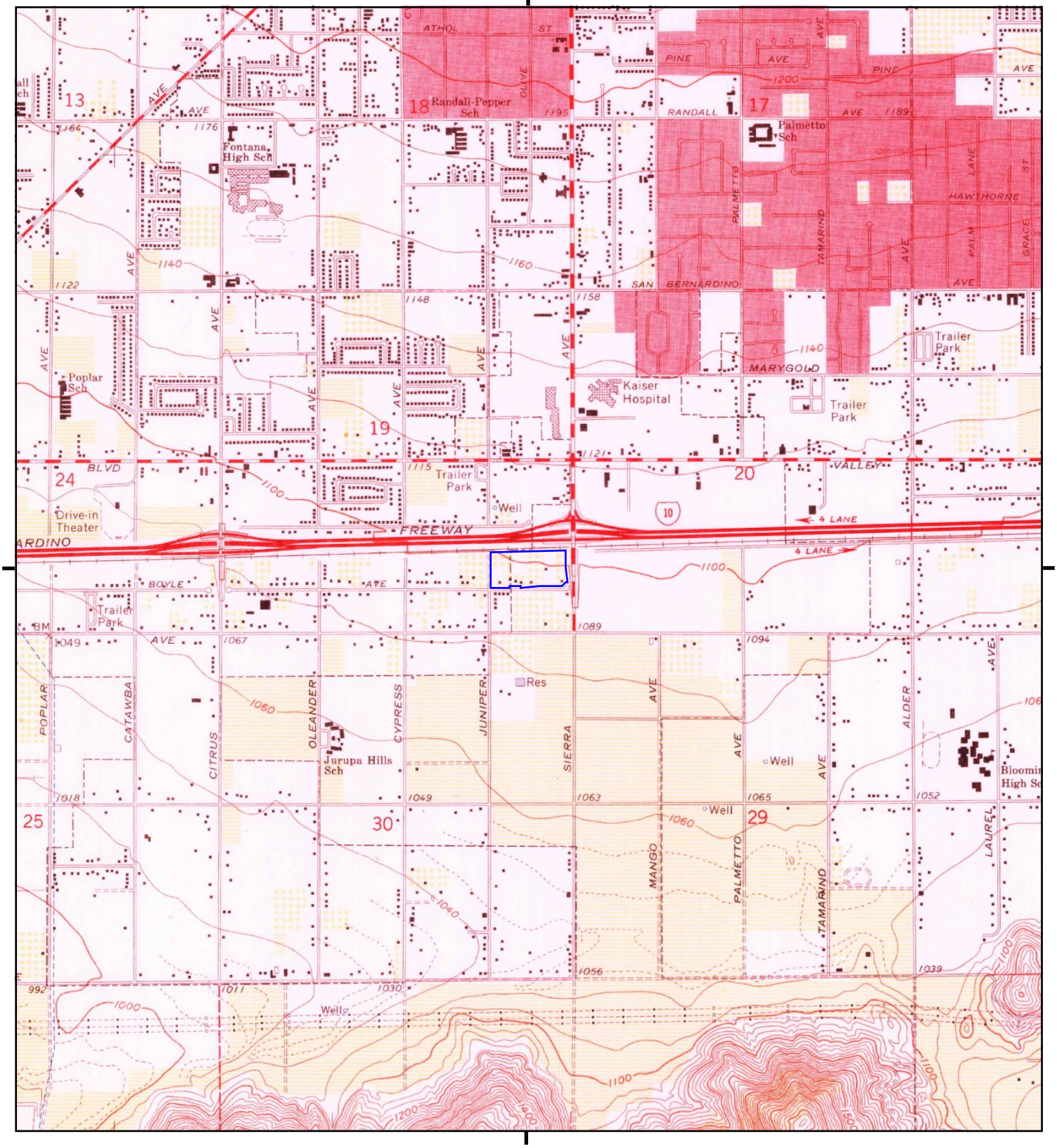
TP, San Bernardino, 1954, 15-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

1967




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

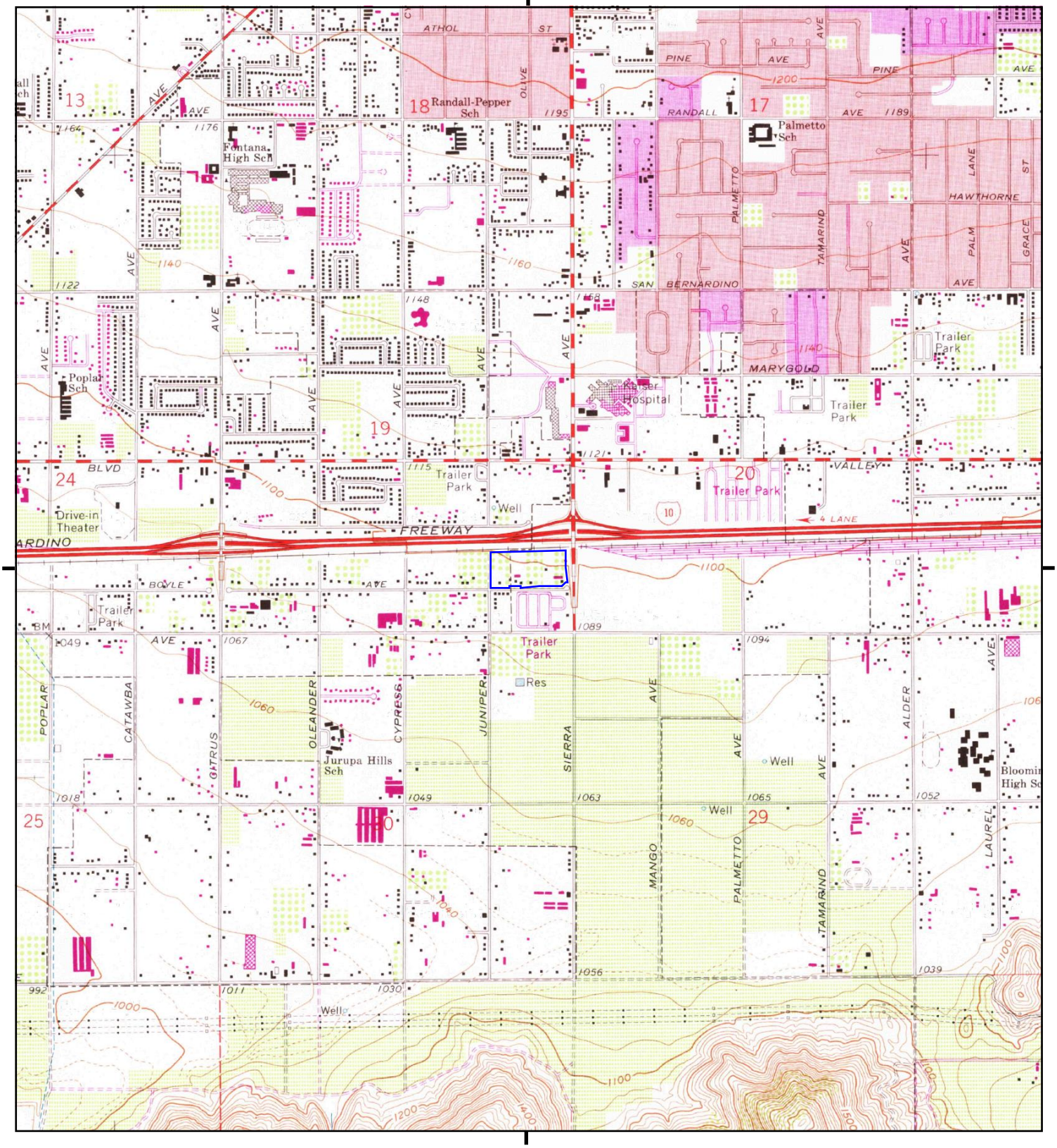
TP, Fontana, 1967, 7.5-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

1973




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

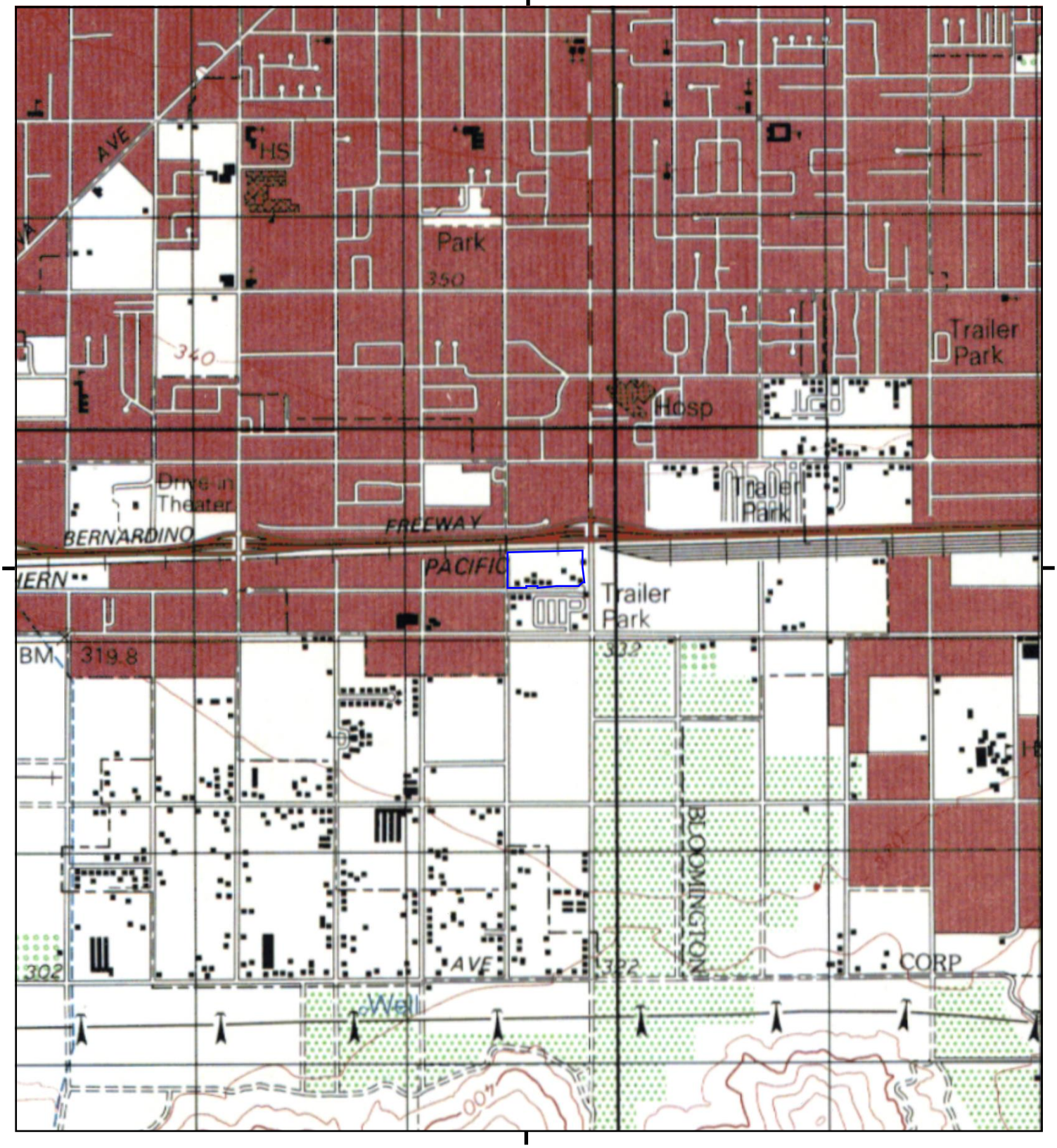
TP, Fontana, 1973, 7.5-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

1975




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

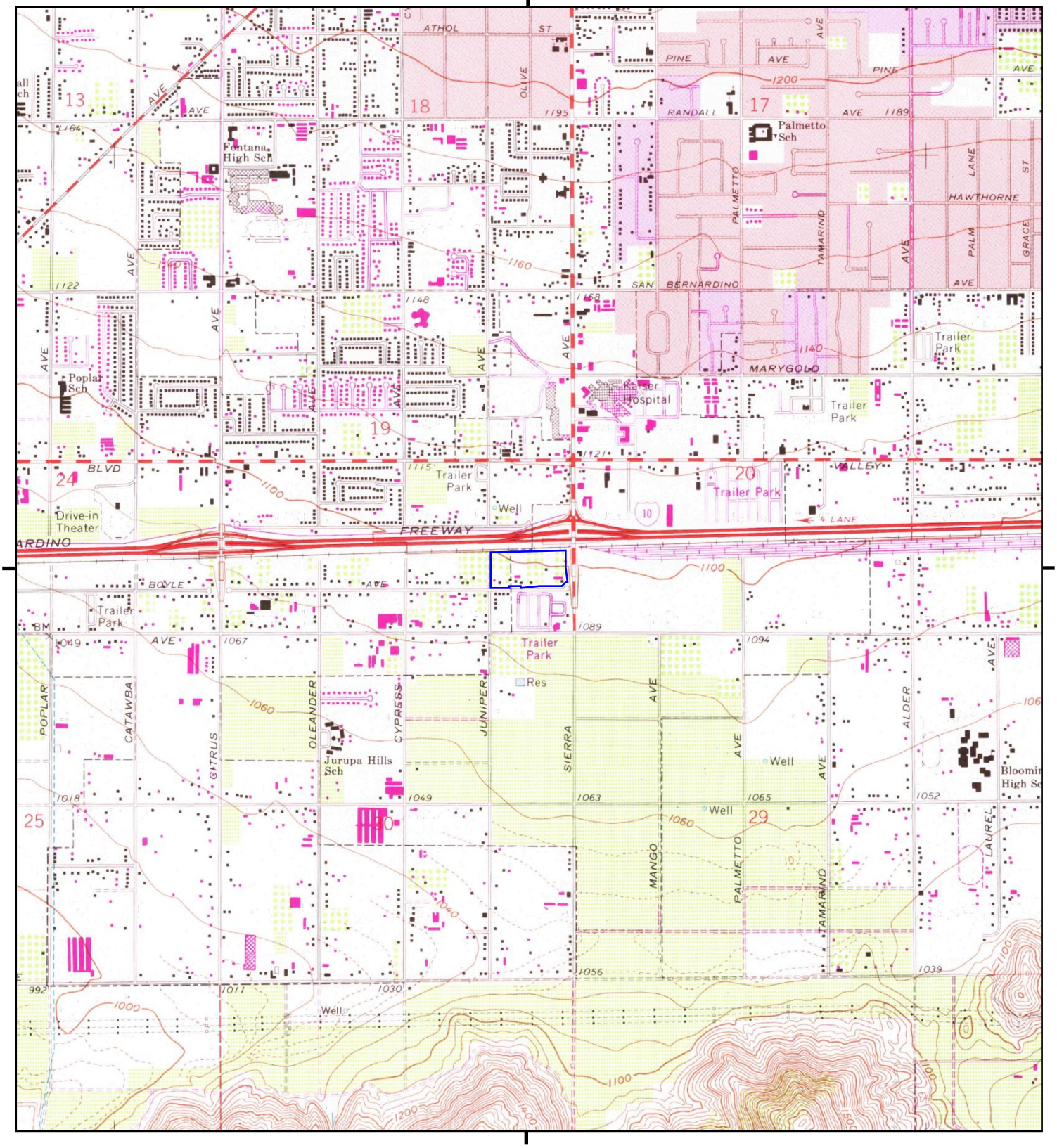
TP, SAN BERNARDINO, 1975, 15-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# Historical Topo Map

1980




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

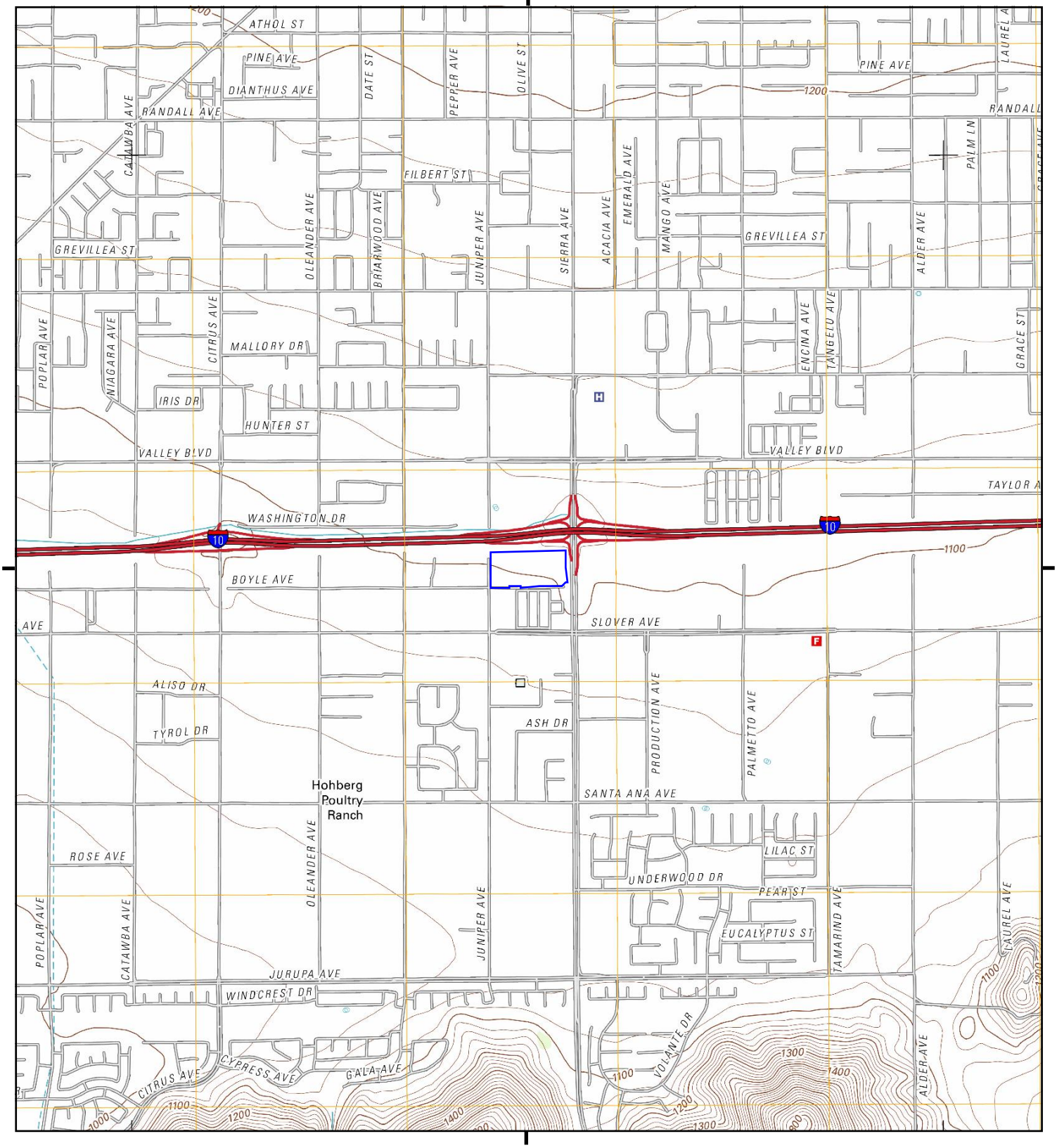
TP, Fontana, 1980, 7.5-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# 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, Fontana, 2012, 7.5-minute

SITE NAME: Transwestern Boyle Fontana
ADDRESS: 16716 - 16868 Boyle Avenue
Fontana, CA 92337
CLIENT: Avocet Environmental, Inc.

N

# *Appendix B*

*The EDR Aerial Photo Decade Package*

AVOCET
ENVIRONMENTAL, INC.

**Transwestern Boyle Fontana**

16716 - 16868 Boyle Avenue

Fontana, CA 92337

Inquiry Number: 5811754.8

October 01, 2019

# 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

10/01/19

**Site Name:**

Transwestern Boyle Fontana
16716 - 16868 Boyle Avenue
Fontana, CA 92337
EDR Inquiry # 5811754.8

**Client Name:**

Avocet Environmental, Inc.
1 Technology Drive Suite C515
Irvine, CA 92618-0000
Contact: Philip Miller

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* |
|---|---|---|---|
| 1938 | 1"=500' | Flight Date: May 27, 1938 | USDA |
| 1948 | 1"=500' | Flight Date: July 10, 1948 | USGS |
| 1953 | 1"=500' | Flight Date: January 31, 1953 | USDA |
| 1959 | 1"=500' | Flight Date: October 15, 1959 | USDA |
| 1967 | 1"=500' | Flight Date: May 15, 1967 | USDA |
| 1975 | 1"=500' | Flight Date: December 01, 1975 | USGS |
| 1985 | 1"=500' | Flight Date: September 13, 1985 | USDA |
| 1990 | 1"=500' | Flight Date: September 06, 1990 | USDA |
| 1994 | 1"=500' | Acquisition Date: January 01, 1994 | USGS/DOQQ |
| 2006 | 1"=500' | Flight Year: 2006 | USDA/NAIP |
| 2009 | 1"=500' | Flight Year: 2009 | USDA/NAIP |
| 2012 | 1"=500' | Flight Year: 2012 | USDA/NAIP |
| 2016 | 1"=500' | Flight Year: 2016 | USDA/NAIP |

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INQUIRY #: 5811754.8
YEAR: 1938
= 500'
N
EDR

INQUIRY #: 5811754.8

YEAR: 1948

= 500'

N

EDR

INQUIRY #: 5811754.8
YEAR: 1953
= 500'
N
EDR

INQUIRY #: 5811754.8

YEAR: 1959

= 500'

N

EDR

INQUIRY #: 5811754.8

YEAR: 1967

= 500'

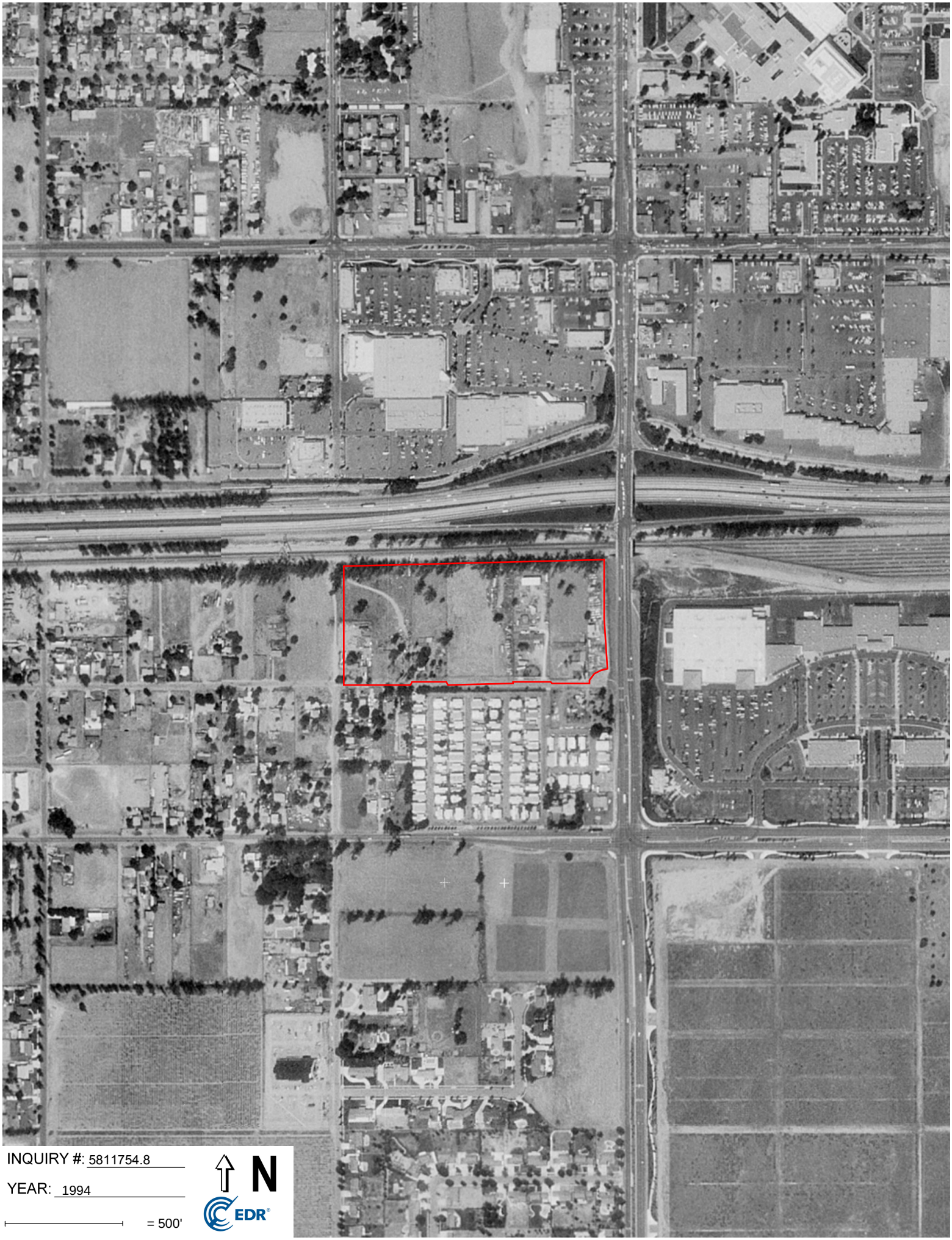
N

EDR

INQUIRY #: 5811754.8
YEAR: 1975
= 500'
N
EDR

INQUIRY #: 5811754.8
YEAR: 1985
= 500'
N
EDR

INQUIRY #: 5811754.8
YEAR: 1990
= 500'
N
EDR


INQUIRY #: 5811754.8
YEAR: 1994
= 500'
N
EDR

INQUIRY #: 5811754.8

YEAR: 2006

= 500'

N

EDR

INQUIRY #: 5811754.8

YEAR: 2006

= 500'

N

EDR

INQUIRY #: 5811754.8

YEAR: 2009

= 500'

N

EDR

INQUIRY #: 5811754.8

YEAR: 2012

= 500'

N

EDR

INQUIRY #: 5811754.8
YEAR: 2016
= 500'
N
EDR

# *Appendix C*

*Certified Sanborn® Map Report*

AVOCET
ENVIRONMENTAL, INC.

Transwestern Boyle Fontana

16716 - 16868 Boyle Avenue

Fontana, CA 92337

Inquiry Number: 5811754.3

October 01, 2019

# Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# Certified Sanborn® Map Report

10/01/19

| Site Name: | Client Name: |
|---|---|
| Transwestern Boyle Fontana | Avocet Environmental, Inc. |
| 16716 - 16868 Boyle Avenue | 1 Technology Drive Suite C515 |
| Fontana, CA 92337 | Irvine, CA 92618-0000 |
| EDR Inquiry # 5811754.3 | Contact: Philip Miller |

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Avocet Environmental, 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 #** 7B84-4052-B2FE

**PO #** 1634.001

**Project** Transwestern, Boyle, Fontana

**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 #: 7B84-4052-B2FE

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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# *Appendix D*

*The EDR-City Directory Abstract*

AVOCET
ENVIRONMENTAL, INC.

**Transwestern Boyle Fontana**
16716 - 16868 Boyle Avenue
Fontana, CA 92337

Inquiry Number: 5811754.5
October 01, 2019

# The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

# TABLE OF CONTENTS

## 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 Abstract 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 Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1922 through 2014. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

## 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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Data by
infoUSA®
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## RESEARCH SUMMARY

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.

| Year | Source | TP | Adjoining | Text Abstract | Source Image |
|---|---|---|---|---|---|
| 2014 | EDR Digital Archive | X | X | X | - |
| 2010 | EDR Digital Archive | X | X | X | - |
| 2008 | Haines Company, Inc. | - | X | X | - |
| | Haines Company, Inc. | X | X | X | - |
| 2003 | Haines & Co Publishers | - | X | X | - |
| | Haines & Co Publishers | X | X | X | - |
| 2002 | SBC PACIFIC BELL | - | X | X | - |
| 1996 | Pacific Bell | - | X | X | - |
| | Pacific Bell | X | X | X | - |
| 1995 | GTE Directories | - | - | - | - |
| 1991 | GTE California Incorporated | - | X | X | - |
| | GTE California Incorporated | X | X | X | - |

# EXECUTIVE SUMMARY

| Year | Source | TP | Adjoining | Text Abstract | Source Image |
|---|---|---|---|---|---|
| 1990 | Pacific Bell | - | X | X | - |
| | Pacific Bell | X | X | X | - |
| 1985 | GTE | - | - | - | - |
| 1981 | General Telephone Company of California | - | - | - | - |
| 1980 | GTE | - | - | - | - |
| 1975 | Pacific Telephone Co | - | X | X | - |
| | Pacific Telephone Co | X | X | X | - |
| 1970 | General Telephone Company of California | - | X | X | - |
| | General Telephone Company of California | X | X | X | - |
| 1965 | Luskey Brothers & Co | - | X | X | - |
| | Luskey Brothers & Co | X | X | X | - |
| 1964 | Luskey Brothers & Co | - | - | - | - |
| 1961 | Luskey Brothers& Co Publishers | - | - | - | - |
| 1960 | Luskey Brothers & Co Publishers | - | X | X | - |
| | Luskey Brothers & Co Publishers | X | X | X | - |
| 1956 | General Telephone Company Publishers | - | - | - | - |
| 1955 | The Pacific Telephone and Telegraph Co | - | X | X | - |
| | The Pacific Telephone and Telegraph Co | X | X | X | - |
| 1951 | Los Angeles Directory Co Publishers | - | - | - | - |
| 1950 | The Pacific Telephone and Telegraph Co | - | - | - | - |
| 1949 | San Bernardino Directory Co. Publishers | - | - | - | - |
| 1946 | Los Angeles Directory Company Publishers | - | - | - | - |
| 1945 | Southern Califronia Telephone Company | - | - | - | - |
| 1942 | San Bernardino Directory Co Publisher | - | - | - | - |
| 1941 | Associated Telephone Company Limited | - | - | - | - |
| 1940 | Los Angeles Directory Co. | - | - | - | - |
| 1938 | Los Angeles Directory Co. | - | - | - | - |
| 1936 | San Bernardino Directory Co Publisher | - | - | - | - |
| 1934 | Los Angeles Directory Co. | - | - | - | - |
| 1931 | Los Angeles Directory Co. | - | - | - | - |
| 1930 | San Bernardino Directory Co Publisher | - | - | - | - |
| 1926 | Los Angeles Directory Co. | - | - | - | - |
| 1923 | Los Angeles Directory Company | - | - | - | - |
| 1922 | R.L. Polk & Co Publishers | - | - | - | - |

# EXECUTIVE SUMMARY

## SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

| ***Address*** | ***Type*** | ***Findings*** |
|---|---|---|
| 16716 Boyle Avenue | Client Entered | X |
| 16748 Boyle Avenue | Client Entered | X |
| 16760 Boyle Avenue | Client Entered | X |
| 16796 Boyle Avenue | Client Entered | X |
| 16832 Boyle Avenue | Client Entered | X |
| 16868 Boyle Avenue | Client Entered | X |

# FINDINGS

## TARGET PROPERTY INFORMATION

### ADDRESS

16716 - 16868 Boyle Avenue
Fontana, CA 92337

### FINDINGS DETAIL

Target Property research detail.

## BOYLE

**16716 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1975 | Chamberlain Daniel R | Pacific Telephone Co |
| 1955 | Moramarco John A | The Pacific Telephone and Telegraph Co |

**16748 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1975 | Donnelly Clifford E | Pacific Telephone Co |
| 1955 | Erickson D R | The Pacific Telephone and Telegraph Co |

**16760 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1975 | Gracious Lady Service | Pacific Telephone Co |
| 1955 | Cumming Ralph W | The Pacific Telephone and Telegraph Co |

## Boyle Ave

**16716 Boyle Ave**

| Year | Uses | Source |
|---|---|---|
| 2014 | AGUIRRE ANTONIO A | EDR Digital Archive |
| | CARLOS J AGUILAR ALVAREZ | EDR Digital Archive |
| 2010 | AGUIRRE ANTONIO A | EDR Digital Archive |

## BOYLE AVE

**16716 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | AGUIRRE Antonio | Haines Company, Inc. |
| 2003 | AGUIRRE Antonio | Haines & Co Publishers |
| 1996 | Itter Kevin | Pacific Bell |

# FINDINGS

| Year | Uses | Source |
|---|---|---|
| 1991 | Etnire Helen | GTE California Incorporated |
| 1990 | Etnire Helen | Pacific Bell |
| 1965 | Bourland James A Sarah emp Kaiser Steal h | Luskey Brothers & Co |
| 1960 | AD TIGNOR V | Luskey Brothers & Co Publishers |

**16748 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | OROZCO Juan | Haines Company, Inc. |
| 2003 | OROZCO Juan | Haines & Co Publishers |
| 1965 | Peterson Jack C Wilma h | Luskey Brothers & Co |
| 1960 | J PETERSON 1 V | Luskey Brothers & Co Publishers |

## Boyle Ave

**16760 Boyle Ave**

| Year | Uses | Source |
|---|---|---|
| 2014 | MORA NANCY | EDR Digital Archive |
| | NATIONAL WOODWORKS SERVICES | EDR Digital Archive |
| | WOODLAND PALLETS CORP | EDR Digital Archive |
| 2010 | IND PALLET | EDR Digital Archive |
| | INTEGRTED PROF BUS SLTIONS INC | EDR Digital Archive |
| | NATIONAL WOODWORKS SERVICES | EDR Digital Archive |

## BOYLE AVE

**16760 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | ACOSTA J | Haines Company, Inc. |
| | IND PALLET | Haines Company, Inc. |
| 2003 | ACOSTA J | Haines & Co Publishers |
| | IND PALLET | Haines & Co Publishers |
| 1996 | IND PALLET | Pacific Bell |
| 1970 | Gracious Lady Service | General Telephone Company of California |
| 1965 | Bagley Arol N Peggy missile eng Norton AFB Sn B h | Luskey Brothers & Co |
| | Bagley Peggy J Mrs Dads Candyland r | Luskey Brothers & Co |
| | Cumming Ralph W Wilda mtemn formn Blm Sch Dist h | Luskey Brothers & Co |

# FINDINGS

**16796 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 1965 | Parra Ruth Mrs h | Luskey Brothers & Co |
| 1960 | AN BAGLEY | Luskey Brothers & Co Publishers |

**16832 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | XXXX | Haines Company, Inc. |
| 2003 | HOLUB Arnold | Haines & Co Publishers |
| 1975 | Metzermacher Arthur | Pacific Telephone Co |
| 1965 | Metzermacher Charles Katherine emp Eti Steel h | Luskey Brothers & Co |
| 1960 | L LAIRSON | Luskey Brothers & Co Publishers |

## Boyle Avenue

**16716 Boyle Avenue**

| Year | Uses | Source |
|---|---|---|
| 2008 | AGUIRRE Antonio | Haines Company, Inc. |
| 2003 | AGUIRRE Antonio | Haines & Co Publishers |
| 1996 | Itter Kevin | Pacific Bell |
| 1991 | Etnire Helen | GTE California Incorporated |
| 1990 | Etnire Helen | Pacific Bell |
| 1975 | Chamberlain Daniel R | Pacific Telephone Co |
| 1965 | Bourland James A Sarah emp Kaiser Steal h | Luskey Brothers & Co |
| 1960 | AD TIGNOR V | Luskey Brothers & Co Publishers |
| 1955 | Moramarco John A | The Pacific Telephone and Telegraph Co |

**16748 Boyle Avenue**

| Year | Uses | Source |
|---|---|---|
| 2008 | OROZCO Juan | Haines Company, Inc. |
| 2003 | OROZCO Juan | Haines & Co Publishers |
| 1975 | Donnelly Clifford E | Pacific Telephone Co |
| 1965 | Peterson Jack C Wilma h | Luskey Brothers & Co |
| 1960 | J PETERSON 1 V | Luskey Brothers & Co Publishers |
| 1955 | Erickson D R | The Pacific Telephone and Telegraph Co |

**16760 Boyle Avenue**

| Year | Uses | Source |
|---|---|---|
| 2008 | ACOSTA J | Haines Company, Inc. |
| | IND PALLET | Haines Company, Inc. |

# FINDINGS

| Year | Uses | Source |
|---|---|---|
| 2003 | ACOSTA J | Haines & Co Publishers |
| | IND PALLET | Haines & Co Publishers |
| 1996 | IND PALLET | Pacific Bell |
| 1975 | Gracious Lady Service | Pacific Telephone Co |
| 1970 | Gracious Lady Service | General Telephone Company of California |
| 1965 | Bagley Arol N Peggy missile eng Norton AFB Sn B h | Luskey Brothers & Co |
| | Bagley Peggy J Mrs Dads Candyland r | Luskey Brothers & Co |
| | Cumming Ralph W Wilda mtemn formn Blm Sch Dist h | Luskey Brothers & Co |
| 1955 | Cumming Ralph W | The Pacific Telephone and Telegraph Co |

**16796 Boyle Avenue**

| Year | Uses | Source |
|---|---|---|
| 1965 | Parra Ruth Mrs h | Luskey Brothers & Co |
| 1960 | AN BAGLEY | Luskey Brothers & Co Publishers |

**16832 Boyle Avenue**

| Year | Uses | Source |
|---|---|---|
| 2008 | XXXX | Haines Company, Inc. |
| 2003 | HOLUB Arnold | Haines & Co Publishers |
| 1975 | Metzermacher Arthur | Pacific Telephone Co |
| 1965 | Metzermacher Charles Katherine emp Eti Steel h | Luskey Brothers & Co |
| 1960 | L LAIRSON | Luskey Brothers & Co Publishers |

**16868 Boyle Avenue**

| Year | Uses | Source |
|---|---|---|
| 2008 | BALS Manfred | Haines Company, Inc. |
| | MORENO Jana | Haines Company, Inc. |
| 2003 | BALS Manfred | Haines & Co Publishers |
| | CASTILLO Salvadro | Haines & Co Publishers |
| 1996 | Castillo Salvadro | Pacific Bell |
| 1965 | Dominguez Virginia clk Kaiser Steel r | Luskey Brothers & Co |
| | Domniinguez Geo D Emmaret h | Luskey Brothers & Co |
| 1960 | RC LESLIE 1 V | Luskey Brothers & Co Publishers |
| 1955 | Leslie Raymond | The Pacific Telephone and Telegraph Co |

# FINDINGS

## ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

## BOYLE

**16625 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1955 | Mc Daniel Ralph H | The Pacific Telephone and Telegraph Co |

**16628 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1975 | Moore Thos G | Pacific Telephone Co |
| 1955 | Moore Thos G | The Pacific Telephone and Telegraph Co |

**16663 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1955 | Hathaway Warren D | The Pacific Telephone and Telegraph Co |

**16729 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1975 | Murphy Jeraul J | Pacific Telephone Co |

**16739 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1955 | Goodell J C | The Pacific Telephone and Telegraph Co |

**16749 BOYLE**

| Year | Uses | Source |
|---|---|---|
| 1955 | Gleason Chas | The Pacific Telephone and Telegraph Co |

## BOYLE AVE

**16625 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | CONIUM Ariena | Haines Company, Inc. |
| 2003 | CONIUM Arlena | Haines & Co Publishers |
| 1970 | Westendorf L C | General Telephone Company of California |
| | Westendorf L C | General Telephone Company of California |
| 1965 | Kaiser Steel h | Luskey Brothers & Co |

# FINDINGS

| Year | Uses | Source |
|---|---|---|
| 1965 | Westendorf Lawrence C Delores auto mech | Luskey Brothers & Co |
| 1960 | RH MCDANIEL a V | Luskey Brothers & Co Publishers |

**16628 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2003 | DUNN Carol | Haines & Co Publishers |
| 1991 | Dunn Les & Vina | GTE California Incorporated |
| 1990 | Dunn Les & Vina | Pacific Bell |
| 1965 | Moore Thomas G h | Luskey Brothers & Co |
| 1960 | TG MOORE 1 V | Luskey Brothers & Co Publishers |
| | TELETRONIC TV SERV a a V | Luskey Brothers & Co Publishers |

**16635 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | HEREDIA Liliana | Haines Company, Inc. |
| 2003 | CARBAJAL Antonio | Haines & Co Publishers |

**16640 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2003 | CHERO Mark | Haines & Co Publishers |
| 1965 | Fierro Ray Dolores emp Rossi Constr LA h | Luskey Brothers & Co |
| 1960 | LC WESTENDORF V | Luskey Brothers & Co Publishers |

**16644 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 1960 | VACANT | Luskey Brothers & Co Publishers |

**16645 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | URIBE Mario | Haines Company, Inc. |
| 2003 | URIBE Reyes | Haines & Co Publishers |

## Boyle Ave

**16663 Boyle Ave**

| Year | Uses | Source |
|---|---|---|
| 2014 | W&S SERVICE | EDR Digital Archive |
| | W&S SERVICE | EDR Digital Archive |
| 2010 | W&S SERVICE | EDR Digital Archive |

# FINDINGS

| Year | Uses | Source |
|---|---|---|
| 2010 | W&S SERVICE | EDR Digital Archive |

## BOYLE AVE

### 16663 BOYLE AVE

| Year | Uses | Source |
|---|---|---|
| 2008 | GONZALEZ Luis | Haines Company, Inc. |
| | BANUELOS Arturo | Haines Company, Inc. |
| 2003 | LEHMAN Gerhard | Haines & Co Publishers |
| | BERGGREN C G | Haines & Co Publishers |
| 1996 | Berggren C G | Pacific Bell |
| 1960 | WD HATHAWAY V | Luskey Brothers & Co Publishers |

### 16666 BOYLE AVE

| Year | Uses | Source |
|---|---|---|
| 2008 | PASLEY Larry | Haines Company, Inc. |
| 2003 | PASLEY Larry | Haines & Co Publishers |
| 1970 | Molzahn Tyler | General Telephone Company of California |
| 1960 | JK MANN 1 V | Luskey Brothers & Co Publishers |

### 16711 BOYLE AVE

| Year | Uses | Source |
|---|---|---|
| 2008 | TORRES Alfredo | Haines Company, Inc. |
| 2003 | TORRES Jose | Haines & Co Publishers |
| 1990 | Short Ellis M & Sidney M | Pacific Bell |
| 1960 | VACANT | Luskey Brothers & Co Publishers |

### 16715 BOYLE AVE

| Year | Uses | Source |
|---|---|---|
| 1965 | Haight Horace J Verna eectriclan Kaiser Steiel h | Luskey Brothers & Co |

### 16719 BOYLE AVE

| Year | Uses | Source |
|---|---|---|
| 2008 | STARLING Randy | Haines Company, Inc. |
| 2003 | LOPEZ Anthony | Haines & Co Publishers |
| 1996 | Lopez Anthony S Sr | Pacific Bell |
| 1990 | Lopez Anthony S Sr | Pacific Bell |
| 1970 | Smith Eric | General Telephone Company of California |
| 1965 | Ternes Harold L Donna lab Kaiser Steel h | Luskey Brothers & Co |
| 1960 | MJ TERNES | Luskey Brothers & Co Publishers |

# FINDINGS

**16729 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | MURPHY Jeraul | Haines Company, Inc. |
| 2003 | MURPHY Jeraul J | Haines & Co Publishers |
| 1996 | Murphy Jeraul J | Pacific Bell |
| 1991 | Murphy Jeraul J | GTE California Incorporated |
| 1990 | Murphy Jeraul J | Pacific Bell |
| 1970 | Murphy Jeraul J | General Telephone Company of California |
| 1965 | Murphy Jeraul J Jane leadmn Pac Forge h | Luskey Brothers & Co |
| 1960 | JJ MURPHY | Luskey Brothers & Co Publishers |

**16739 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | RODRIGUEZ Sergio | Haines Company, Inc. |
| 2003 | RODRIGUEZ Sergio | Haines & Co Publishers |
| 1960 | JC GOODELL | Luskey Brothers & Co Publishers |

**16745 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | CASTELLANOS Luis | Haines Company, Inc. |
| 2003 | CASTELLANOS Luis | Haines & Co Publishers |
| 1991 | Navarro Martha | GTE California Incorporated |
| 1990 | Navarro Martha | Pacific Bell |

**16749 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 1960 | VACANT | Luskey Brothers & Co Publishers |

**16795 BOYLE AVE**

| Year | Uses | Source |
|---|---|---|
| 1960 | VACANT | Luskey Brothers & Co Publishers |

## JUNIPER

**10232 JUNIPER**

| Year | Uses | Source |
|---|---|---|
| 1955 | Thompson R V | The Pacific Telephone and Telegraph Co |

**10420 JUNIPER**

| Year | Uses | Source |
|---|---|---|
| 1975 | Ellis Lytle | Pacific Telephone Co |

| Year | Uses | Source |
|---|---|---|
| 1955 | Ellis Lytle | The Pacific Telephone and Telegraph Co |

**10437 JUNIPER**

| Year | Uses | Source |
|---|---|---|
| 1975 | Henry John S | Pacific Telephone Co |

**10462 JUNIPER**

| Year | Uses | Source |
|---|---|---|
| 1975 | Ferguson Wm H | Pacific Telephone Co |

## JUNIPER AV FORM

**10429 JUNIPER AV FORM**

| Year | Uses | Source |
|---|---|---|
| 1965 | Bryant James E Ada ship clk Otos Instrmnt Serv Ont h | Luskey Brothers & Co |

## JUNIPER AV FORT

**10232 JUNIPER AV FORT**

| Year | Uses | Source |
|---|---|---|
| 1965 | Rosen Sam h | Luskey Brothers & Co |

## Juniper Ave

**10210 Juniper Ave**

| Year | Uses | Source |
|---|---|---|
| 2010 | PANCHO VILLAS RESTAURANT | EDR Digital Archive |
| | FRANCISCO JJARA | EDR Digital Archive |
| | JAVA MEXICAN FOOD INC | EDR Digital Archive |
| | PANCHO VILLAS RESTAURANT | EDR Digital Archive |
| | FRANCISCO JJARA | EDR Digital Archive |
| | JAVA MEXICAN FOOD INC | EDR Digital Archive |

## JUNIPER AVE

**10210 JUNIPER AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | PANCHO VILLAS RESTAURANT | Haines Company, Inc. |
| | PANCHO VILLAS HOME MARIACHI | Haines Company, Inc. |
| 2003 | PANCHO VILLAS HOME MARIACHI | Haines & Co Publishers |

# FINDINGS

| Year | Uses | Source |
|---|---|---|
| 2002 | RESTAURANT | SBC PACIFIC BELL |
| | PANCHO VILLAS | SBC PACIFIC BELL |
| 1996 | COUNTRY HARVEST BUFFET | Pacific Bell |

**10232 JUNIPER AVE**

| Year | Uses | Source |
|---|---|---|
| 2003 | XXXX | Haines & Co Publishers |
| 1991 | Warner F X | GTE California Incorporated |
| 1990 | Warner F X | Pacific Bell |

**10272 JUNIPER AVE**

| Year | Uses | Source |
|---|---|---|
| 2003 | N P R A | Haines & Co Publishers |

## Juniper Ave

**10420 Juniper Ave**

| Year | Uses | Source |
|---|---|---|
| 2014 | SAUCEDO TRANSPORT INC | EDR Digital Archive |
| | SAUCEDO TRANSPORT INC | EDR Digital Archive |
| 2010 | SAUCEDO TRANSPORT INC | EDR Digital Archive |
| | SAUCEDO TRANSPORT INC | EDR Digital Archive |

## JUNIPER AVE

**10420 JUNIPER AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | STANBROOK Robert | Haines Company, Inc. |
| | TURNER L | Haines Company, Inc. |
| 2003 | GONZALEZ Raul | Haines & Co Publishers |
| 1965 | Ellis Lytle OZell emp Kaiser Steel h | Luskey Brothers & Co |
| | Ellis Ozell Mrs tchr Mother Goose Manor r | Luskey Brothers & Co |
| | Hathaway Jess E ret r | Luskey Brothers & Co |

**10429 JUNIPER AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | MAGALLANES Sergio | Haines Company, Inc. |
| 2003 | MEJIA Hector | Haines & Co Publishers |

# FINDINGS

**10437 JUNIPER AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | RODRIGUEZ Juan | Haines Company, Inc. |
| 1965 | Henry John S Eloisewldr Norton AFB h | Luskey Brothers & Co |

**10447 JUNIPER AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | BARRETO Francisco | Haines Company, Inc. |
| 2003 | BARRETO Francisco | Haines & Co Publishers |

**10462 JUNIPER AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | ESTEVEZ Guillermina | Haines Company, Inc. |
| | BILLMAM Lily | Haines Company, Inc. |
| 2003 | CASTILLO Juan | Haines & Co Publishers |
| | AGRAZ Esther | Haines & Co Publishers |
| 2002 | Agraz E | SBC PACIFIC BELL |

## JUNIPER FONR

**10232 JUNIPER FONR**

| Year | Uses | Source |
|---|---|---|
| 1975 | Warner Francis X Sr | Pacific Telephone Co |

## JUNIPERO TRL

**10232 JUNIPERO TRL**

| Year | Uses | Source |
|---|---|---|
| 1970 | Sauceda Delia | General Telephone Company of California |

**10420 JUNIPERO TRL**

| Year | Uses | Source |
|---|---|---|
| 1970 | Ell Is Lytle | General Telephone Company of California |

**10437 JUNIPERO TRL**

| Year | Uses | Source |
|---|---|---|
| 1970 | Henry John S | General Telephone Company of California |

**10462 JUNIPERO TRL**

| Year | Uses | Source |
|---|---|---|
| 1970 | Ferguson Wm H | General Telephone Company of California |
| | Ferguson Beverly | General Telephone Company of California |

# FINDINGS

## S LOVER AVE

**16762 S LOVER AVE**

| Year | Uses | Source |
|---|---|---|
| 1965 | Mc Kenzie Eugene L Charlotte cab dr Yellow Cab Sn B h | Luskey Brothers & Co |

## SLOVER AVE

**16726 SLOVER AVE**

| Year | Uses | Source |
|---|---|---|
| 2008 | BRYAN Robert | Haines Company, Inc. |
| 2003 | BRYAN Robert | Haines & Co Publishers |

# FINDINGS

## ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

| Address Researched | Address Not Identified in Research Source |
|---|---|
| 10210 JUNIPER AVE | 2014, 2010, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10210 Juniper Ave | 2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10210 Juniper Ave | 2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10232 JUNIPER | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10232 JUNIPER AV FORT | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10232 JUNIPER AVE | 2014, 2010, 2008, 2002, 1996, 1995, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10232 JUNIPER FONR | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10232 JUNIPERO TRL | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10272 JUNIPER AVE | 2014, 2010, 2008, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10420 JUNIPER | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1970, 1965, 1964, 1961, 1960, 1956, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10420 JUNIPER AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10420 Juniper Ave | 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10420 Juniper Ave | 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10420 JUNIPERO TRL | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10429 JUNIPER AV FORM | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |

# FINDINGS

| Address Researched | Address Not Identified in Research Source |
|---|---|
| 10429 JUNIPER AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10437 JUNIPER | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10437 JUNIPER AVE | 2014, 2010, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10437 JUNIPERO TRL | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10447 JUNIPER AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10462 JUNIPER | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10462 JUNIPER AVE | 2014, 2010, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 10462 JUNIPERO TRL | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16625 BOYLE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16625 BOYLE AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16628 BOYLE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1970, 1965, 1964, 1961, 1960, 1956, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16628 BOYLE AVE | 2014, 2010, 2008, 2002, 1996, 1995, 1985, 1981, 1980, 1975, 1970, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16635 BOYLE AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16640 BOYLE AVE | 2014, 2010, 2008, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16644 BOYLE AVE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16645 BOYLE AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16663 BOYLE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |

# FINDINGS

| Address Researched | Address Not Identified in Research Source |
|---|---|
| 16663 BOYLE AVE | 2014, 2010, 2002, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16663 Boyle Ave | 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16663 Boyle Ave | 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16666 BOYLE AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1965, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16711 BOYLE AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16715 BOYLE AVE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16719 BOYLE AVE | 2014, 2010, 2002, 1995, 1991, 1985, 1981, 1980, 1975, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16726 SLOVER AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16729 BOYLE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16729 BOYLE AVE | 2014, 2010, 2002, 1995, 1985, 1981, 1980, 1975, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16739 BOYLE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16739 BOYLE AVE | 2014, 2010, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16745 BOYLE AVE | 2014, 2010, 2002, 1996, 1995, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16749 BOYLE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16749 BOYLE AVE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16762 S LOVER AVE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |
| 16795 BOYLE AVE | 2014, 2010, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |

## TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

| Address Researched | Address Not Identified in Research Source |
| --- | --- |
| 16716 - 16868 Boyle Avenue | 2002, 1995, 1985, 1981, 1980, 1964, 1961, 1956, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922 |

# *Appendix E*

*Site Photographs*

AVOCET
ENVIRONMENTAL, INC.

E-1. Looking north along west side of single-family residence at 16716 Boyle Avenue (Parcel 1) with entrance to fenced northern storage area in background (10/15/2019).

E-2. Looking north at single-family residence at 16716 Boyle Avenue (Parcel 1) with Boyle Avenue in foreground (10/15/2019).

E-3. Looking east into fenced northern storage yard at 16716 Boyle Avenue (Parcel 1) with shipping containers against rear (eastern) fence line (10/15/2019).

E-4. Looking north into fenced northern storage yard at 16716 Boyle Avenue (Parcel 1) with trees on Parcel 2 in background (10/15/2019).

E-5. Looking southeast at boarded up residence at 16748 Boyle Avenue (Parcel 2) (10/15/2019).

E-6. Looking south across Parcel 2 (16748 Boyle Avenue), with boarded up residence in background left and Rodriguez Pallets behind block wall at left (10/15/2019).

E-7. Looking northeast across Parcel 2 (16748 Boyle Avenue) with Rodriguez Pallets behind block wall in background (10/15/2019).

E-8. Looking south at mobile/trailer home on Parcel 2 (16748 Boyle Avenue), with fenced storage yard on Parcel 1 in background (10/15/2019).

E-9. Looking south at mobile/trailer home on Parcel 2 (16748 Boyle Avenue), with trash accumulation in foreground (10/15/2019).

E-10. Looking north across Parcel 2 (16748 Boyle Avenue) from boarded up residence with Rodriguez Pallets behind block wall in background right (10/15/2019).

E-11. Looking north at Parcel 4, 16796 Boyle Avenue, with large wind break trees in background (10/15/2019).

E-12. Looking northeast at plastic pallet next to large wind break tree at Parcel 4, 16796 Boyle Avenue, with Rodriguez Pallet facility in background (10/15/2019).

E-13. Looking south over Parcel 4, 16796 Boyle Avenue, with debris in foreground and mobile home park in background (10/15/2019).

E-14. Looking northwest at scrap wood accumulation on Parcel 4, 16796 Boyle Avenue, that has spilled over from scrap wood bin on adjoining Rodriguez Pallet facility (10/15/2019).

E-15. Looking west at debris inside western boundary of Parcel 4, 16796 Boyle Avenue (10/15/2019).

E-16. Empty motor oil container with surrounding, de minimis, spill on Parcel 4, 16796 Boyle Avenue (10/15/2019).

E-17. Looking south at debris near center of Parcel 4, 16796 Boyle Avenue (10/15/2019).

E-18. Looking south at concrete debris inside norther boundary of Parcel 4, 16796 Boyle Avenue (10/15/2019).

E-19. Looking southwest at rear of residence on Parcel 5, 16832 Boyle Avenue (10/15/2019).

E-20. Looking southwest at commercial structure on Parcel 5, 16832 Boyle Avenue, with backhoe enclosure and single-family residence in background (10/15/2019).

E-21. Looking northwest at commercial structure on Parcel 5, 16832 Boyle Avenue, with slabs of stone in foreground (10/15/2019).

E-22. Looking southeast at discarded stone-cutting and related equipment south of commercial structure on Parcel 5, 16832 Boyle Avenue (10/15/2019).

E-23. Looking northeast at concrete pad north of commercial structure on Parcel 5, 16832 Boyle Avenue, with modular building on Parcel 6 in background (10/15/2019).

E-24. Used motor oil inside western boundary of Parcel 5, 16832 Boyle Avenue (10/15/2019).

E-25. Looking north into storage yard at Parcel 6, 16868 Boyle Avenue, Mr. Guzman's office trailer at right (10/15/2019).

E-26. Looking east at south end of Mr. Guzman's office trailer at Parcel 6, 16868 Boyle Avenue, with single-family residence in background (10/15/2019).

E-27. Looking west across Parcel 6, 16868 Boyle Avenue, with stored items in middle ground and single-family residence at Parcel 5 in background (10/15/2019).

E-28. Looking southeast at modular buildings in storage at Parcel 6, 16868 Boyle Avenue, with Sierra Avenue embankment in background (10/15/2019).

E-29. Looking east at pickup truck parts and bathtub in storage at Parcel 6, 16868 Boyle Avenue, with Sierra Avenue embankment in background (10/15/2019).

E-30. Looking southwest at items in storage at Parcel 6, 16868 Boyle Avenue, with single-family residence at Parcel 5 in background (10/15/2019).

E-31. Looking east at stored items on Parcel 6, 16868 Boyle Avenue, with Sierra Avenue embankment in background (10/15/2019).

E-32. *De minimis* oil stains on Parcel 6, 16868 Boyle Avenue (10/15/2019).

E-33. Looking southwest at wooded garage on Parcel 6, 16868 Boyle Avenue, with camper shell and other stored items visible (10/15/2019).

E-34. Looking east at garage (at left) and auto workshop (at right) on Parcel 6, 16868 Boyle Avenue (10/15/2019).

E-35. Auto shop beneath canopy at Parcel 6, 16868 Boyle Avenue (10/15/2019).

E-36. Interior of auto shop at Parcel 6, 16868 Boyle Avenue (10/15/2019).

E-37. Looking north across Parcel 7 (APN 019338101) with Parcel 6 at left and Sierra Avenue embankment at right (10/15/2019).

E-38. Sheet metal debris on Parcel 7 (APN 019338101) (10/15/2019).

E-39. Looking south at power poles at south end of Parcel 7 (APN 019338101) with Boyle Avenue and mobile home park in background (10/15/2019).

E-40. Ponded irrigation runoff on Parcel 7 (APN 019338101), with concrete drainage channel and Sierra Avenue embankment in middle ground (10/15/2019).

# *Appendix F*

*The EDR Radius Map™ Report with GeoCheck®*

AVOCET
ENVIRONMENTAL, INC.

**Transwestern Boyle Fontana**
16716 - 16868 Boyle Avenue
Fontana, CA 92337

Inquiry Number: 5811754.2s
October 02, 2019

# 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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## 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**

16716 - 16868 BOYLE AVENUE
FONTANA, CA 92337

**COORDINATES**

| | |
|---|---|
| Latitude (North): | 34.0657720 - 34˚ 3' 56.77'' |
| Longitude (West): | 117.4380370 - 117˚ 26' 16.93'' |
| Universal Tranverse Mercator: | Zone 11 |
| UTM X (Meters): | 459578.4 |
| UTM Y (Meters): | 3769340.5 |
| Elevation: | 1101 ft. above sea level |

**USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY**

| | |
|---|---|
| Target Property Map: | 5619058 FONTANA, CA |
| Version Date: | 2012 |

**AERIAL PHOTOGRAPHY IN THIS REPORT**

| | |
|---|---|
| Portions of Photo from: | 20140603 |
| Source: | USDA |

## MAPPED SITES SUMMARY

Target Property Address:
16716 - 16868 BOYLE AVENUE
FONTANA, CA 92337

Click on Map ID to see full detail.

| MAP ID | SITE NAME | ADDRESS | DATABASE ACRONYMS | RELATIVE ELEVATION | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|---|
| A1 | AGUIRRE TRUCKING | 16716 BOYLE AVENUE | HWT | | TP |
| A2 | WOODLAND PALLETS | 16760 BOYLE AVE | FINDS | | TP |
| A3 | WOODLAND PALLETS | 16760 BOYLE AVE | San Bern. Co. Permit, CERS | | TP |
| A4 | AGUIRRE TRUCKING | 16716 BOYLE AVE | FINDS, ECHO | | TP |
| A5 | AGUIRRE TRUCKING | 16716 BOYLE AVE | RCRA NonGen / NLR | | TP |
| B6 | CVS PHARMACY #16187 | 16964 SLOVER AVE STE | RCRA-VSQG, FINDS, ECHO | Lower | 520, 0.098, ESE |
| B7 | CVS PHARMACY #16187 | 16964 SLOVER AVE STE | CERS HAZ WASTE, HAZNET, San Bern. Co. Permit, CERS | Lower | 520, 0.098, ESE |
| B8 | T0660 | 16964 SLOVER AVE | RCRA-LQG | Lower | 520, 0.098, ESE |
| B9 | TARGET STORE T0660 | 16964 SLOVER AVE | RCRA-LQG | Lower | 520, 0.098, ESE |
| C10 | CIRCLE K STORE#5233 | 16880 SLOVER AVE | LUST, San Bern. Co. Permit, CERS | Lower | 647, 0.123, SSE |
| C11 | STOP 'N GO MARKETS | 16880 SLOVER AVE | HIST UST | Lower | 647, 0.123, SSE |
| C12 | CIRCLE K STORE#5233 | 16880 SLOVER AVE | LUST, SWEEPS UST, HIST UST, CA FID UST, HIST... | Lower | 647, 0.123, SSE |
| D13 | DEL TACO #1071 | 16805 SLOVER AVE | San Bern. Co. Permit | Lower | 905, 0.171, South |
| D14 | SIERRA EM CHEVRON | 10510 SIERRA AVE | CERS HAZ WASTE, CERS TANKS, San Bern. Co. Permit,... | Lower | 912, 0.173, SSE |
| D15 | M KLAS INC DBA SIERR | 10510 SIERRA AVE | RCRA NonGen / NLR | Lower | 912, 0.173, SSE |
| D16 | SIERRA EM CHEVRON | 10510 SIERRA AVE | UST | Lower | 912, 0.173, SSE |
| E17 | PEP BOYS #680 | 16711 VALLEY BLVD | CERS HAZ WASTE, FINDS, San Bern. Co. Permit, CERS | Higher | 1008, 0.191, NNW |
| E18 | PEP BOYS STORE#0680 | 16711 VALLEY BLVD | RCRA NonGen / NLR | Higher | 1008, 0.191, NNW |
| F19 | FOOD 4 LESS #389 | 16991 VALLEY BLVD | RCRA NonGen / NLR | Higher | 1028, 0.195, NE |
| F20 | FOOD 4 LESS #389 | 16991 VALLEY BLVD | CERS HAZ WASTE, San Bern. Co. Permit, CERS | Higher | 1028, 0.195, NE |
| G21 | WESTERN DENTAL SERVI | 10144 SIERRA AVE | RCRA NonGen / NLR | Higher | 1083, 0.205, NNE |
| G22 | WESTERN DENTAL | 10144 SIERRA AVE | CERS HAZ WASTE, HAZNET, San Bern. Co. Permit, CERS | Higher | 1083, 0.205, NNE |
| 23 | MCGUIRE CONTRACTING | 16579 SLOVER AVENUE | RCRA NonGen / NLR | Lower | 1121, 0.212, SW |
| H24 | BATH & BODY WORKS #1 | 17030 SLOVER AVE STE | CERS HAZ WASTE, HAZNET, San Bern. Co. Permit, CERS | Lower | 1130, 0.214, ESE |
| H25 | BATH & BODY WORKS #1 | 17030 SLOVER AVE STE | RCRA NonGen / NLR | Lower | 1130, 0.214, ESE |
| I26 | O'REILLY AUTO PARTS | 10560 SIERRA AVE | CERS HAZ WASTE, San Bern. Co. Permit, CERS | Lower | 1235, 0.234, SSE |
| I27 | OREILLY AUTO PARTS S | 10560 SIERRA AVE | RCRA NonGen / NLR | Lower | 1235, 0.234, SSE |
| J28 | SIERRA FUEL INC | 10115 SIERRA AVE | HAZNET, San Bern. Co. Permit | Higher | 1276, 0.242, NNE |
| J29 | SIERRA VALERO INC | 10115 SIERRA AVE | RCRA NonGen / NLR | Higher | 1276, 0.242, NNE |
| J30 | EXXON SERVICE STATIO | 10115 SIERRA AVE | SWEEPS UST, CA FID UST | Higher | 1276, 0.242, NNE |
| J31 | VALLEY TEXACO | 10115 SIERRA AVE | UST | Higher | 1276, 0.242, NNE |
| J32 | EXXON SERVICE STATIO | 10115 SIERRA AVE | HIST UST | Higher | 1276, 0.242, NNE |
| J33 | TEXACO SERVICE STATI | 10115 SIERRA AVE | RCRA-SQG, LUST, FINDS, ECHO, HAZNET | Higher | 1276, 0.242, NNE |
| J34 | TEXACO SERVICE STATI | 10115 SIERRA | LUST, CERS HAZ WASTE, CERS TANKS, HIST CORTESE,... | Higher | 1276, 0.242, NNE |
| K35 | ACT COMPLIANCE DBA F | 16516 WASHINGTON DR | RCRA NonGen / NLR | Higher | 1289, 0.244, WNW |
| K36 | ACT COMPLIANCE DBA F | 16516 WASHINGTON DR | CERS HAZ WASTE, HAZNET, San Bern. Co. Permit, CERS | Higher | 1289, 0.244, WNW |
| L37 | SALLY BEAUTY SUPPLIE | 16771 VALLEY BLVD | RCRA NonGen / NLR | Higher | 1309, 0.248, North |
| L38 | SALLY BEAUTY SUPPLY | 16771 VALLEY BLVD | CERS HAZ WASTE, HAZNET, San Bern. Co. Permit, CERS | Higher | 1309, 0.248, North |
| H39 | ROSS DRESS FOR LESS | 17084 SLOVER AVE STE | CERS HAZ WASTE, San Bern. Co. Permit, CERS | Lower | 1309, 0.248, ESE |

## MAPPED SITES SUMMARY

Target Property Address:
16716 - 16868 BOYLE AVENUE
FONTANA, CA 92337

Click on Map ID to see full detail.

| MAP ID | SITE NAME | ADDRESS | DATABASE ACRONYMS | RELATIVE ELEVATION | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|---|
| H40 | FIVE BELOW INC | 17084 SLOVER AVE STE | RCRA NonGen / NLR | Lower | 1309, 0.248, ESE |
| H41 | ROSS DRESS FOR LESS | 17084 SLOVER AVE STE | RCRA NonGen / NLR | Lower | 1309, 0.248, ESE |
| J42 | BP WEST COAST PRODUC | 10087 SIERRA | LUST, HAZNET | Higher | 1534, 0.291, NNE |
| 43 | PONCE RECYCLING | 9954 SIERRA AVE | SWRCY | Higher | 2318, 0.439, NNE |
| 44 | KAISER FOUNDATION HO | 9961 SIERRA AVE | ENVIROSTOR, UST, AST, CERS HAZ WASTE, HIST UST,... | Higher | 2401, 0.455, NE |
| 45 | CYPRESS CONTINUATION | SANTA ANA/CYPRESS AV | ENVIROSTOR, SCH | Lower | 3787, 0.717, SSW |
| M46 | BIRCH CONTINUATION H | LOCUST AVENUE/BARBEE | ENVIROSTOR, SCH | Lower | 3827, 0.725, WSW |
| M47 | ELEMENTARY SCHOOL NO | RANDALL AVENUE/BEECH | ENVIROSTOR, SCH | Lower | 3827, 0.725, WSW |
| M48 | NEW CITRUS CONTINUAT | CYPRESS AVENUE/SANTA | ENVIROSTOR, SCH | Lower | 3827, 0.725, WSW |
| M49 | LYTLE CREEK HIGH SCH | LYTLE CREEK ROAD/SUM | ENVIROSTOR, SCH | Lower | 3827, 0.725, WSW |
| M50 | NEW ELEMENTARY SCHOO | PALMETTO / MERRILL A | ENVIROSTOR, SCH | Lower | 3827, 0.725, WSW |
| M51 | ELEMENTARY SCHOOL NO | 7316, 7398 CYPRESS A | ENVIROSTOR, SCH | Lower | 3827, 0.725, WSW |
| M52 | HIGH SCHOOL NO. 5 (A | OLEANDER AVENUE/SANT | ENVIROSTOR, SCH | Lower | 3827, 0.725, WSW |
| M53 | ELEMENTARY NO. 30 | SAN BERNARDINO AVENU | ENVIROSTOR, SCH, CERS | Lower | 3827, 0.725, WSW |

# EXECUTIVE SUMMARY

## TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

| Site | Database(s) | EPA ID |
|---|---|---|
| AGUIRRE TRUCKING<br>16716 BOYLE AVENUE<br>FONTANA, CA 92337 | HWT<br>Reg Num: 5797 | N/A |
| WOODLAND PALLETS<br>16760 BOYLE AVE<br>FONTANA, CA 92337 | FINDS<br>Registry ID:: 110064976049 | N/A |
| WOODLAND PALLETS<br>16760 BOYLE AVE<br>FONTANA, CA 92337 | San Bern. Co. Permit<br>Facility Status: INACTIVE<br>Facility Id: FA0014436<br>CERS | N/A |
| AGUIRRE TRUCKING<br>16716 BOYLE AVE<br>FONTANA, CA 92337 | FINDS<br>Registry ID:: 110046524551<br>ECHO<br>Registry ID: 110046524551 | N/A |
| AGUIRRE TRUCKING<br>16716 BOYLE AVE<br>FONTANA, CA 92337 | RCRA NonGen / NLR<br>EPA ID:: CAR000197590 | CAR000197590 |

## 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

# EXECUTIVE SUMMARY

***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 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

***Federal ERNS list***

ERNS..... Emergency Response Notification System

***State- and tribal - equivalent NPL***

RESPONSE..... State Response Sites

***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF..... Solid Waste Information System

***State and tribal leaking storage tank lists***

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

***State and tribal registered storage tank lists***

FEMA UST..... Underground Storage Tank Listing
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

# EXECUTIVE SUMMARY

## 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
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
PFAS..... PFAS Contamination Site Location Listing

### *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*

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

# EXECUTIVE SUMMARY

| | |
|---|---|
| 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 |
| UXO | Unexploded Ordnance Sites |
| 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 |
| HWP | EnviroStor Permitted Facilities Listing |
| 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 |
| UIC GEO | UIC GEO (GEOTRACKER) |
| WASTEWATER PITS | Oil Wastewater Pits Listing |
| WDS | Waste Discharge System |
| WIP | Well Investigation Program Case List |
| MILITARY PRIV SITES | MILITARY PRIV SITES (GEOTRACKER) |
| PROJECT | PROJECT (GEOTRACKER) |
| WDR | Waste Discharge Requirements Listing |
| CIWQS | California Integrated Water Quality System |
| NON-CASE INFO | NON-CASE INFO (GEOTRACKER) |
| OTHER OIL GAS | OTHER OIL & GAS (GEOTRACKER) |
| PROD WATER PONDS | PROD WATER PONDS (GEOTRACKER) |
| SAMPLING POINT | SAMPLING POINT (GEOTRACKER) |
| WELL STIM PROJ | Well Stimulation Project (GEOTRACKER) |

**EDR HIGH RISK HISTORICAL RECORDS**

***EDR Exclusive Records***

| | |
|---|---|
| EDR MGP | EDR Proprietary Manufactured Gas Plants |

# EXECUTIVE SUMMARY

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.

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-LQG: 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.

A review of the RCRA-LQG list, as provided by EDR, and dated 03/25/2019 has revealed that there are 2 RCRA-LQG sites within approximately 0.25 miles of the target property.

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| T0660<br>EPA ID:: CAL000293182 | 16964 SLOVER AVE | ESE 0 - 1/8 (0.098 mi.) | B8 | 25 |
| TARGET STORE T0660<br>EPA ID:: CAR000219063 | 16964 SLOVER AVE | ESE 0 - 1/8 (0.098 mi.) | B9 | 27 |

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 03/25/2019 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 |
|---|---|---|---|---|
| ***TEXACO SERVICE STATI*** EPA ID:: CAR000126003 | ***10115 SIERRA AVE*** | ***NNE 1/8 - 1/4 (0.242 mi.)*** | ***J33*** | ***94*** |

RCRA-VSQG: 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). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 03/25/2019 has revealed that there is 1 RCRA-VSQG site within approximately 0.25 miles of the target property.

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***CVS PHARMACY #16187*** EPA ID:: CAR000262386 | ***16964 SLOVER AVE STE*** | ***ESE 0 - 1/8 (0.098 mi.)*** | ***B6*** | ***14*** |

***State- and tribal - equivalent CERCLIS***

ENVIROSTOR: 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.

A review of the ENVIROSTOR list, as provided by EDR, and dated 04/29/2019 has revealed that there are 10 ENVIROSTOR sites within approximately 1 mile of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***KAISER FOUNDATION HO*** Facility Id: 71003588 Status: Inactive - Needs Evaluation | ***9961 SIERRA AVE*** | ***NE 1/4 - 1/2 (0.455 mi.)*** | ***44*** | ***132*** |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***CYPRESS CONTINUATION*** Facility Id: 60000039 Status: No Further Action | ***SANTA ANA/CYPRESS AV*** | ***SSW 1/2 - 1 (0.717 mi.)*** | ***45*** | ***162*** |
| ***BIRCH CONTINUATION H*** Facility Id: 36010046 Status: No Further Action | ***LOCUST AVENUE/BARBEE*** | ***WSW 1/2 - 1 (0.725 mi.)*** | ***M46*** | ***165*** |
| ***ELEMENTARY SCHOOL NO*** | ***RANDALL AVENUE/BEECH*** | ***WSW 1/2 - 1 (0.725 mi.)*** | ***M47*** | ***168*** |

| | | | | |
|---|---|---|---|---|
| Facility Id: 36010045<br>Status: No Further Action | | | | |
| ***NEW CITRUS CONTINUAT*** | ***CYPRESS AVENUE/SANTA*** | ***WSW 1/2 - 1 (0.725 mi.)*** | ***M48*** | ***171*** |
| Facility Id: 36010040<br>Status: No Further Action | | | | |
| ***LYTLE CREEK HIGH SCH*** | ***LYTLE CREEK ROAD/SUM*** | ***WSW 1/2 - 1 (0.725 mi.)*** | ***M49*** | ***179*** |
| Facility Id: 36010008<br>Status: No Further Action | | | | |
| ***NEW ELEMENTARY SCHOO*** | ***PALMETTO / MERRILL A*** | ***WSW 1/2 - 1 (0.725 mi.)*** | ***M50*** | ***182*** |
| Facility Id: 36000017<br>Status: Inactive - Withdrawn | | | | |
| ***ELEMENTARY SCHOOL NO*** | ***7316, 7398 CYPRESS A*** | ***WSW 1/2 - 1 (0.725 mi.)*** | ***M51*** | ***185*** |
| Facility Id: 36010051<br>Status: No Further Action | | | | |
| ***HIGH SCHOOL NO. 5 (A*** | ***OLEANDER AVENUE/SANT*** | ***WSW 1/2 - 1 (0.725 mi.)*** | ***M52*** | ***188*** |
| Facility Id: 36010039<br>Status: Certified | | | | |
| ***ELEMENTARY NO. 30*** | ***SAN BERNARDINO AVENU*** | ***WSW 1/2 - 1 (0.725 mi.)*** | ***M53*** | ***194*** |
| Facility Id: 36010060<br>Status: Inactive - Withdrawn | | | | |

***State and tribal leaking storage tank lists***

LUST: 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.

A review of the LUST list, as provided by EDR, has revealed that there are 5 LUST sites within approximately 0.5 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***TEXACO SERVICE STATI*** | ***10115 SIERRA AVE*** | ***NNE 1/8 - 1/4 (0.242 mi.)*** | ***J33*** | ***94*** |
| Database: LUST REG 8, Date of Government Version: 02/14/2005<br>Facility Status: Case Closed<br>Global ID: T0607100334 | | | | |
| ***TEXACO SERVICE STATI*** | ***10115 SIERRA*** | ***NNE 1/8 - 1/4 (0.242 mi.)*** | ***J34*** | ***99*** |
| Database: LUST, Date of Government Version: 06/10/2019<br>Status: Completed - Case Closed<br>Global Id: T0607100334<br>Global Id: T0607125645 | | | | |
| ***BP WEST COAST PRODUC*** | ***10087 SIERRA*** | ***NNE 1/4 - 1/2 (0.291 mi.)*** | ***J42*** | ***130*** |
| Database: LUST, Date of Government Version: 06/10/2019<br>Status: Completed - Case Closed<br>Global Id: T10000005327 | | | | |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***CIRCLE K STORE#5233*** | ***16880 SLOVER AVE*** | ***SSE 0 - 1/8 (0.123 mi.)*** | ***C10*** | ***33*** |
| Database: LUST, Date of Government Version: 06/10/2019 | | | | |

Status: Completed - Case Closed
Global Id: T0607100634

| | | | | |
|---|---|---|---|---|
| ***CIRCLE K STORE#5233*** | ***16880 SLOVER AVE*** | ***SSE 0 - 1/8 (0.123 mi.)*** | ***C12*** | ***38*** |

Database: LUST REG 8, Date of Government Version: 02/14/2005
Facility Status: Preliminary site assessment underway
Global ID: T0607100634

### *State and tribal registered storage tank lists*

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there are 2 UST sites within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| VALLEY TEXACO | 10115 SIERRA AVE | NNE 1/8 - 1/4 (0.242 mi.) | J31 | 93 |

Database: UST, Date of Government Version: 06/10/2019
Facility Id: 86008769
Facility Id: FA0007027

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| SIERRA EM CHEVRON | 10510 SIERRA AVE | SSE 1/8 - 1/4 (0.173 mi.) | D16 | 59 |

Database: UST, Date of Government Version: 06/10/2019
Facility Id: FA0011529

## ADDITIONAL ENVIRONMENTAL RECORDS

### *Local Lists of Landfill / Solid Waste Disposal Sites*

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 06/11/2019 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| PONCE RECYCLING | 9954 SIERRA AVE | NNE 1/4 - 1/2 (0.439 mi.) | 43 | 131 |

Cert Id: RC260783.001

# EXECUTIVE SUMMARY

### *Local Lists of Hazardous waste / Contaminated Sites*

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 08/14/2019 has revealed that there are 11 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| *PEP BOYS #680* | *16711 VALLEY BLVD* | *NNW 1/8 - 1/4 (0.191 mi.)* | *E17* | *59* |
| *FOOD 4 LESS #389* | *16991 VALLEY BLVD* | *NE 1/8 - 1/4 (0.195 mi.)* | *F20* | *68* |
| *WESTERN DENTAL* | *10144 SIERRA AVE* | *NNE 1/8 - 1/4 (0.205 mi.)* | *G22* | *73* |
| *TEXACO SERVICE STATI* | *10115 SIERRA* | *NNE 1/8 - 1/4 (0.242 mi.)* | *J34* | *99* |
| *ACT COMPLIANCE DBA F* | *16516 WASHINGTON DR* | *WNW 1/8 - 1/4 (0.244 mi.)* | *K36* | *111* |
| *SALLY BEAUTY SUPPLY* | *16771 VALLEY BLVD* | *N 1/8 - 1/4 (0.248 mi.)* | *L38* | *119* |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| *CVS PHARMACY #16187* | *16964 SLOVER AVE STE* | *ESE 0 - 1/8 (0.098 mi.)* | *B7* | *17* |
| *SIERRA EM CHEVRON* | *10510 SIERRA AVE* | *SSE 1/8 - 1/4 (0.173 mi.)* | *D14* | *42* |
| *BATH & BODY WORKS #1* | *17030 SLOVER AVE STE* | *ESE 1/8 - 1/4 (0.214 mi.)* | *H24* | *78* |
| *O'REILLY AUTO PARTS* | *10560 SIERRA AVE* | *SSE 1/8 - 1/4 (0.234 mi.)* | *I26* | *83* |
| *ROSS DRESS FOR LESS* | *17084 SLOVER AVE STE* | *ESE 1/8 - 1/4 (0.248 mi.)* | *H39* | *124* |

### *Local Lists of Registered Storage Tanks*

SWEEPS UST: 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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| *EXXON SERVICE STATIO*<br>Status: A<br>Tank Status: A<br>Comp Number: 23937 | *10115 SIERRA AVE* | *NNE 1/8 - 1/4 (0.242 mi.)* | *J30* | *91* |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| *CIRCLE K STORE#5233*<br>Status: A<br>Tank Status: A<br>Comp Number: 68343 | *16880 SLOVER AVE* | *SSE 0 - 1/8 (0.123 mi.)* | *C12* | *38* |

# EXECUTIVE SUMMARY

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| EXXON SERVICE STATIO<br>Facility Id: 00000023937 | 10115 SIERRA AVE | NNE 1/8 - 1/4 (0.242 mi.) | J32 | 93 |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| STOP 'N GO MARKETS<br>Facility Id: 00000068343 | 16880 SLOVER AVE | SSE 0 - 1/8 (0.123 mi.) | C11 | 38 |
| ***CIRCLE K STORE#5233*** | ***16880 SLOVER AVE*** | ***SSE 0 - 1/8 (0.123 mi.)*** | ***C12*** | ***38*** |

CERS TANKS: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

A review of the CERS TANKS list, as provided by EDR, and dated 08/14/2019 has revealed that there are 2 CERS TANKS sites within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***TEXACO SERVICE STATI*** | ***10115 SIERRA*** | ***NNE 1/8 - 1/4 (0.242 mi.)*** | ***J34*** | ***99*** |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***SIERRA EM CHEVRON*** | ***10510 SIERRA AVE*** | ***SSE 1/8 - 1/4 (0.173 mi.)*** | ***D14*** | ***42*** |

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***EXXON SERVICE STATIO***<br>Facility Id: 36002371<br>Status: A | ***10115 SIERRA AVE*** | ***NNE 1/8 - 1/4 (0.242 mi.)*** | ***J30*** | ***91*** |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***CIRCLE K STORE#5233***<br>Facility Id: 36009277<br>Status: A | ***16880 SLOVER AVE*** | ***SSE 0 - 1/8 (0.123 mi.)*** | ***C12*** | ***38*** |

***Other Ascertainable Records***

RCRA NonGen / NLR: 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.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 03/25/2019 has revealed that there are 12 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| PEP BOYS STORE#0680<br>EPA ID:: CAL000082946 | 16711 VALLEY BLVD | NNW 1/8 - 1/4 (0.191 mi.) | E18 | 65 |
| FOOD 4 LESS #389<br>EPA ID:: CAL000320644 | 16991 VALLEY BLVD | NE 1/8 - 1/4 (0.195 mi.) | F19 | 66 |
| WESTERN DENTAL SERVI<br>EPA ID:: CAL000149158 | 10144 SIERRA AVE | NNE 1/8 - 1/4 (0.205 mi.) | G21 | 71 |
| SIERRA VALERO INC<br>EPA ID:: CAL000262151 | 10115 SIERRA AVE | NNE 1/8 - 1/4 (0.242 mi.) | J29 | 90 |
| ACT COMPLIANCE DBA F<br>EPA ID:: CAL000387521 | 16516 WASHINGTON DR | WNW 1/8 - 1/4 (0.244 mi.) | K35 | 110 |
| SALLY BEAUTY SUPPLIE<br>EPA ID:: CAL000411721 | 16771 VALLEY BLVD | N 1/8 - 1/4 (0.248 mi.) | L37 | 118 |

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| M KLAS INC DBA SIERR<br>EPA ID:: CAL000354704 | 10510 SIERRA AVE | SSE 1/8 - 1/4 (0.173 mi.) | D15 | 58 |
| MCGUIRE CONTRACTING<br>EPA ID:: CAC003000563 | 16579 SLOVER AVENUE | SW 1/8 - 1/4 (0.212 mi.) | 23 | 77 |
| BATH & BODY WORKS #1<br>EPA ID:: CAL000427586 | 17030 SLOVER AVE STE | ESE 1/8 - 1/4 (0.214 mi.) | H25 | 82 |
| OREILLY AUTO PARTS S<br>EPA ID:: CAL000407613 | 10560 SIERRA AVE | SSE 1/8 - 1/4 (0.234 mi.) | I27 | 86 |
| FIVE BELOW INC<br>EPA ID:: CAL000427789 | 17084 SLOVER AVE STE | ESE 1/8 - 1/4 (0.248 mi.) | H40 | 128 |
| ROSS DRESS FOR LESS<br>EPA ID:: CAL000397432 | 17084 SLOVER AVE STE | ESE 1/8 - 1/4 (0.248 mi.) | H41 | 129 |

HIST CORTESE: 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.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 2 HIST CORTESE sites within approximately 0.5 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***TEXACO SERVICE STATI*** | ***10115 SIERRA*** | ***NNE 1/8 - 1/4 (0.242 mi.)*** | ***J34*** | ***99*** |

Reg Id: 083602475T

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***CIRCLE K STORE#5233*** | ***16880 SLOVER AVE*** | ***SSE 0 - 1/8 (0.123 mi.)*** | ***C12*** | ***38*** |
| Reg Id: 083603645T | | | | |

San Bern. Co. Permit: San Bernardino County Fire Department Hazardous Materials Division.

A review of the San Bern. Co. Permit list, as provided by EDR, and dated 05/31/2019 has revealed that there are 13 San Bern. Co. Permit sites within approximately 0.25 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***PEP BOYS #680*** | ***16711 VALLEY BLVD*** | ***NNW 1/8 - 1/4 (0.191 mi.)*** | ***E17*** | ***59*** |
| Facility Status: ACTIVE | | | | |
| Facility Status: INACTIVE | | | | |
| Facility Id: FA0005280 | | | | |
| ***FOOD 4 LESS #389*** | ***16991 VALLEY BLVD*** | ***NE 1/8 - 1/4 (0.195 mi.)*** | ***F20*** | ***68*** |
| Facility Status: ACTIVE | | | | |
| Facility Id: FA0003297 | | | | |
| ***WESTERN DENTAL*** | ***10144 SIERRA AVE*** | ***NNE 1/8 - 1/4 (0.205 mi.)*** | ***G22*** | ***73*** |
| Facility Status: ACTIVE | | | | |
| Facility Status: FEE EXEMPT | | | | |
| Facility Id: FA0016811 | | | | |
| ***SIERRA FUEL INC*** | ***10115 SIERRA AVE*** | ***NNE 1/8 - 1/4 (0.242 mi.)*** | ***J28*** | ***87*** |
| Facility Status: ACTIVE | | | | |
| Facility Status: INACTIVE | | | | |
| Facility Id: FA0007027 | | | | |
| ***ACT COMPLIANCE DBA F*** | ***16516 WASHINGTON DR*** | ***WNW 1/8 - 1/4 (0.244 mi.)*** | ***K36*** | ***111*** |
| Facility Status: ACTIVE | | | | |
| Facility Id: FA0015075 | | | | |
| ***SALLY BEAUTY SUPPLY*** | ***16771 VALLEY BLVD*** | ***N 1/8 - 1/4 (0.248 mi.)*** | ***L38*** | ***119*** |
| Facility Status: ACTIVE | | | | |
| Facility Status: FEE EXEMPT | | | | |
| Facility Id: FA0017284 | | | | |

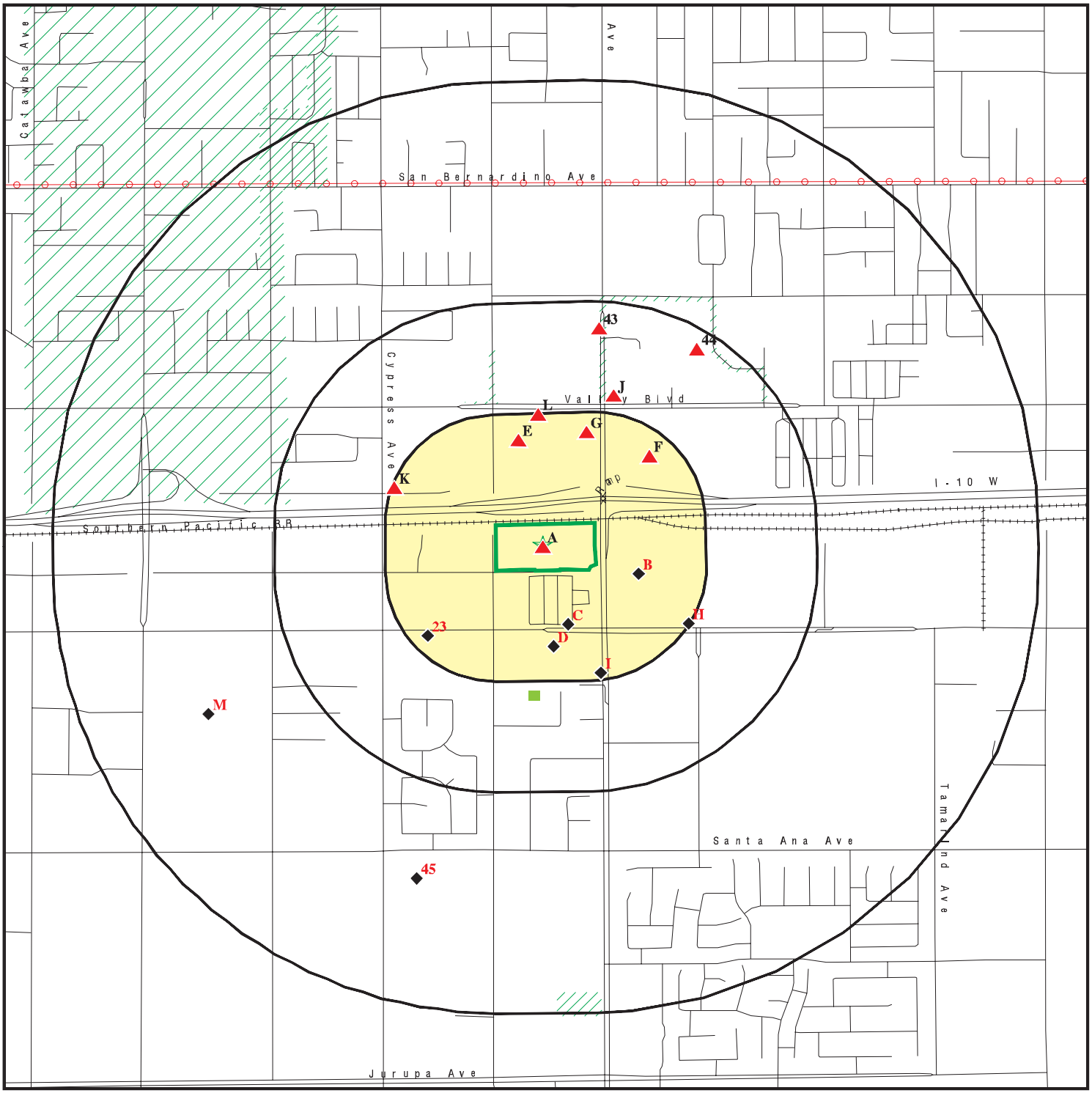
| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***CVS PHARMACY #16187*** | ***16964 SLOVER AVE STE*** | ***ESE 0 - 1/8 (0.098 mi.)*** | ***B7*** | ***17*** |
| Facility Status: ACTIVE | | | | |
| Facility Status: FEE EXEMPT | | | | |
| Facility Id: FA0016664 | | | | |
| Facility Id: FA0009453 | | | | |
| ***CIRCLE K STORE#5233*** | ***16880 SLOVER AVE*** | ***SSE 0 - 1/8 (0.123 mi.)*** | ***C10*** | ***33*** |
| Facility Status: INACTIVE | | | | |
| Facility Id: FA0002161 | | | | |
| DEL TACO #1071 | 16805 SLOVER AVE | S 1/8 - 1/4 (0.171 mi.) | D13 | 41 |
| Facility Status: INACTIVE | | | | |
| Facility Id: FA0012720 | | | | |
| ***SIERRA EM CHEVRON*** | ***10510 SIERRA AVE*** | ***SSE 1/8 - 1/4 (0.173 mi.)*** | ***D14*** | ***42*** |

| | | | | |
|---|---|---|---|---|
| Facility Status: ACTIVE<br>Facility Id: FA0011529 | | | | |
| ***BATH & BODY WORKS #1***<br>Facility Status: ACTIVE<br>Facility Status: FEE EXEMPT<br>Facility Id: FA0017587 | ***17030 SLOVER AVE STE*** | ***ESE 1/8 - 1/4 (0.214 mi.)*** | ***H24*** | ***78*** |
| ***O'REILLY AUTO PARTS***<br>Facility Status: ACTIVE<br>Facility Id: FA0016607 | ***10560 SIERRA AVE*** | ***SSE 1/8 - 1/4 (0.234 mi.)*** | ***I26*** | ***83*** |
| ***ROSS DRESS FOR LESS***<br>Facility Status: ACTIVE<br>Facility Status: FEE EXEMPT<br>Facility Id: FA0015662<br>Facility Id: FA0018012 | ***17084 SLOVER AVE STE*** | ***ESE 1/8 - 1/4 (0.248 mi.)*** | ***H39*** | ***124*** |

# EXECUTIVE SUMMARY

There were no unmapped sites in this report.

# OVERVIEW MAP - 5811754.2S




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

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

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: Transwestern Boyle Fontana | CLIENT: Avocet Environmental, Inc. |
| ADDRESS: 16716 - 16868 Boyle Avenue<br>Fontana CA 92337 | CONTACT: Philip Miller<br>INQUIRY #: 5811754.2s |
| LAT/LONG: 34.065772 / 117.438037 | DATE: October 02, 2019 2:11 pm |

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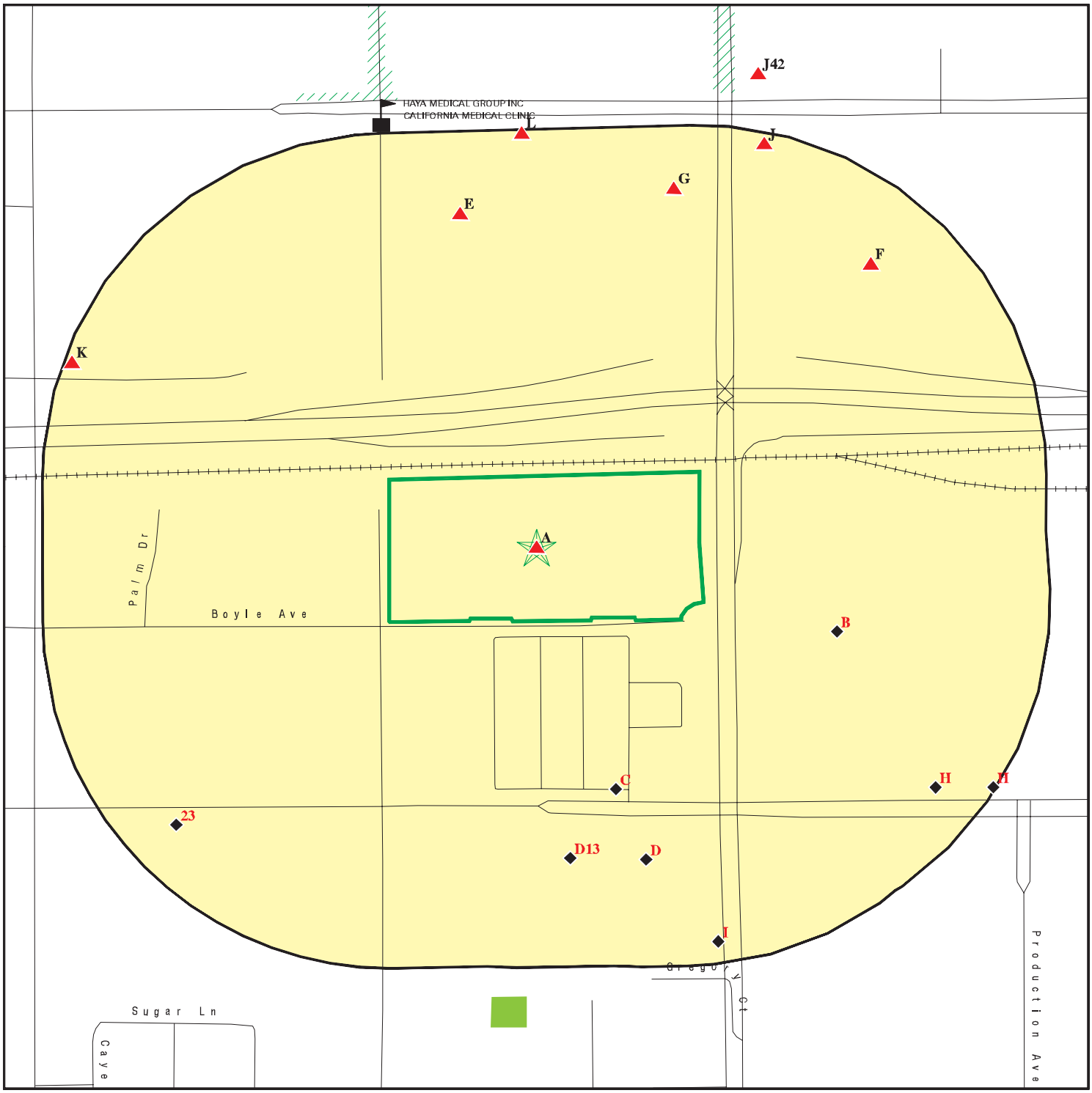
# DETAIL MAP - 5811754.2S




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

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

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: | Transwestern Boyle Fontana | CLIENT: | Avocet Environmental, Inc. |
| ADDRESS: | 16716 - 16868 Boyle Avenue<br>Fontana CA 92337 | CONTACT: | Philip Miller |
| | | INQUIRY #: | 5811754.2s |
| LAT/LONG: | 34.065772 / 117.438037 | DATE: | October 02, 2019 2:16 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 | 1.000 | | 0 | 0 | 0 | 0 | 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 | | 2 | 0 | NR | NR | NR | 2 |
| RCRA-SQG | 0.250 | | 0 | 1 | NR | NR | NR | 1 |
| RCRA-VSQG | 0.250 | | 1 | 0 | NR | NR | NR | 1 |
| ***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 | 0.001 | | 0 | 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 | 1 | 9 | NR | 10 |
| ***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 | | 2 | 2 | 1 | NR | NR | 5 |

# 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 |
| CPS-SLIC | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***State and tribal registered storage tank lists*** | | | | | | | | |
| FEMA UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| UST | 0.250 | | 0 | 2 | NR | NR | NR | 2 |
| 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 | 1 | NR | NR | 1 |
| HAULERS | 0.001 | | 0 | 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 | 0.001 | | 0 | 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 | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| CERS HAZ WASTE | 0.250 | | 1 | 10 | NR | NR | NR | 11 |
| Toxic Pits | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| US CDL | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| PFAS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Registered Storage Tanks*** | | | | | | | | |
| SWEEPS UST | 0.250 | | 1 | 1 | NR | NR | NR | 2 |
| HIST UST | 0.250 | | 2 | 1 | NR | NR | NR | 3 |
| CERS TANKS | 0.250 | | 0 | 2 | NR | NR | NR | 2 |
| CA FID UST | 0.250 | | 1 | 1 | NR | NR | NR | 2 |
| ***Local Land Records*** | | | | | | | | |
| LIENS | 0.001 | | 0 | 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 |
|---|---|---|---|---|---|---|---|---|
| LIENS 2 | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| DEED | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Records of Emergency Release Reports*** | | | | | | | | |
| HMIRS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| CHMIRS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| LDS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| MCS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| SPILLS 90 | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| ***Other Ascertainable Records*** | | | | | | | | |
| RCRA NonGen / NLR | 0.250 | 1 | 0 | 12 | NR | NR | NR | 13 |
| 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 | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| EPA WATCH LIST | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| 2020 COR ACTION | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| TSCA | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| TRIS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| SSTS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| ROD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| RMP | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| RAATS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| PRP | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| PADS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| ICIS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| FTTS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| MLTS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| COAL ASH DOE | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| COAL ASH EPA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| PCB TRANSFORMER | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| RADINFO | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| HIST FTTS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| DOT OPS | 0.001 | | 0 | 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 | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| US AIRS | 0.001 | | 0 | 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 | 0.001 | 2 | 0 | NR | NR | NR | NR | 2 |
| ECHO | 0.001 | 1 | 0 | NR | NR | NR | NR | 1 |
| UXO | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| DOCKET HWC | 0.001 | | 0 | 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 |

# 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 |
|---|---|---|---|---|---|---|---|---|
| DRYCLEANERS | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| EMI | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| ENF | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| Financial Assurance | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| HAZNET | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| ICE | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| HIST CORTESE | 0.500 | | 1 | 1 | 0 | NR | NR | 2 |
| HWP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| HWT | 0.250 | 1 | 0 | 0 | NR | NR | NR | 1 |
| MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MWMP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| NPDES | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| San Bern. Co. Permit | 0.250 | 1 | 2 | 11 | NR | NR | NR | 14 |
| PEST LIC | 0.001 | | 0 | 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 | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| UIC GEO | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| WASTEWATER PITS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| WDS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| WIP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MILITARY PRIV SITES | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| PROJECT | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| WDR | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| CIWQS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| CERS | 0.001 | 1 | 0 | NR | NR | NR | NR | 1 |
| NON-CASE INFO | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| OTHER OIL GAS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| PROD WATER PONDS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| SAMPLING POINT | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| WELL STIM PROJ | 0.001 | | 0 | NR | 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 | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| RGA LUST | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| - Totals -- | | 7 | 13 | 44 | 3 | 9 | 0 | 76 |

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

**A1 Target Property** | **AGUIRRE TRUCKING**
**16716 BOYLE AVENUE**
**FONTANA, CA 92337** | **HWT** | **S109689830**
**N/A**

**Site 1 of 5 in cluster A**

**Actual: 1101 ft.**

HWT:

| | |
|---|---|
| Name: | AGUIRRE TRUCKING |
| Address: | 16716 BOYLE AVENUE |
| City,State,Zip: | FONTANA, CA 92337 |
| Reg Num: | 5797 |
| Expiration Date: | 10/31/2019 |

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**A2 Target Property** | **WOODLAND PALLETS**
**16760 BOYLE AVE**
**FONTANA, CA 92337** | **FINDS** | **1023211988**
**N/A**

**Site 2 of 5 in cluster A**

**Actual: 1101 ft.**

FINDS:

Registry ID: 110064976049

Environmental Interest/Information System
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

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**A3 Target Property** | **WOODLAND PALLETS**
**16760 BOYLE AVE**
**FONTANA, CA 92337** | **San Bern. Co. Permit**
**CERS** | **S111859542**
**N/A**

**Site 3 of 5 in cluster A**

**Actual: 1101 ft.**

San Bern. Co. Permit:

| | |
|---|---|
| Name: | WOODLAND PALLETS |
| Address: | 16760 BOYLE AVE |
| City,State,Zip: | FONTANA, CA 92337 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0014436 |
| Owner: | WOODLAND PALLETS CORP |
| Permit Number: | PT0025321 |
| Permit Category: | HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL |
| Facility Status: | INACTIVE |
| Expiration Date: | 05/31/2019 |

CERS:

| | |
|---|---|
| Name: | WOODLAND PALLETS |
| Address: | 16760 BOYLE AVE |
| City,State,Zip: | FONTANA, CA 92337 |
| Site ID: | 172283 |
| CERS ID: | 10313260 |
| CERS Description: | Chemical Storage Facilities |

Violations:

| | |
|---|---|
| Site ID: | 172283 |

**WOODLAND PALLETS (Continued)** **S111859542**

| | |
|---|---|
| Site Name: | WOODLAND PALLETS |
| Violation Date: | 02-02-2015 |
| Citation: | HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2 |
| Violation Description: | Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date. |
| Violation Notes: | Returned to compliance on 05/29/2015. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 172283 |
| Site Name: | WOODLAND PALLETS |
| Violation Date: | 03-08-2018 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | Returned to compliance on 06/19/2018. -The submitted site map is missing the location of the following information, emergency evacuation staging location, north arrow, facility name and address, and the location of the hazardous materials. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 172283 |
| Site Name: | WOODLAND PALLETS |
| Violation Date: | 03-08-2018 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | Returned to compliance on 06/19/2018. -Documented annual employee training is not being conducted at this time. Email a copy of your sign in sheets from your training and a summary of the training to this agency. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 172283 |
| Site Name: | WOODLAND PALLETS |
| Violation Date: | 03-08-2018 |
| Citation: | HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2 |
| Violation Description: | Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date. |
| Violation Notes: | Returned to compliance on 06/19/2018. -Hazardous Materials Business Plan (HMBP) has not been submitted and certified by March first of this year. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |

**WOODLAND PALLETS (Continued)** **S111859542**

| | |
|---|---|
| Site ID: | 172283 |
| Site Name: | WOODLAND PALLETS |
| Violation Date: | 02-02-2015 |
| Citation: | HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d) |
| Violation Description: | Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 05/29/2015. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-02-2015 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | ROUTINE HANDLER INSPECTION-WOODLAND PALLETS |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 03-08-2018 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Other/Unknown |
| Eval Date: | 06-19-2018 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

Enforcement Action:

| | |
|---|---|
| Site ID: | 172283 |
| Site Name: | WOODLAND PALLETS |
| Site Address: | 16760 BOYLE AVE |
| Site City: | FONTANA |
| Site Zip: | 92337 |
| Enf Action Date: | 02-02-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS |

**WOODLAND PALLETS (Continued)** **S111859542**

Coordinates:

| | |
|---|---|
| Site ID: | 172283 |
| Facility Name: | WOODLAND PALLETS |
| Env Int Type Code: | HMBP |
| Program ID: | 10313260 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Center of a facility or station. |
| Latitude: | 34.065760 |
| Longitude: | -117.438620 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | PO BOX 310721 |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92331 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | WOODLAN PALLETS |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (909) 574-2534 |

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | WOODLAND PALLETS |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | LISBETH HERMOSILLO |
| Entity Title: | Not reported |
| Affiliation Address: | PO BOX 310721 |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92331 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |

**WOODLAND PALLETS (Continued)** **S111859542**

| | |
|---|---|
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | WOODLAND PALLETS CORP |
| Entity Title: | Not reported |
| Affiliation Address: | PO BOX 310721 |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92331 |
| Affiliation Phone: | (909) 574-2534 |

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**A4 Target Property** **AGUIRRE TRUCKING** **FINDS** **1015888334**
**16716 BOYLE AVE** **ECHO** **N/A**
**FONTANA, CA 92337**

**Site 4 of 5 in cluster A**

**Actual: 1101 ft.**

FINDS:

Registry ID: 110046524551

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

| | |
|---|---|
| Envid: | 1015888334 |
| Registry ID: | 110046524551 |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110046524551 |

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**A5 Target Property** **AGUIRRE TRUCKING** **RCRA NonGen / NLR** **1012175943**
**16716 BOYLE AVE** **CAR000197590**
**FONTANA, CA 92337**

**Site 5 of 5 in cluster A**

**Actual: 1101 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 01/08/2009 |
| Facility name: | AGUIRRE TRUCKING |
| Facility address: | 16716 BOYLE AVE<br>FONTANA, CA 92337 |
| EPA ID: | CAR000197590 |
| Contact: | ANTONIO AGUIRRE |

**AGUIRRE TRUCKING (Continued)** **1012175943**

| | |
|---|---|
| Contact address: | 16716 BOYLE AVE<br>FONTANA, CA 92337 |
| Contact country: | US |
| Contact telephone: | 909-376-5097 |
| Contact email: | Not reported |
| EPA Region: | 09 |
| Land type: | Private |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | ANTONIO AGUIRRE |
| Owner/operator address: | 16716 BOYLE AVE<br>FONTANA, CA 92337 |
| 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: | Owner |
| Owner/Op start date: | 12/16/2008 |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | ANTONIO AGUIRRE |
| Owner/operator address: | Not reported<br>Not reported |
| Owner/operator country: | Not reported |
| 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: | 12/16/2008 |
| 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: | Yes |
| 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 |

Violation Status: No violations found

**AGUIRRE TRUCKING (Continued)** **1012175943**

Evaluation Action Summary:

| | |
|---|---|
| Evaluation date: | 01/22/2019 |
| Evaluation: | COMPLIANCE EVALUATION INSPECTION ON-SITE |
| Area of violation: | Not reported |
| Date achieved compliance: | Not reported |
| Evaluation lead agency: | State |

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**B6 ESE < 1/8 0.098 mi. 520 ft.** | **CVS PHARMACY #16187**
**16964 SLOVER AVE STE B**
**FONTANA, CA 92337** | **RCRA-VSQG FINDS ECHO** | **1018274023 CAR000262386**

**Site 1 of 4 in cluster B**

**Relative: Lower**
**Actual: 1099 ft.**

RCRA-VSQG:

| | |
|---|---|
| Date form received by agency: | 03/29/2016 |
| Facility name: | CVS PHARMACY #16187 |
| Facility address: | 16964 SLOVER AVE STE B<br>FONTANA, CA 92337 |
| EPA ID: | CAR000262386 |
| Mailing address: | ONE CVS DR<br>WOONSOCKET, RI 02895 |
| Contact: | NICOLE WILKINSON |
| Contact address: | ONE CVS DR MAIL CODE 2340<br>WOONSOCKET, RI 02895 |
| Contact country: | US |
| Contact telephone: | 401-770-7132 |
| Contact email: | NICOLE.WILKINSON@CVSHEALTH.COM |
| EPA Region: | 09 |
| Classification: | Conditionally Exempt Small Quantity Generator |
| Description: | Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | TARGET CORPORATION |
| Owner/operator address: | NICOLLET MALL<br>MINNEAPOLIS, MN 55403 |
| Owner/operator country: | US |
| Owner/operator telephone: | 612-304-6073 |
| 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: | 03/11/1992 |
| Owner/Op end date: | Not reported |

**CVS PHARMACY #16187 (Continued)** **1018274023**

| | |
|---|---|
| Owner/operator name: | GARFIELD BEACH CVS LLC |
| 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: | 12/16/2015 |
| 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 |

Hazardous Waste Summary:

. Waste code: 122
. Waste name: Alkaline solution without metals (pH > 12.5)

. Waste code: 123
. Waste name: Unspecified alkaline solution

. Waste code: 134
. Waste name: Aqueous solution with <10% total organic residues

. Waste code: 141
. Waste name: Off-specification, aged, or surplus inorganics

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 214
. Waste name: Unspecified solvent mixture

. Waste code: 311
. Waste name: Pharmaceutical waste

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

**CVS PHARMACY #16187 (Continued)** **1018274023**

. Waste code: 352
. Waste name: Other organic solids

. Waste code: 541
. Waste name: Photochemicals / photo processing waste

. Waste code: 561
. Waste name: Detergent and soap

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U188
. Waste name: PHENOL

. Waste code: U201
. Waste name: 1,3-BENZENEDIOL (OR) RESORCINOL

**CVS PHARMACY #16187 (Continued)** **1018274023**

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

Violation Status: No violations found

FINDS:

Registry ID: 110067713497

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1018274023
Registry ID: 110067713497
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110067713497

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**B7** **CVS PHARMACY #16187** **CERS HAZ WASTE** **S108222093**
**ESE** **16964 SLOVER AVE STE A** **HAZNET** **N/A**
**< 1/8** **FONTANA, CA 92337** **San Bern. Co. Permit**
**0.098 mi.** **CERS**
**520 ft.** **Site 2 of 4 in cluster B**

**Relative:**
**Lower**

**Actual:**
**1099 ft.**

CERS HAZ WASTE:
Name: TARGET T0660
Address: 16964 SLOVER AVE
City,State,Zip: FONTANA, CA 92337
Site ID: 73863
CERS ID: 10049959
CERS Description: Hazardous Waste Generator

Name: CVS PHARMACY #16187
Address: 16964 SLOVER AVE STE A
City,State,Zip: FONTANA, CA 92337
Site ID: 366980
CERS ID: 10666621
CERS Description: Hazardous Waste Generator

HAZNET:
Name: CVS PHARMACY #16187
Address: 16964 SLOVER AVE STE B
City,State,Zip: FONTANA, CA 923377556
Year: 2017
GEPAID: CAR000262386
Contact: NICOLE WILKINSON
Telephone: 4017651500
Mailing Name: Not reported
Mailing Address: 1 CVS DR - MC 1160

**CVS PHARMACY #16187 (Continued)** **S108222093**

| | |
|---|---|
| Mailing City,St,Zip: | WOONSOCKET, RI 02895 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAD008364432 |
| TSD County: | Los Angeles |
| Tons: | 0.0115 |
| CA Waste Code: | 311-Pharmaceutical waste |
| Method: | H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | CVS PHARMACY #16187 |
| Address: | 16964 SLOVER AVE STE B |
| City,State,Zip: | FONTANA, CA 923377556 |
| Year: | 2017 |
| GEPAID: | CAR000262386 |
| Contact: | NICOLE WILKINSON |
| Telephone: | 4017651500 |
| Mailing Name: | Not reported |
| Mailing Address: | 1 CVS DR - MC 1160 |
| Mailing City,St,Zip: | WOONSOCKET, RI 02895 |
| Gen County: | San Bernardino |
| TSD EPA ID: | INR000110197 |
| TSD County: | Not reported |
| Tons: | 0.0005 |
| CA Waste Code: | 311- |
| Method: | H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | CVS PHARMACY #16187 |
| Address: | 16964 SLOVER AVE STE B |
| City,State,Zip: | FONTANA, CA 923377556 |
| Year: | 2017 |
| GEPAID: | CAR000262386 |
| Contact: | NICOLE WILKINSON |
| Telephone: | 4017651500 |
| Mailing Name: | Not reported |
| Mailing Address: | 1 CVS DR - MC 1160 |
| Mailing City,St,Zip: | WOONSOCKET, RI 02895 |
| Gen County: | San Bernardino |
| TSD EPA ID: | INR000110197 |
| TSD County: | Not reported |
| Tons: | 0.0005 |
| CA Waste Code: | 311-Pharmaceutical waste |
| Method: | H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | CVS PHARMACY #16187 |
| Address: | 16964 SLOVER AVE STE B |
| City,State,Zip: | FONTANA, CA 923377556 |
| Year: | 2016 |
| GEPAID: | CAR000262386 |
| Contact: | NICOLE WILKINSON |
| Telephone: | 4017707132 |
| Mailing Name: | Not reported |
| Mailing Address: | ONE CVS DR MAIL CODE 2340 |

**CVS PHARMACY #16187 (Continued)** **S108222093**

Mailing City,St,Zip: WOONSOCKET, RI 02895
Gen County: San Bernardino
TSD EPA ID: INR000110197
TSD County: Not reported
Tons: 0.0005
CA Waste Code: 311-Pharmaceutical waste
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: San Bernardino

Name: CVS PHARMACY #16187
Address: 16964 SLOVER AVE STE B
City,State,Zip: FONTANA, CA 923377556
Year: 2016
GEPAID: CAR000262386
Contact: NICOLE WILKINSON
Telephone: 4017707132
Mailing Name: Not reported
Mailing Address: ONE CVS DR MAIL CODE 2340
Mailing City,St,Zip: WOONSOCKET, RI 02895
Gen County: San Bernardino
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Tons: 0.0065
CA Waste Code: 311-Pharmaceutical waste
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: San Bernardino

Click this hyperlink while viewing on your computer to access additional CA_HAZNET: detail in the EDR Site Report.

San Bern. Co. Permit:
Name: CVS PHARMACY #16187
Address: 16964 SLOVER AVE STE A
City,State,Zip: FONTANA, CA 92337
Region: SAN BERNARDINO
Facility ID: FA0016664
Owner: Garfield Beach CVS, L.L.C.
Permit Number: PT0036053
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL
Facility Status: ACTIVE
Expiration Date: 08/31/2019

Name: TARGET T0660
Address: 16964 SLOVER AVE
City,State,Zip: FONTANA, CA 92337
Region: SAN BERNARDINO
Facility ID: FA0009453
Owner: Target Corporation
Permit Number: PT0018203
Permit Category: HAZARDOUS MATERIALS 11-30 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 01/31/2019

Name: TARGET T0660
Address: 16964 SLOVER AVE

**CVS PHARMACY #16187 (Continued)** **S108222093**

City,State,Zip: FONTANA, CA 92337
Region: SAN BERNARDINO
Facility ID: FA0009453
Owner: Target Corporation
Permit Number: PT0016195
Permit Category: SMALL QUANTITY GENERATOR
Facility Status: ACTIVE
Expiration Date: 01/31/2019

Name: CVS PHARMACY #16187
Address: 16964 SLOVER AVE STE A
City,State,Zip: FONTANA, CA 92337
Region: SAN BERNARDINO
Facility ID: FA0016664
Owner: Garfield Beach CVS, L.L.C.
Permit Number: PT0037204
Permit Category: HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status: FEE EXEMPT
Expiration Date: 08/31/2017

CERS:
Name: CVS PHARMACY #16187
Address: 16964 SLOVER AVE STE A
City,State,Zip: FONTANA, CA 92337
Site ID: 366980
CERS ID: 10666621
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-21-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported
Affiliation Address: 620 South E Street
Affiliation City: San Bernardino
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92415-0153
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Document Preparer
Entity Name: Melissa Vales, Agent for Garfield Beach CVS, L.L.C.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported

**CVS PHARMACY #16187 (Continued)** **S108222093**

| | |
|---|---|
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Verisk 3E, Regulatory Services/CVS |
| Entity Title: | Not reported |
| Affiliation Address: | 3207 Grey Hawk Ct., Ste. 200 |
| Affiliation City: | Carlsbad |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92010 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Garfield Beach CVS, L.L.C |
| Entity Title: | Not reported |
| Affiliation Address: | One CVS Drive |
| Affiliation City: | Woonsocket |
| Affiliation State: | RI |
| Affiliation Country: | United States |
| Affiliation Zip: | 02895 |
| Affiliation Phone: | (401) 765-1500 |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | CVS Health |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | CVS Health, Attn: Dianne E. Durand, Licensing One CVS Drive ? MC 1160 |
| Affiliation City: | Woonsocket |
| Affiliation State: | RI |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 02895 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Melissa Vales, Agent for Garfield Beach CVS, L.L.C. |
| Entity Title: | Regulatory Compliance Specialist, Verisk 3E |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Garfield Beach CVS, L.L.C |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |

**CVS PHARMACY #16187 (Continued)** **S108222093**

Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (401) 765-1500

Name: TARGET T0660
Address: 16964 SLOVER AVE
City,State,Zip: FONTANA, CA 92337
Site ID: 73863
CERS ID: 10049959
CERS Description: Chemical Storage Facilities

Violations:

Site ID: 73863
Site Name: TARGET T0660
Violation Date: 01-25-2018
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Hazardous material inventory has omissions.
Violation Division: San Bernardino County Fire Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 73863
Site Name: TARGET T0660
Violation Date: 01-25-2018
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit a site map with all required content.
Violation Notes: Returned to compliance on 02/26/2018. The facility site map lacks pharmacy hazardous waste location, and sewer and storm drain locations. Business Plan update submitted to "CERS" on 2/26/2018 with map corrections. CB
Violation Division: San Bernardino County Fire Department
Violation Program: HMRRP
Violation Source: CERS

Evaluation:

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-25-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-25-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported

**CVS PHARMACY #16187 (Continued)** **S108222093**

| | |
|---|---|
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-13-2014 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | INSPECTION - BP |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-13-2014 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | INSPECTION - HW |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 73863 |
| Facility Name: | TARGET T0660 |
| Env Int Type Code: | HWG |
| Program ID: | 10049959 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Unknown |
| Latitude: | 34.064884 |
| Longitude: | -117.434257 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Permits, Operations & Compliance |
| Entity Title: | Not reported |
| Affiliation Address: | PO Box 111 |
| Affiliation City: | Minneapolis |
| Affiliation State: | MN |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 55440 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Nathan White |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Mitchel Rasmussen |
| Entity Title: | Director of Compliance |

**CVS PHARMACY #16187 (Continued)** **S108222093**

| | |
|---|---|
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | PO Box 111 |
| Affiliation City: | Minneapolis |
| Affiliation State: | MN |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 55440 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Target Corporation |
| Entity Title: | Not reported |
| Affiliation Address: | PO Box 111 |
| Affiliation City: | Minneapolis |
| Affiliation State: | MN |
| Affiliation Country: | United States |
| Affiliation Zip: | 55440 |
| Affiliation Phone: | (800) 587-2228 |

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | Target Corporation |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (800) 587-2228 |

| | |
|---|---|
| Affiliation Type Desc: | Property Owner |
| Entity Name: | Target Corporation |
| Entity Title: | Not reported |
| Affiliation Address: | PO Box 111 |
| Affiliation City: | Minneapolis |
| Affiliation State: | MN |
| Affiliation Country: | United States |
| Affiliation Zip: | 55440 |
| Affiliation Phone: | (800) 587-2228 |

**CVS PHARMACY #16187 (Continued)** **S108222093**

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Target Corporate Office Headquarters |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

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**B8** **T0660** **RCRA-LQG** **1014386835**
**ESE** **16964 SLOVER AVE** **CAL000293182**
**< 1/8** **FONTANA, CA 92337**
**0.098 mi.**
**520 ft.** **Site 3 of 4 in cluster B**

**Relative:**
**Lower**

**Actual:**
**1099 ft.**

RCRA-LQG:

| | |
|---|---|
| Date form received by agency: | 06/24/2010 |
| Facility name: | T0660 |
| Facility address: | 16964 SLOVER AVE<br>FONTANA, CA 92337 |
| EPA ID: | CAL000293182 |
| Mailing address: | P.O. BOX 111<br>MINNEAPOLIS, MN 55440 |
| Contact: | JANNA ADAIR-POTTS |
| Contact address: | P.O. BOX 111<br>MINNEAPOLIS, MN 55440 |
| Contact country: | US |
| Contact telephone: | 800-587-2228 |
| Contact email: | CORPORATE.COMPLIANCE@TARGET.COM |
| EPA Region: | 09 |
| Classification: | Large Quantity Generator |
| Description: | Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | TARGET CORPORATION |
| Owner/operator address: | 1000 NICOLLET MALL<br>MINNEAPOLIS, MN 55403 |
| Owner/operator country: | US |
| Owner/operator telephone: | 800-587-2228 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Private |
| Owner/Operator Type: | Owner |

**T0660 (Continued)** **1014386835**

Owner/Op start date: 03/11/1992
Owner/Op end date: Not reported

Owner/operator name: TARGET CORPORATION
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
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: 03/11/1992
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

Hazardous Waste Summary:

. Waste code: 123
. Waste name: Unspecified alkaline solution

. Waste code: 141
. Waste name: Off-specification, aged, or surplus inorganics

. Waste code: 214
. Waste name: Unspecified solvent mixture

. Waste code: 311
. Waste name: Pharmaceutical waste

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: D001
. Waste name: IGNITABLE WASTE

**T0660 (Continued)** **1014386835**

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P046
. Waste name: ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

Violation Status: No violations found

---

**B9** **TARGET STORE T0660** **RCRA-LQG** **1014465433**
**ESE** **16964 SLOVER AVE** **CAR000219063**
**< 1/8** **FONTANA, CA 92337**
**0.098 mi.**
**520 ft.** **Site 4 of 4 in cluster B**

**Relative:**
**Lower**

**Actual:**
**1099 ft.**

RCRA-LQG:
Date form received by agency: 02/01/2018
Facility name: TARGET STORE T0660
Facility address: 16964 SLOVER AVE
FONTANA, CA 92337-0000
EPA ID: CAR000219063
Mailing address: PO BOX 111
MINNEAPOLIS, MN 55440
Contact: STEVE MUSSER
Contact address: PO BOX 111
MINNEAPOLIS, MN 55440
Contact country: US
Contact telephone: 800-587-2228
Contact email: POC@TARGET.COM
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely

**TARGET STORE T0660 (Continued)** **1014465433**

hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | TARGET CORPORATION |
| Owner/operator address: | PO BOX 111<br>MINNEAPOLIS, MN 55440 |
| Owner/operator country: | US |
| Owner/operator telephone: | 800-587-2228 |
| Owner/operator email: | POC@TARGET.COM |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Private |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | 03/11/1992 |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | TARGET CORPORATION |
| Owner/operator address: | PO BOX 111<br>MINNEAPOLIS, MN 55440 |
| Owner/operator country: | US |
| Owner/operator telephone: | 800-587-2228 |
| Owner/operator email: | POC@TARGET.COM |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Private |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | 03/11/1992 |
| 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 |

Historical Generators:

| | |
|---|---|
| Date form received by agency: | 02/11/2016 |
| Site name: | TARGET STORE T0660 |
| Classification: | Small Quantity Generator |

**TARGET STORE T0660 (Continued)** **1014465433**

Date form received by agency: 03/01/2014
Site name: TARGET STORE T0660
Classification: Small Quantity Generator

Date form received by agency: 04/11/2011
Site name: TARGET STORE NO 0660
Classification: Small Quantity Generator

Hazardous Waste Summary:

. Waste code: 121
. Waste name: Alkaline solution (pH >12.5) with metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc)

. Waste code: 122
. Waste name: Alkaline solution without metals (pH > 12.5)

. Waste code: 141
. Waste name: Off-specification, aged, or surplus inorganics

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: 792
. Waste name: Liquids with pH < 2 with metals

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

**TARGET STORE T0660 (Continued)** **1014465433**

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D026
. Waste name: CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D028
. Waste name: 1,2-DICHLOROETHANE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P046
. Waste name: ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U034

**TARGET STORE T0660 (Continued)** **1014465433**

. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U072
. Waste name: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U188
. Waste name: PHENOL

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U201
. Waste name: 1,3-BENZENEDIOL (OR) RESORCINOL

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Biennial Reports:

Last Biennial Reporting Year: 2017

Annual Waste Handled:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 3248

Waste code: D002

**TARGET STORE T0660 (Continued)** **1014465433**

Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 2572

Waste code: D004
Waste name: ARSENIC
Amount (Lbs): 1156

Waste code: D005
Waste name: BARIUM
Amount (Lbs): 1948

Waste code: D006
Waste name: CADMIUM
Amount (Lbs): 327

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 1948

Waste code: D008
Waste name: LEAD
Amount (Lbs): 372

Waste code: D009
Waste name: MERCURY
Amount (Lbs): 1220

Waste code: D010
Waste name: SELENIUM
Amount (Lbs): 1156

Waste code: D011
Waste name: SILVER
Amount (Lbs): 1948

Waste code: D016
Waste name: 2,4-D
Amount (Lbs): 1156

Waste code: D018
Waste name: BENZENE
Amount (Lbs): 465

Waste code: D024
Waste name: M-CRESOL
Amount (Lbs): 1156

Waste code: D026
Waste name: CRESOL
Amount (Lbs): 1156

**TARGET STORE T0660 (Continued)** **1014465433**

Waste code: D035
Waste name: METHYL ETHYL KETONE
Amount (Lbs): 1748

Waste code: P001
Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%
Amount (Lbs): 19

Waste code: P075
Waste name: NICOTINE, & SALTS
Amount (Lbs): 19

Waste code: U002
Waste name: ACETONE (I)
Amount (Lbs): 465

Waste code: U154
Waste name: METHANOL (I)
Amount (Lbs): 465

Violation Status: No violations found

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**C10** **CIRCLE K STORE#5233** **LUST** **S104578964**
**SSE** **16880 SLOVER AVE** **San Bern. Co. Permit** **N/A**
**< 1/8** **FONTANA, CA 92335** **CERS**
**0.123 mi.**
**647 ft.** **Site 1 of 3 in cluster C**

**Relative:**
**Lower**

**Actual:**
**1092 ft.**

LUST:
Name: CIRCLE K STORE#5233
Address: 16880 SLOVER AVE
City,State,Zip: FONTANA, CA 92335
Lead Agency: SANTA ANA RWQCB (REGION 8)
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607100634
Global Id: T0607100634
Latitude: 34.063237
Longitude: -117.43658
Status: Completed - Case Closed
Status Date: 10/21/2011
Case Worker: NOM
RB Case Number: 083603645T
Local Agency: SAN BERNARDINO COUNTY
File Location: Regional Board
Local Case Number: 99112
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline, MTBE / TBA / Other Fuel Oxygenates
Site History: Soil only case. SVE system operated onsite. Case closure has been requested by customer and will be evaluated.

LUST:
Global Id: T0607100634
Contact Type: Regional Board Caseworker
Contact Name: NANCY OLSON-MARTIN
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
City: RIVERSIDE

**CIRCLE K STORE#5233 (Continued)** **S104578964**

Email: nolson-martin@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0607100634
Contact Type: Local Agency Caseworker
Contact Name: THERESA CONGDON
Organization Name: SAN BERNARDINO COUNTY
Address: 620 SOUTH E STREET
City: SAN BERNARDINO
Email: tcongdon@sbcfire.org
Phone Number: Not reported

LUST:

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 09/09/2011
Action: Notification - Preclosure

Global Id: T0607100634
Action Type: RESPONSE
Date: 04/17/2000
Action: Site Assessment Report

Global Id: T0607100634
Action Type: RESPONSE
Date: 07/26/1999
Action: Tank Removal Report / UST Sampling Report

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 02/28/2011
Action: Staff Letter

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 02/18/2011
Action: Referral to Regional Board

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 08/30/2011
Action: File Review - Closure

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 02/24/2011
Action: File review

Global Id: T0607100634
Action Type: Other
Date: 05/25/1999
Action: Leak Discovery

Global Id: T0607100634
Action Type: RESPONSE
Date: 03/21/2011
Action: Corrective Action Plan / Remedial Action Plan

**CIRCLE K STORE#5233 (Continued)** **S104578964**

Global Id: T0607100634
Action Type: RESPONSE
Date: 04/19/2011
Action: Other Report / Document

Global Id: T0607100634
Action Type: RESPONSE
Date: 03/17/2011
Action: Other Report / Document

Global Id: T0607100634
Action Type: RESPONSE
Date: 03/21/2011
Action: Other Report / Document

Global Id: T0607100634
Action Type: RESPONSE
Date: 08/31/2011
Action: Site Assessment Report

Global Id: T0607100634
Action Type: RESPONSE
Date: 08/31/2011
Action: Remedial Progress Report

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 05/25/1999
Action: Site Visit / Inspection / Sampling

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 05/06/2011
Action: Staff Letter

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 10/21/2011
Action: Closure/No Further Action Letter

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 06/10/2011
Action: Meeting

Global Id: T0607100634
Action Type: RESPONSE
Date: 06/14/2011
Action: Correspondence

Global Id: T0607100634
Action Type: RESPONSE
Date: 07/30/2011
Action: Other Report / Document

Global Id: T0607100634
Action Type: RESPONSE

**CIRCLE K STORE#5233 (Continued)** **S104578964**

Date: 01/25/2012
Action: Well Destruction Report

Global Id: T0607100634
Action Type: RESPONSE
Date: 07/30/2011
Action: Remedial Progress Report

Global Id: T0607100634
Action Type: RESPONSE
Date: 06/30/2011
Action: Remedial Progress Report

Global Id: T0607100634
Action Type: RESPONSE
Date: 09/09/2011
Action: Correspondence

Global Id: T0607100634
Action Type: RESPONSE
Date: 09/08/2011
Action: Correspondence

Global Id: T0607100634
Action Type: ENFORCEMENT
Date: 08/30/2011
Action: Staff Letter

Global Id: T0607100634
Action Type: Other
Date: 05/25/1999
Action: Leak Stopped

Global Id: T0607100634
Action Type: REMEDIATION
Date: 04/02/2008
Action: Soil Vapor Extraction (SVE)

Global Id: T0607100634
Action Type: REMEDIATION
Date: 05/25/1999
Action: Excavation

Global Id: T0607100634
Action Type: Other
Date: 08/10/1999
Action: Leak Reported

LUST:
Global Id: T0607100634
Status: Open - Case Begin Date
Status Date: 05/25/1999

Global Id: T0607100634
Status: Open - Site Assessment
Status Date: 08/10/1999

**CIRCLE K STORE#5233 (Continued)** **S104578964**

| | |
|---|---|
| Global Id: | T0607100634 |
| Status: | Open - Site Assessment |
| Status Date: | 04/17/2000 |
| Global Id: | T0607100634 |
| Status: | Completed - Case Closed |
| Status Date: | 10/21/2011 |

San Bern. Co. Permit:

| | |
|---|---|
| Name: | HIGHWAY PETROLEUM ENTERPRISES, INC |
| Address: | 16880 SLOVER AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0002161 |
| Owner: | HIGHWAY PETROLEUM ENTERPRISES, INC |
| Permit Number: | PT0016803 |
| Permit Category: | HAZMAT HANDLER 0-10 EMPLOYEES |
| Facility Status: | INACTIVE |
| Expiration Date: | 05/31/2012 |

CERS:

| | |
|---|---|
| Name: | CIRCLE K STORE#5233 |
| Address: | 16880 SLOVER AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 247653 |
| CERS ID: | T0607100634 |
| CERS Description: | Leaking Underground Storage Tank Cleanup Site |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Local Agency Caseworker |
| Entity Name: | THERESA CONGDON - SAN BERNARDINO COUNTY |
| Entity Title: | Not reported |
| Affiliation Address: | 620 SOUTH E STREET |
| Affiliation City: | SAN BERNARDINO |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| Affiliation Type Desc: | Regional Board Caseworker |
| Entity Name: | NANCY OLSON-MARTIN - SANTA ANA RWQCB (REGION 8) |
| Entity Title: | Not reported |
| Affiliation Address: | 3737 MAIN STREET, SUITE 500 |
| Affiliation City: | RIVERSIDE |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

**C11 SSE < 1/8 0.123 mi. 647 ft.** | **STOP 'N GO MARKETS**
**16880 SLOVER AVE**
**FONTANA, CA 92335**
**Site 2 of 3 in cluster C** | **HIST UST** | **U001574900**
**N/A**

**Relative: Lower**
**Actual: 1092 ft.**

HIST UST:

| | |
|---|---|
| Name: | STOP 'N GO MARKETS |
| Address: | 16880 SLOVER AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| File Number: | Not reported |
| URL: | Not reported |
| Region: | STATE |
| Facility ID: | 00000068343 |
| Facility Type: | Gas Station |
| Other Type: | Not reported |
| Contact Name: | Not reported |
| Telephone: | 6157565770 |
| Owner Name: | KAYO OIL COMPANY |
| Owner Address: | 1221 EAST MAIN STREET |
| Owner City,St,Zip: | CHATTANOOGA, TN 374081696 |
| Total Tanks: | 0002 |
| | |
| Tank Num: | 001 |
| Container Num: | 1 |
| Year Installed: | 1973 |
| Tank Capacity: | 00010000 |
| Tank Used for: | WASTE |
| Type of Fuel: | 1 |
| Container Construction Thickness: | X |
| Leak Detection: | None |
| | |
| Tank Num: | 002 |
| Container Num: | 2 |
| Year Installed: | 1973 |
| Tank Capacity: | 00010000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | UNLEADED |
| Container Construction Thickness: | Not reported |
| Leak Detection: | None |

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**C12 SSE < 1/8 0.123 mi. 647 ft.** | **CIRCLE K STORE#5233**
**16880 SLOVER AVE**
**FONTANA, CA 92335**
**Site 3 of 3 in cluster C** | **LUST**
**SWEEPS UST**
**HIST UST**
**CA FID UST**
**HIST CORTESE** | **S101619280**
**N/A**

**Relative: Lower**
**Actual: 1092 ft.**

LUST REG 8:

| | |
|---|---|
| Name: | CIRCLE K STORE#5233 |
| Address: | 16880 SLOVER AVE |
| City: | FONTANA |
| Region: | 8 |
| County: | San Bernardino |
| Regional Board: | Santa Ana Region |
| Facility Status: | Preliminary site assessment underway |
| Case Number: | 083603645T |
| Local Case Num: | 99112 |
| Case Type: | Soil only |
| Substance: | 8006619, MTB |
| Qty Leaked: | Not reported |

**CIRCLE K STORE#5233 (Continued)** **S101619280**

| | |
|---|---|
| Abate Method: | Not reported |
| Cross Street: | SIERRA |
| Enf Type: | Not reported |
| Funding: | Not reported |
| How Discovered: | Tank Closure |
| How Stopped: | Not reported |
| Leak Cause: | UNK |
| Leak Source: | UNK |
| Global ID: | T0607100634 |
| How Stopped Date: | 5/25/1999 |
| Enter Date: | 3/9/2000 |
| Date Confirmation of Leak Began: | Not reported |
| Date Preliminary Assessment Began: | 4/17/2000 |
| Discover Date: | 5/25/1999 |
| Enforcement Date: | Not reported |
| Close Date: | Not reported |
| Date Prelim Assessment Workplan Submitted: | 8/10/1999 |
| Date Pollution Characterization Began: | Not reported |
| Date Remediation Plan Submitted: | Not reported |
| Date Remedial Action Underway: | Not reported |
| Date Post Remedial Action Monitoring: | Not reported |
| Enter Date: | 3/9/2000 |
| GW Qualifies: | Not reported |
| Soil Qualifies: | = |
| Operator: | Not reported |
| Facility Contact: | Not reported |
| Interim: | Not reported |
| Oversite Program: | LUST |
| Latitude: | 34.063237 |
| Longitude: | -117.43658 |
| MTBE Date: | Not reported |
| Max MTBE GW: | Not reported |
| MTBE Concentration: | 1 |
| Max MTBE Soil: | .7 |
| MTBE Fuel: | 0 |
| MTBE Tested: | MTBE Detected. Site tested for MTBE & MTBE detected |
| MTBE Class: | * |
| Staff: | NOM |
| Staff Initials: | LH6 |
| Lead Agency: | Local Agency |
| Local Agency: | 36000L |
| Hydr Basin #: | UPPER SANTA ANA VALL |
| Beneficial: | MUN |
| Priority: | A2 |
| Cleanup Fund Id: | Not reported |
| Work Suspended: | No |

Summary: UNDER INVESTIGATION. NO GROUNDWATER ENCOUNTERED >200 ' BGS. NO OTHER FUEL OXYGENATES DETECTED OTHER THAN MTBE.

SWEEPS UST:

| | |
|---|---|
| Name: | STOP 'N GO MARKETS |
| Address: | 16880 SLOUER RD |
| City: | FONTANA |
| Status: | Active |
| Comp Number: | 68343 |
| Number: | 9 |
| Board Of Equalization: | 44-021489 |

**CIRCLE K STORE#5233 (Continued)** **S101619280**

| | |
|---|---|
| Referral Date: | 07-28-92 |
| Action Date: | 07-28-92 |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 1 |
| SWRCB Tank Id: | 36-000-068343-000001 |
| Tank Status: | A |
| Capacity: | 10000 |
| Active Date: | 08-26-88 |
| Tank Use: | M.V. FUEL |
| STG: | P |
| Content: | REG UNLEADED |
| Number Of Tanks: | 2 |

| | |
|---|---|
| Name: | STOP 'N GO MARKETS |
| Address: | 16880 SLOUER RD |
| City: | FONTANA |
| Status: | Active |
| Comp Number: | 68343 |
| Number: | 9 |
| Board Of Equalization: | 44-021489 |
| Referral Date: | 07-28-92 |
| Action Date: | 07-28-92 |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 2 |
| SWRCB Tank Id: | 36-000-068343-000002 |
| Tank Status: | A |
| Capacity: | 10000 |
| Active Date: | 08-26-88 |
| Tank Use: | M.V. FUEL |
| STG: | P |
| Content: | REG UNLEADED |
| Number Of Tanks: | Not reported |

HIST UST:

| | |
|---|---|
| Name: | STOP N GO MARKETS |
| Address: | 16880 SLOUER RD |
| City,State,Zip: | FONTANA, CA 92335 |
| File Number: | 0002A0EB |
| URL: | http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A0EB.pdf |
| Region: | Not reported |
| Facility ID: | Not reported |
| Facility Type: | Not reported |
| Other Type: | Not reported |
| Contact Name: | Not reported |
| Telephone: | Not reported |
| Owner Name: | Not reported |
| Owner Address: | Not reported |
| Owner City,St,Zip: | Not reported |
| Total Tanks: | Not reported |

| | |
|---|---|
| Tank Num: | Not reported |
| Container Num: | Not reported |
| Year Installed: | Not reported |
| Tank Capacity: | Not reported |
| Tank Used for: | Not reported |
| Type of Fuel: | Not reported |
| Container Construction Thickness: | Not reported |

**CIRCLE K STORE#5233 (Continued)** **S101619280**

Leak Detection: Not reported

Click here for Geo Tracker PDF:

CA FID UST:

| | |
|---|---|
| Facility ID: | 36009277 |
| Regulated By: | UTNKA |
| Regulated ID: | 00068343 |
| Cortese Code: | Not reported |
| SIC Code: | Not reported |
| Facility Phone: | Not reported |
| Mail To: | Not reported |
| Mailing Address: | 16880 SLOUER RD |
| Mailing Address 2: | Not reported |
| Mailing City,St,Zip: | FONTANA 92335 |
| Contact: | Not reported |
| Contact Phone: | Not reported |
| DUNs Number: | Not reported |
| NPDES Number: | Not reported |
| EPA ID: | Not reported |
| Comments: | Not reported |
| Status: | Active |

HIST CORTESE:

| | |
|---|---|
| edr_fname: | CIRCLE K STORE#5233 |
| edr_fadd1: | 16880 |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | CORTESE |
| Facility County Code: | 36 |
| Reg By: | LTNKA |
| Reg Id: | 083603645T |

---

**D13**
**South**
**1/8-1/4**
**0.171 mi.**
**905 ft.**

**DEL TACO #1071** **San Bern. Co. Permit** **S110071614**
**16805 SLOVER AVE** **N/A**
**FONTANA, CA 92337**

**Site 1 of 4 in cluster D**

**Relative:**
**Lower**

**Actual:**
**1088 ft.**

San Bern. Co. Permit:

| | |
|---|---|
| Name: | DEL TACO #1071 |
| Address: | 16805 SLOVER AVE |
| City,State,Zip: | FONTANA, CA 92337 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0012720 |
| Owner: | DEL TACO INC |
| Permit Number: | PT0022376 |
| Permit Category: | BULK CO2 AT RETAIL FOOD FACILITIES |
| Facility Status: | INACTIVE |
| Expiration Date: | 05/31/2010 |

**D14 SSE 1/8-1/4 0.173 mi. 912 ft.** | **SIERRA EM CHEVRON**
**10510 SIERRA AVE**
**FONTANA, CA 92335**

**Site 2 of 4 in cluster D**

**CERS HAZ WASTE**
**CERS TANKS**
**San Bern. Co. Permit**
**CERS**

**S109444318**
**N/A**

**Relative: Lower**

**Actual: 1089 ft.**

CERS HAZ WASTE:

| | |
|---|---|
| Name: | SIERRA EM CHEVRON |
| Address: | 10510 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 153396 |
| CERS ID: | 10310920 |
| CERS Description: | Hazardous Waste Generator |

CERS TANKS:

| | |
|---|---|
| Name: | SIERRA EM CHEVRON |
| Address: | 10510 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 153396 |
| CERS ID: | 10310920 |
| CERS Description: | Underground Storage Tank |

San Bern. Co. Permit:

| | |
|---|---|
| Name: | SIERRA EM CHEVRON |
| Address: | 10510 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0011529 |
| Owner: | Sierra EM Chevron |
| Permit Number: | PT0023761 |
| Permit Category: | HAZMAT HANDLER, UST ONLY - PER YEAR |
| Facility Status: | ACTIVE |
| Expiration Date: | 09/30/2019 |

| | |
|---|---|
| Name: | SIERRA EM CHEVRON |
| Address: | 10510 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0011529 |
| Owner: | Sierra EM Chevron |
| Permit Number: | PT0027361 |
| Permit Category: | WASTE INCIDENTAL UST OPERATION ONLY -PER YEAR |
| Facility Status: | ACTIVE |
| Expiration Date: | 09/30/2019 |

| | |
|---|---|
| Name: | SIERRA EM CHEVRON |
| Address: | 10510 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0011529 |
| Owner: | Sierra EM Chevron |
| Permit Number: | PT0023764 |
| Permit Category: | COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK) |
| Facility Status: | ACTIVE |
| Expiration Date: | 09/30/2019 |

| | |
|---|---|
| Name: | SIERRA EM CHEVRON |
| Address: | 10510 SIERRA AVE |

**SIERRA EM CHEVRON (Continued)** **S109444318**

City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0011529
Owner: Sierra EM Chevron
Permit Number: PT0023762
Permit Category: COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK)
Facility Status: ACTIVE
Expiration Date: 09/30/2019

Name: SIERRA EM CHEVRON
Address: 10510 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0011529
Owner: Sierra EM Chevron
Permit Number: PT0023763
Permit Category: COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK)
Facility Status: ACTIVE
Expiration Date: 09/30/2019

CERS:
Name: SIERRA EM CHEVRON
Address: 10510 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Site ID: 153396
CERS ID: 10310920
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-24-2014
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description: Failure to comply with one or more of the following: failure to install a spill bucket, have a functional drain valve or other method for the removal of liquid from the spill bucket/spill container, and/or be resistant to galvanic corrosion.
Violation Notes: Returned to compliance on 08/06/2015. VIOLATION- 87 OVER SPILL BUCKET FAILED, WHEN TESTED (TEST WATER WAS LOST THROUGH THE BUCKET DRAIN VALVE)
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-22-2016
Citation: 23 CCR 16 2715(c) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)
Violation Description: Failure to comply with one or more of the following designated operator (DO) monthly inspection requirements: Be performed by an ICC certified DO. Inspect monthly alarm history report, check that alarms are documented and responded to appropriately, and attach a copy. Inspect for the presence of liquid/debris in spill containers. Inspect for the presence of liquid/debris in under dispenser containment (UDC) and ensure that the monitoring equipment is positioned correctly.

**SIERRA EM CHEVRON (Continued)** **S109444318**

| | |
|---|---|
| | Inspect for liquid or debris in containment sumps where an alarm occurred with no service visit. Check that all testing and maintenance has been completed and documented. Verify that all facility employees have been properly trained. |
| Violation Notes: | Returned to compliance on 09/29/2016. COMPLIANCE ACTIVITY ( 09/29/2016)- REC'D CERTIFICATE OF COMPLIANCE OBSERVATION: THE ALARM (S2:87 VENT LINE) DOCUMENTED IN THE VEEDER ROOT ON 07/22/2016 WAS NOT DOCUMENTED IN THE D.O. MONTHLY REPORTS. COMPLIANCE REQUIREMENT: SUBMIT A SIGNED STATEMENT STATING ALL UST ALARMS WILL BE DOCUMENTED AND ADDRESSED. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Violation Date: | 09-24-2014 |
| Citation: | HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b) |
| Violation Description: | Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance stored in the primary containment into the secondary containment. |
| Violation Notes: | Returned to compliance on 09/14/2015. VIOLATION: SMART SENSORS HIGH PRODUCT (S2 87 VENT), (S4 91 PRODUCT) & (S7 DIESEL PRODUCT) FAILED WHEN TESTED. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Violation Date: | 09-24-2015 |
| Citation: | Un-Specified |
| Violation Description: | UST Program - Administration/Documentation - For use of Local Ordinance only |
| Violation Notes: | Returned to compliance on 11/09/2015. Failure to have a written monitoring program with monitoring procedures and response plan. (CCR 2632(d)) UST MONITORING PLAN FOR EACH TANK HAS NOT BEEN COMPLETED ON LINE IN CERS. COMPLETE UST MONITORING PLAN FOR EACH TANK ON LINE IN CERS WITHIN 30 DAYS. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Violation Date: | 09-15-2016 |
| Citation: | HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34 |
| Violation Description: | Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance. |
| Violation Notes: | Returned to compliance on 09/29/2016. COMPLIANCE ACTIVITY ( 09/29/2016)- REC'D CERTIFICATE OF COMPLIANCE OBSERVATION: THE CERTIFICATE OF RESPONSIBILITY AND THE CFO LETTER MUST BE REVIEWED, SIGNED AND SUBMITTED YEARLY TO THE CERS UST SECTION. AS PER REVIEW, THE TWO DOCUMENTS WERE SIGNED 01/12/2015. COMPLIANCE REQUIREMENT: |

**SIERRA EM CHEVRON (Continued)** **S109444318**

SUBMIT CURRENT DOCUMENTATION TO CERS.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-24-2015
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34
Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.
Violation Notes: Returned to compliance on 11/09/2015. CERTIFICATE OF FINANCIAL RESPONSIBILITY FOR UST SYSTEM AND CFO LETTER SUBMITTED ON LINE IN CERS INCOMPLETE AND NOT SIGNED. COMPLETE BOTH CERTIFICATE OF FINANCIAL RESPONSIBILITY WITH CFO LETTER AND SUBMIT ON LINE IN CERS WITHIN 30 DAYS.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 10-09-2013
Citation: HSC 6.7 25299 - California Health and Safety Code, Chapter 6.7, Section(s) 25299
Violation Description: Failure to comply with one or more of the operating permit conditions.
Violation Notes: Returned to compliance on 09/26/2014. OBSERVATION: The vacuum sensors monitoring the 87 product and vent lines were not programmed into the monitoring system. The vacuum sensor monitoring the Diesel vent line was not programmed into the monitoring system. The contractor programmed the sensors and tested. Vacuum sensors for the 87 product and vent do not function properly. Vacuum sensor for the Diesel line did not function properly. The liquid (brine) sensor located in Dispenser 7/8 did not function properly. The liquid (brine) sensor located in the Vent Box did not cause positive shutdown. The contractor was unable program positive shut down during this inspection. The removing of sensors from programming is considered TAMPERING. This is a repeat violation. Contractor replaced the 87 and Diesel vacuum lines into programming during this inspection. The sensors do not function properly. The contractor was authorized to program the sensor for alarm only. COMPLIANCE REQUIREMENTS: 1. Facility must [Truncated]
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-24-2014
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Description: Failure to test the spill bucket annually.
Violation Notes: Returned to compliance on 09/14/2015. VIOLATION- 87 OVER SPILL BUCKET FAILED, WHEN TESTED
Violation Division: San Bernardino County Fire Department
Violation Program: UST

**SIERRA EM CHEVRON (Continued)** **S109444318**

Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-20-2018
Citation: 23 CCR 16 2715(c) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)
Violation Description: Failure to comply with one or more of the following designated operator (DO) monthly inspection requirements: Be performed by an ICC certified DO. Inspect monthly alarm history report, check that alarms are documented and responded to appropriately, and attach a copy. Inspect for the presence of liquid/debris in spill containers. Inspect for the presence of liquid/debris in under dispenser containment (UDC) and ensure that the monitoring equipment is positioned correctly. Inspect for liquid or debris in containment sumps where an alarm occurred with no service visit. Check that all testing and maintenance has been completed and documented. Verify that all facility employees have been trained in accordance with 23 CCR 2715(f)(2).
Violation Notes: OBSERVATION: On the monthly DO reports the following alarms were not addressed or documented with a follow-up action: Setup Data Warning L16: Disp 15/16, 03/28/18, 03/28/2018, and 03/27/2018. No maintenance records records were available for why any alarms were caused. CORRECTIVE ACTION: Submit a signed statement stating that all alarms will be properly addressed on the DO monthly inspection reports and work orders that pertain to the UST system will be maintained on-site. Formal enforcement may occur.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-24-2013
Citation: 23 CCR 16 2638 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638
Violation Description: Failure to test leak detection equipment as required every 12 months (VPH, sensor, LLD, ATG, etc.) and/or submit monitoring system certification to the CUPA within 30 days of completion of the test
Violation Notes: Returned to compliance on 09/26/2014.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-21-2017
Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)
Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance into the secondary containment.
Violation Notes: The 304 brine sensor in the UDC numbered 15/16 failed when tested. Compliance Requirement: Submit a copy of the work order documenting the replacement and funcitionality, and contact this department to setup a witness retest inspection within 30 days.
Violation Division: San Bernardino County Fire Department
Violation Program: UST

**SIERRA EM CHEVRON (Continued)** **S109444318**

Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-21-2017
Citation: 23 CCR 16 2715(c) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)
Violation Description: Failure to comply with one or more of the following designated operator (DO) monthly inspection requirements: Be performed by an ICC certified DO. Inspect monthly alarm history report, check that alarms are documented and responded to appropriately, and attach a copy. Inspect for the presence of liquid/debris in spill containers. Inspect for the presence of liquid/debris in under dispenser containment (UDC) and ensure that the monitoring equipment is positioned correctly. Inspect for liquid or debris in containment sumps where an alarm occurred with no service visit. Check that all testing and maintenance has been completed and documented. Verify that all facility employees have been properly trained.
Violation Notes: On the monthly DO reports the following alarm dates were documented to have occured on these dates 1-18-17, 10-4-16, and 11-22-16, however the operator failed to address why the alarms occurred and how the alarms were addressed. Also, the data setup warning alarms were not documented in the DO reports on 10-4-16 and 11-22-16. Compliance Requirement: Submit a signed statement stating that all documented alarms will be properly addressed on the DO monthly inspection reports including copies of work orders that pertain to Veeder Root alarms.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-22-2016
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Description: Failure to test the spill bucket annually.
Violation Notes: Returned to compliance on 09/29/2016. COMPLIANCE ACTIVITY ( 09/29/2016)- REC'D CERTIFICATE OF COMPLIANCE OBSERVATION: THE DIESEL (PRODUCT) OVERSPILL BUCKET FAILED WHEN TESTED. COMPLIANCE REQUIREMENT: SUBMIT A COPY OF THE WORK ORDER DOCUMENTING THE REPLACEMENT AND THE FUNCTIONALITY OF THE OVERSPILL BUCKET
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-24-2015
Citation: HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a)
Violation Description: Failure to submit an complete and accurate application for a permit to operate an underground storage tank, or for renewal of the permit.
Violation Notes: Returned to compliance on 11/09/2015. UST TANK INFORMATION FOR DIESEL SUBMITTED ON LINE IN CERS INDICATES THE TANK VOLUME TO BE 6,000 GALLON WHEN DIESEL TANK VOLUME VERIFIED THROUGH SYSTEM SET UP TO BE 10,000 GALLONS. CORRECT PREVIOUSLY NOTED DISCREPANCY ON LINE IN CERS WITHIN 30 DAYS.

**SIERRA EM CHEVRON (Continued)** **S109444318**

| | |
|---|---|
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Violation Date: | 09-24-2015 |
| Citation: | Un-Specified |
| Violation Description: | UST Program - Administration/Documentation - For use of Local Ordinance only |
| Violation Notes: | Returned to compliance on 11/09/2015. Failure to submit a signed Designated UST Operator Statement (23 CCR 2715(a)) UST DESIGNATED OPERATOR STATEMENT/AGREEMENT FORM SUBMITTED ON LINE IN CERS IS INCOMPLETE MISSING SIGNATURES. COMPLETE UST DESIGNATED OPERATOR STATEMENT/AGREEMENT FORM AND SUBMIT COMPLETE FORM ON LINE IN CERS WITHIN 30 DAYS. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Violation Date: | 10-09-2013 |
| Citation: | 23 CCR 16 2638 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638 |
| Violation Description: | Failure to test leak detection equipment as required every 12 months (VPH, sensor, LLD, ATG, etc.) and/or submit monitoring system certification to the CUPA within 30 days of completion of the test |
| Violation Notes: | Returned to compliance on 09/24/2014. OBSERVATION: Facility exceeded the anniversary date for annually certifying the UST monitoring system. Facility failed to have the monitoring system certified within 365 days. Last year?s monitoring certification was conducted on 9/18/12. The next annual Monitoring Certification is due no later than 9/18/13. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Violation Date: | 09-20-2018 |
| Citation: | HSC 6.95 25508.1(a)-(f) - California Health and Safety Code, Chapter 6.95, Section(s) 25508.1(a)-(f) |
| Violation Description: | Failure to electronically update business plan within 30 days of any one of the following events: A 100 percent or more increase in the quantity of a previously disclosed material. Any handling of a previously undisclosed hazardous materials at or above reportable quantities. A change of business address, business ownership, or business name. A substantial change in the handler's operations that requires modification to any portion of the business plan. |
| Violation Notes: | OBSERVATION: The hazardous materials inventory submitted via CERS is not accurate based upon what was observed on-site. CORRECTIVE ACTION: Update your chemical inventory to include your 55 gallon drum of UST related liquid waste and your 55 gallon drum of UST related solid waste. Re-submit your chemical inventory via CERS within 30 days. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |

**SIERRA EM CHEVRON (Continued)** **S109444318**

Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-24-2014
Citation: HSC 6.7 25299 - California Health and Safety Code, Chapter 6.7, Section(s) 25299
Violation Description: Failure to comply with one or more of the operating permit conditions.
Violation Notes: Returned to compliance on 09/14/2015. VIOLATION: SMART SENSORS HIGH PRODUCT (S2 87 VENT), (S4 91 PRODUCT) & (S7 DIESEL PRODUCT) FAILED WHEN TESTED.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-20-2018
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit a site map with all required content.
Violation Notes: OBSERVATION: The facility site map is missing the location of the UST related solid and UST related liquid waste and the water shut off and the location of nearby storm drains and sewers. CORRECTIVE ACTION: Add the location of the above information to the facility site map and re-submit via CERS within 30 days.
Violation Division: San Bernardino County Fire Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-24-2015
Citation: HSC 6.7 25299 - California Health and Safety Code, Chapter 6.7, Section(s) 25299
Violation Description: Failure to comply with one or more of the operating permit conditions.
Violation Notes: Returned to compliance on 11/09/2015. VR304 BRINE SENSOR INSIDE THE DIESEL STP SUMP FAILED WHEN TESTED. REPLACE FAILED SENSOR IMMEDIATELY AND SCHEDULE A WITNESSED RETEST WITH THIS DEPARTMENT WITHIN 30 DAYS.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-20-2018
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: OBSERVATION: The information submitted via CERS is not accurate based upon what was observed on-site. CORRECTIVE ACTION: Make the following changes and re-submit your UST documents vis CERS within 30 days: - - For all your tanks please add the tank installation date of 02/10/2010. For your monitoring plan site map, please include the piping layout, the location of the vent box, the location of all ESO

**SIERRA EM CHEVRON (Continued)** **S109444318**

switches, and the location of the overfill audible and visual annunciator. In the tank pages, for the 87 tank, please put ?yes? for ?fill tube shut off valve?. For your Diesel tank, please put ?None? for primary an secondary containment for vapor recovery. For your 91 and Diesel tanks for corrosion protection, say ?yes? for isolation.

Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-22-2016
Citation: 23 CCR 6.7 25284, 25286 - California Code of Regulations, Title 23, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: Returned to compliance on 09/29/2016. COMPLIANCE ACTIVITY ( 09/29/2016)- REC'D CERTIFICATE OF COMPLIANCE OBSERVATION: THE CERS UST DOCUMENTATION NOTED THE PIPE MONITORING (PIPING SECONDARY) AS DRY. AS PER INSPECTION, THE SECONDARY PIPING WAS OBSERVED UNDER A VACUUM. COMPLIANCE REQUIREMENT: UPDATED CERS WITH THE CORRECT UST INFORMATION.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-24-2015
Citation: 23 CCR 16 2643 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2643
Violation Description: Failure to demonstrate to the CUPA that the method approved to monitor the tank meets the monitoring methods set forth in 2643(f).
Violation Notes: Returned to compliance on 11/09/2015. 87 AND 91 FILL SPILL BUCKETS FAILED WHEN TESTED AT TIME OF INSPECTION. REPLACE FAILED SPILL BUCKET IMMEDIATELY AND SCHEDULE WITNESSED RETEST WITH THIS DEPARTMENT WITHIN 30 DAYS.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Violation Date: 09-22-2016
Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)
Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance into the secondary containment.
Violation Notes: Returned to compliance on 09/22/2016. OBSERVATION: THE 87 (HIGH LIQUID) ANNULAR SENSOR WAS NOT PROGRAMED FOR TURBINE SHUT DOWN. COMPLIANCE MET ON SITE: TECHNICIAN PROGRAM SENSOR AND RE-TESTED-PASSED
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON

**SIERRA EM CHEVRON (Continued)** **S109444318**

| | |
|---|---|
| Violation Date: | 09-21-2017 |
| Citation: | HSC 6.7 Multiple - California Health and Safety Code, Chapter 6.7, Section(s) Multiple |
| Violation Description: | UST Program - Administration/Documentation - General - Must include violation description, proper statute and regulation citation in the "comment" section. |
| Violation Notes: | Failure to have a written monitoring program with monitoring procedures and response plan (CHSC 25286(a)) The UST Monitoring Plan submitted to CERS on 9-27-17 was missing information. The date of installation was not included for each tank. The 87 fuel tank did not include the flapper for the fill tube under the section for overfill protection. The UST Monitoring Site Plan (map) does not include the piping. Compliance Requirement: Update the UST Monitoring Plan and submit to CERS. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Violation Date: | 10-09-2013 |
| Citation: | 23 CCR 16 2715 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715 |
| Violation Description: | Failure to comply with one or more of the designated operator monthly inspection requirements: failed to inspect the monthly alarm history report; attach a copy of the alarm history; failed to inspect for the presence of liquid or debris in the spill container/spill bucket and under dispenser containment; failed to inspect the under dispenser containment to ensure that monitoring equipment is placed in the proper position; failure to inspect for liquid or debris in the containment sump where an alarm occurred or for which there is no record of a service visit; or failure to check that all testing and maintenance has been completed and documented. |
| Violation Notes: | Returned to compliance on 09/24/2014. OBSERVATION: Multiple discrepancies were observed during the review of the Monthly Designated Operator Inspection Reports. Refer tothe Narrativve for detials. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Violation Date: | 09-20-2018 |
| Citation: | HSC 6.7 25291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 25291(b) |
| Violation Description: | Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance into the secondary containment. |
| Violation Notes: | Returned to compliance on 09/20/2018. OBSERVATION: The 304 sensor in the vent box was not functional when tested, the sensor was replaced and functional. Once the sensor was replaced it was noted that the sensor was not in programming for positive shut down of the turbines. CORRECTIVE ACTION: The 304 sensor in the vent box was replaced and the sensor was placed in programming for positive shut down of all turbines. No further corrective action required. |
| Violation Division: | San Bernardino County Fire Department |

**SIERRA EM CHEVRON (Continued)** **S109444318**

Violation Program: UST
Violation Source: CERS

Evaluation:

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-20-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-20-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-21-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-22-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: SIERRA EM CHEVRON- UST INSPECTION
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-22-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: SIERRA EM CHEVRON- UST WASTE INSPECTION
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-22-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: SIERRA EM CHEVRON- UST MONITORING CERTIFICATION
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

**SIERRA EM CHEVRON (Continued)** **S109444318**

Eval General Type: Other/Unknown
Eval Date: 09-24-2013
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: UST FIELD INSPECTION CANCELED WHILE ONSITE. VIOLATION ISSUED
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-24-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: chevron- fontana- ust monitoring certification
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-24-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: chevron- ust monitoring cert
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-24-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: HAZARDOUS MATERIALS INSPECTION - UST ONLY
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-24-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: UST ANNUAL INSPECTION WITH MONITORING SYSTEM CERTIFICATION.
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-09-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: UST HANDLER INSPECION
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-09-2013
Violations Found: Yes

**SIERRA EM CHEVRON (Continued)** **S109444318**

Eval Type: Routine done by local agency
Eval Notes: UST MONITORING CERTIFICATION
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 10-21-2013
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: UST REINSPECTON AND RED TAG
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 11-09-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: RE-INSPECTION TO FOLLOW UP ON VIOLATIONS NOTED ON THE PREVIOUS INSPECTION REPORT DATED 9/24/2015.
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Enforcement Action:
Site ID: 153396
Site Name: SIERRA EM CHEVRON
Site Address: 10510 SIERRA AVE
Site City: FONTANA
Site Zip: 92335
Enf Action Date: 09-22-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: San Bernardino County Fire Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Site Address: 10510 SIERRA AVE
Site City: FONTANA
Site Zip: 92335
Enf Action Date: 09-24-2013
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: San Bernardino County Fire Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 153396
Site Name: SIERRA EM CHEVRON
Site Address: 10510 SIERRA AVE
Site City: FONTANA
Site Zip: 92335

**SIERRA EM CHEVRON (Continued)** **S109444318**

| | |
|---|---|
| Enf Action Date: | 09-24-2014 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | UST |
| Enf Action Source: | CERS |

| | |
|---|---|
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Site Address: | 10510 SIERRA AVE |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 10-09-2013 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | UST |
| Enf Action Source: | CERS |

| | |
|---|---|
| Site ID: | 153396 |
| Site Name: | SIERRA EM CHEVRON |
| Site Address: | 10510 SIERRA AVE |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 10-21-2013 |
| Enf Action Type: | Referral to Other |
| Enf Action Description: | Referral to Other |
| Enf Action Notes: | CAUSING/THREATENS TO CAUSE A RELEASE, IMPAIRS THE ABILITY OF UST SYSTEM TO DETECT OR CONTAIN A RELEASE, CHRONIC VIOLATION TYPE: RED TAG FOLLOWING PREVIOUS NOTICE SPECIAL CIRCUMSTANCES: TAMPERING RED TAGS REMOVED AT 5:35 ON MONDAY, OCTOBER 21, 2013. |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | UST |
| Enf Action Source: | CERS |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 10510 SIERRA AVE |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | Not reported |

**SIERRA EM CHEVRON (Continued)** **S109444318**

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | SIERRA EM CHEVRON |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (714) 321-8311 |

| | |
|---|---|
| Affiliation Type Desc: | UST Permit Applicant |
| Entity Name: | MICHEAL KURKJAIN |
| Entity Title: | OWNER |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (714) 321-8311 |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | SIERRA EM CHEVRON |
| Entity Title: | Not reported |
| Affiliation Address: | 10510 SIERRA AVE. |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 428-8077 |

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | SIERRA EM CHEVRON |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Property Owner |
| Entity Name: | MIKE KURKJIAN |
| Entity Title: | Not reported |
| Affiliation Address: | 10510 SIERRA AVE. |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 428-8077 |

| | |
|---|---|
| Affiliation Type Desc: | UST Tank Owner |
| Entity Name: | AREN KURKJAIN |
| Entity Title: | Not reported |
| Affiliation Address: | 10510 SIERRA AVE. |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |

**SIERRA EM CHEVRON (Continued)** **S109444318**

| | |
|---|---|
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (714) 321-8311 |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | TONY MANSOUR |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | TONY MANSOUR |
| Entity Title: | Not reported |
| Affiliation Address: | 6515 MOORCROFT AVE |
| Affiliation City: | WOODLAND HILLS |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 91303 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Michael Kurkjian |
| Entity Title: | OWNER |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | UST Property Owner Name |
| Entity Name: | AREN KURKJAIN |
| Entity Title: | Not reported |
| Affiliation Address: | 10510 SIERRA AVE. |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (714) 321-8311 |
| | |
| Affiliation Type Desc: | UST Tank Operator |
| Entity Name: | SIERRA EM CHEVRON |
| Entity Title: | Not reported |
| Affiliation Address: | 10510 SIERRA AVE. |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (714) 321-8311 |

**D15 SSE 1/8-1/4 0.173 mi. 912 ft.** | **M KLAS INC DBA SIERRA EM CHEVRON** | **RCRA NonGen / NLR** | **1024826646**
**10510 SIERRA AVE** | **CAL000354704**
**FONTANA, CA 92337**

**Site 3 of 4 in cluster D**

**Relative: Lower**

**Actual: 1089 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 07/15/2010 |
| Facility name: | M KLAS INC DBA SIERRA EM CHEVRON |
| Facility address: | 10510 SIERRA AVE<br>FONTANA, CA 92337-7669 |
| EPA ID: | CAL000354704 |
| Contact: | AREN KURKJIAN |
| Contact address: | 10510 SIERRA AVE<br>FONTANA, CA 92337 |
| Contact country: | Not reported |
| Contact telephone: | 909-428-8077 |
| Contact email: | SIERRACHEVRON@GMAIL.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | AREN KURKJIAN |
| Owner/operator address: | 10510 SIERRA AVE<br>FONTANA, CA 92337 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 909-428-8077 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | M KLAS INC |
| Owner/operator address: | 10510 SIERRA AVE<br>FONTANA, CA 92337 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 909-428-8077 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| 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: | Yes |
| Treater, storer or disposer of HW: | No |
| Underground injection activity: | No |
| On-site burner exemption: | No |
| Furnace exemption: | No |

**M KLAS INC DBA SIERRA EM CHEVRON (Continued)** **1024826646**

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

Violation Status: No violations found

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**D16 SSE 1/8-1/4 0.173 mi. 912 ft.** **SIERRA EM CHEVRON**
**10510 SIERRA AVE**
**FONTANA, CA 92335**
**Site 4 of 4 in cluster D**

**UST** **U004264109**
**N/A**

**Relative: Lower**
**Actual: 1089 ft.**

UST:
Name: SIERRA EM CHEVRON
Address: 10510 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Facility ID: FA0011529
Permitting Agency: San Bernardino County Fire Department
Latitude: 34.0625
Longitude: -117.43665

---

**E17 NNW 1/8-1/4 0.191 mi. 1008 ft.** **PEP BOYS #680**
**16711 VALLEY BLVD**
**FONTANA, CA 92335**
**Site 1 of 2 in cluster E**

**CERS HAZ WASTE**
**FINDS**
**San Bern. Co. Permit**
**CERS**

**1007677194**
**N/A**

**Relative: Higher**
**Actual: 1117 ft.**

CERS HAZ WASTE:
Name: PEP BOYS-FONTANA #680
Address: 16711 VALLEY BLVD
City,State,Zip: FONTANA, CA 92335
Site ID: 56188
CERS ID: 10043044
CERS Description: Hazardous Waste Generator

FINDS:

Registry ID: 110017950582

Environmental Interest/Information System
STATE MASTER

UORS (California - Used Oil Recycling System). California Integrated Waste Management Board (CIWMB) helps communities establish and promote convenient collection opportunities for used oil and used oil filters.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

San Bern. Co. Permit:
Name: PEP BOYS-FONTANA #680

**PEP BOYS #680 (Continued)** **1007677194**

Address: 16711 VALLEY BLVD
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0005280
Owner: Pep Boys - Manny, Moe & Jack
Permit Number: PT0005775
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 09/30/2019

Name: PEP BOYS-FONTANA #680
Address: 16711 VALLEY BLVD
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0005280
Owner: Pep Boys - Manny, Moe & Jack
Permit Number: PT0005774
Permit Category: LARGE QUANTITY GENERATOR
Facility Status: ACTIVE
Expiration Date: 09/30/2019

Name: PEP BOYS-FONTANA #680
Address: 16711 VALLEY BLVD
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0005280
Owner: Pep Boys - Manny, Moe & Jack
Permit Number: PT0005773
Permit Category: CE ANNUAL FEE
Facility Status: INACTIVE
Expiration Date: 09/30/2007

CERS:
Name: PEP BOYS-FONTANA #680
Address: 16711 VALLEY BLVD
City,State,Zip: FONTANA, CA 92335
Site ID: 56188
CERS ID: 10043044
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 56188
Site Name: PEP BOYS-FONTANA #680
Violation Date: 11-08-2017
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple
Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General
Violation Notes: Failure to keep hazardous waste containers closed when not in active use (CCR 66265.173(a)) A 16-gallon container of waste brake fluid and 55 gallon container of oil/absorbent (paper filter) waste were not sealed.
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Site ID: 56188
Site Name: PEP BOYS-FONTANA #680

**PEP BOYS #680 (Continued)** **1007677194**

| | |
|---|---|
| Violation Date: | 11-08-2017 |
| Citation: | HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple |
| Violation Description: | Hazardous Waste Generator Program - Operations/Maintenance - General |
| Violation Notes: | Failure to label hazardous waste containers (CCR 66262.34(f)(3)) A defective retail product hazardous waste container lacked the required hazardous waste labeling. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 56188 |
| Site Name: | PEP BOYS-FONTANA #680 |
| Violation Date: | 11-08-2017 |
| Citation: | HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple |
| Violation Description: | Hazardous Waste Generator Program - Operations/Maintenance - General |
| Violation Notes: | Failure to complete hazardous waste labels (CCR 66262.34(f)(3)) The hazardous waste labeling on a container of parts washer related waste has faded and is no longer legible. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 56188 |
| Site Name: | PEP BOYS-FONTANA #680 |
| Violation Date: | 10-08-2014 |
| Citation: | HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections |
| Violation Description: | Haz Waste Generator Program - Operations/Maintenance - General |
| Violation Notes: | Returned to compliance on 10/08/2014. Failure to operate and maintain facility to prevent a fire, spill or release (CCR 66265.31) Some small spills observed in the hazardous waste storage area. Spills appear to be related to transfer of oil to the main waste oil storage tank. Revise practices to avoid oil spillage. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 56188 |
| Site Name: | PEP BOYS-FONTANA #680 |
| Violation Date: | 11-08-2017 |
| Citation: | HSC 6.5 25250.22 - California Health and Safety Code, Chapter 6.5, Section(s) 25250.22 |
| Violation Description: | Failure to properly manage used oil and/or fuel filters in accordance with the requirements. |
| Violation Notes: | Used oil filter containers are not maintained in a closed condition. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 56188 |
| Site Name: | PEP BOYS-FONTANA #680 |
| Violation Date: | 11-08-2017 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit hazardous material |

**PEP BOYS #680 (Continued)** **1007677194**

| | |
|---|---|
| | inventory information for all reportable hazardous materials on site at or above reportable quantities. |
| Violation Notes: | The facility hazardous material inventory has omission and inaccuracies; oil/absorbent waste is not disclosed and two 16-gallon containers of brake fluid waste were present (a 100% increase in disclosed storage). |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |
| | |
| Site ID: | 56188 |
| Site Name: | PEP BOYS-FONTANA #680 |
| Violation Date: | 11-08-2017 |
| Citation: | HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple |
| Violation Description: | Hazardous Waste Generator Program - Operations/Maintenance - General |
| Violation Notes: | Failure to operate and maintain facility to prevent a fire, spill or release (CCR 66265.31) Petroleum spill observed on the floor in one corner of the hazardous material storage room. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 56188 |
| Site Name: | PEP BOYS-FONTANA #680 |
| Violation Date: | 11-08-2017 |
| Citation: | HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple |
| Violation Description: | Hazardous Waste Generator Program - Operations/Maintenance - General |
| Violation Notes: | Failure to note accumulation start date on labels (CCR 66262.34(f)(2)) The hazardous waste labeling on a container of parts washer related waste has faded and is no longer legible and there was no accumulation start date on a container or defective retail product hazardous waste. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 56188 |
| Site Name: | PEP BOYS-FONTANA #680 |
| Violation Date: | 11-08-2017 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | Trench drains at each service bay opening and the three compartment clarifier and holding tank are not depicted on the facility site map. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 10-08-2014 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Routine inspection |
| Eval Division: | San Bernardino County Fire Department |

**PEP BOYS #680 (Continued)** **1007677194**

| | |
|---|---|
| Eval Program: | HMRRP |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 10-08-2014 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Routine inspection |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 11-08-2017 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 11-08-2017 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |

Enforcement Action:

| | |
|---|---|
| Site ID: | 56188 |
| Site Name: | PEP BOYS-FONTANA #680 |
| Site Address: | 16711 VALLEY BLVD |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 10-08-2014 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | HW |
| Enf Action Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 56188 |
| Facility Name: | PEP BOYS-FONTANA #680 |
| Env Int Type Code: | HWG |
| Program ID: | 10043044 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Unknown |
| Latitude: | 34.069267 |
| Longitude: | -117.439003 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |

**PEP BOYS #680 (Continued)** **1007677194**

| | |
|---|---|
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 3111 W Allegheny Ave, Attn: Environmental Department |
| Affiliation City: | Philadelphia |
| Affiliation State: | PA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 19132 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Property Owner |
| Entity Name: | J.G. MANAGEMENT CO., INC |
| Entity Title: | Not reported |
| Affiliation Address: | 5743 Corsa Avenue, Suite 200 |
| Affiliation City: | Westlake Village |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 91362 |
| Affiliation Phone: | (818) 707-9494 |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Alana Persad |
| Entity Title: | Not reported |
| Affiliation Address: | 3111 W Allegheny Ave, Attn: Environmental Department |
| Affiliation City: | Philadelphia |
| Affiliation State: | PA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 19132 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Alana Persad |
| Entity Title: | Environmental Coordinator |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Pep Boys- Manny, Moe & Jack |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |

**PEP BOYS #680 (Continued)** **1007677194**

| | |
|---|---|
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Alana Persad |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Pep Boys Corporation |
| Entity Title: | Not reported |
| Affiliation Address: | 3111 W Allegheny Ave, Attn: Environmental Department |
| Affiliation City: | Philadelphia |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 19132 |
| Affiliation Phone: | (215) 430-9095 |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Pep Boys Corporation |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (215) 430-9226 |

---

**E18**
**NNW**
**1/8-1/4**
**0.191 mi.**
**1008 ft.**

**PEP BOYS STORE#0680** **RCRA NonGen / NLR** **1024790388**
**16711 VALLEY BLVD** **CAL000082946**
**FONTANA, CA 92335**

**Site 2 of 2 in cluster E**

**Relative:**
**Higher**

**Actual:**
**1117 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 07/28/1993 |
| Facility name: | PEP BOYS STORE#0680 |
| Facility address: | 16711 VALLEY BLVD<br>FONTANA, CA 92335-0000 |
| EPA ID: | CAL000082946 |
| Mailing address: | 3111 W ALLEGHENY AVE<br>PHILADELPHIA, PA 19132-1116 |
| Contact: | ALANA PERSAD |
| Contact address: | PEP BOYS -MANNY, MOE & JACK 3111 WEST ALLEGHENY AVENUE<br>PHILADELPHIA, PA 19132 |
| Contact country: | Not reported |
| Contact telephone: | 215-430-9226 |
| Contact email: | ALANA_PERSAD@PEPBOYS.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

**PEP BOYS STORE#0680 (Continued)** **1024790388**

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | THE PEP BOYS MANNY MOE & JACK OF CA |
| Owner/operator address: | 3111 WEST ALLEGHENY AVE ENVIRONMENTAL DEPT<br>PHILADELPHIA, PA 19132 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 215-430-9226 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | ALANA PERSAD |
| Owner/operator address: | PEP BOYS -MANNY, MOE & JACK 3111 WEST ALLEGHENY AVENUE<br>PHILADELPHIA, PA 19132 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 215-430-9226 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| 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: | Yes |
| 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 |

Violation Status: No violations found

---

**F19** **FOOD 4 LESS #389** **RCRA NonGen / NLR** **1024817184**
**NE** **16991 VALLEY BLVD** **CAL000320644**
**1/8-1/4** **FONTANA, CA 92335**
**0.195 mi.**
**1028 ft.** **Site 1 of 2 in cluster F**

**Relative:**
**Higher**

**Actual:**
**1117 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 06/12/2007 |
| Facility name: | FOOD 4 LESS #389 |
| Facility address: | 16991 VALLEY BLVD<br>FONTANA, CA 92335-6810 |
| EPA ID: | CAL000320644 |

**FOOD 4 LESS #389 (Continued)** **1024817184**

| | |
|---|---|
| Mailing address: | P.O. BOX 54143<br>LOS ANGELES, CA 90054-0000 |
| Contact: | SHERRIE WALTERS |
| Contact address: | 1100 W. ARTESIA BLVD.<br>COMPTON, CA 90220 |
| Contact country: | Not reported |
| Contact telephone: | 310-884-4016 |
| Contact email: | SHERRIE.WALTERS@RALPHS.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | RALPHS GROCERY CO |
| Owner/operator address: | PO BOX 54143<br>LOS ANGELES, CA 90054 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 310-884-4016 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | SHERRIE WALTERS |
| Owner/operator address: | 1100 W. ARTESIA BLVD.<br>COMPTON, CA 90220 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 310-884-4016 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| 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: | Yes |
| 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 |

**FOOD 4 LESS #389 (Continued)** **1024817184**

Violation Status: No violations found

---

**F20**
**NE**
**1/8-1/4**
**0.195 mi.**
**1028 ft.**

**FOOD 4 LESS #389**
**16991 VALLEY BLVD**
**FONTANA, CA 92335**

**CERS HAZ WASTE** **S105159238**
**San Bern. Co. Permit** **N/A**
**CERS**

**Site 2 of 2 in cluster F**

**Relative:**
**Higher**

**Actual:**
**1117 ft.**

CERS HAZ WASTE:

| | |
|---|---|
| Name: | FOOD 4 LESS #389 |
| Address: | 16991 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 117155 |
| CERS ID: | 10039405 |
| CERS Description: | Hazardous Waste Generator |

San Bern. Co. Permit:

| | |
|---|---|
| Name: | FOOD 4 LESS #389 |
| Address: | 16991 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0003297 |
| Owner: | FOOD 4 LESS |
| Permit Number: | PT0001211 |
| Permit Category: | HAZARDOUS MATERIALS 1-3 CHEMICALS |
| Facility Status: | ACTIVE |
| Expiration Date: | 10/31/2019 |

| | |
|---|---|
| Name: | FOOD 4 LESS #389 |
| Address: | 16991 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0003297 |
| Owner: | FOOD 4 LESS |
| Permit Number: | PT0024415 |
| Permit Category: | CONDITIONALLY EXEMPT SM QTY GENERATOR |
| Facility Status: | ACTIVE |
| Expiration Date: | 10/31/2019 |

CERS:

| | |
|---|---|
| Name: | FOOD 4 LESS #389 |
| Address: | 16991 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 117155 |
| CERS ID: | 10039405 |
| CERS Description: | Chemical Storage Facilities |

Violations:

| | |
|---|---|
| Site ID: | 117155 |
| Site Name: | FOOD 4 LESS #389 |
| Violation Date: | 06-25-2018 |
| Citation: | HSC 6.95 25508.1(a)-(f) - California Health and Safety Code, Chapter 6.95, Section(s) 25508.1(a)-(f) |
| Violation Description: | Failure to electronically update business plan within 30 days of any one of the following events: A 100 percent or more increase in the quantity of a previously disclosed material. Any handling of a previously undisclosed hazardous materials at or above reportable quantities. A change of business address, business ownership, or |

**FOOD 4 LESS #389 (Continued)** **S105159238**

business name. A substantial change in the handler's operations that requires modification to any portion of the business plan.

Violation Notes: Returned to compliance on 07/02/2018. The inventory observed on site was consistent with the CERS submittal of 2/23/18 with the exception of (3) ? 10 gallon containers of toxic waste, (1) ? 30 gallon drum of toxic waste, and (2) ? 10 gallon containers of aerosols. CORRECTIVE ACTION: Submit a signed statement indicating that the business plan has been submitted into CERS.
Violation Division: San Bernardino County Fire Department
Violation Program: HMRRP
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-25-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-25-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-21-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: REGULAR INSPECTION.
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-21-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: REGULAR INSPECTION.
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 117155
Facility Name: FOOD 4 LESS #389
Env Int Type Code: HWG
Program ID: 10039405
Coord Name: Not reported
Ref Point Type Desc: Unknown

**FOOD 4 LESS #389 (Continued)** **S105159238**

Latitude: 34.070331
Longitude: -117.434089

Affiliation:

Affiliation Type Desc: Identification Signer
Entity Name: Matthew Eaton
Entity Title: Manager Environmental Affairs
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: Ralphs Grocery Company
Entity Title: Not reported
Affiliation Address: P.O. Box 54143
Affiliation City: Los Angeles
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 90054-0143
Affiliation Phone: (310) 884-9000

Affiliation Type Desc: Environmental Contact
Entity Name: Matthew Eaton
Entity Title: Not reported
Affiliation Address: P.O. Box 54143
Affiliation City: Los Angeles
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 90054-0143
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation
Entity Name: Ralphs Grocery Company
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Property Owner
Entity Name: Mirlan Company c/o Luko Management
Entity Title: Not reported
Affiliation Address: 16400 Pacific Coast Hwy
Affiliation City: Huntington Beach
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92649
Affiliation Phone: (562) 592-6004

Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported

**FOOD 4 LESS #389 (Continued)** **S105159238**

| | |
|---|---|
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Ralphs Grocery Company |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | P.O. Box 54143 |
| Affiliation City: | Los Angeles |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 90054-0143 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | Ralphs Grocery Company |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (310) 884-9000 |

---

**G21** **WESTERN DENTAL SERVICES, INC.** **RCRA NonGen / NLR** **1024794579**
**NNE** **10144 SIERRA AVE** **CAL000149158**
**1/8-1/4** **FONTANA, CA 92335**
**0.205 mi.**
**1083 ft.** **Site 1 of 2 in cluster G**

**Relative:**
**Higher**

**Actual:**
**1120 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 08/18/1994 |
| Facility name: | WESTERN DENTAL SERVICES, INC. |
| Facility address: | 10144 SIERRA AVE<br>FONTANA, CA 92335-0000 |
| EPA ID: | CAL000149158 |
| Mailing address: | 530 S MAIN STREET<br>ORANGE, CA 92868-0000 |
| Contact: | KAREN NGUYEN |
| Contact address: | 530 S MAIN ST<br>ORANGE, CA 92868-0000 |
| Contact country: | Not reported |
| Contact telephone: | 714-571-3564 |
| Contact email: | KNGUYEN@WESTERNDENTAL.COM |

**WESTERN DENTAL SERVICES, INC. (Continued)** **1024794579**

EPA Region: 09
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: KAREN NGUYEN
Owner/operator address: 530 S MAIN ST
ORANGE, CA 92868
Owner/operator country: Not reported
Owner/operator telephone: 714-571-3564
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Other
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: WESTERN DENTAL SERVICES, INC
Owner/operator address: 530 S MAIN STREET
ORANGE, CA 92868
Owner/operator country: Not reported
Owner/operator telephone: 714-480-3000
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: Not reported
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: Yes
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

Violation Status: No violations found

**G22 NNE 1/8-1/4 0.205 mi. 1083 ft.** | **WESTERN DENTAL 10144 SIERRA AVE FONTANA, CA 92335** | **CERS HAZ WASTE HAZNET San Bern. Co. Permit CERS** | **S113082208 N/A**

**Site 2 of 2 in cluster G**

**Relative: Higher**

**Actual: 1120 ft.**

CERS HAZ WASTE:

| | |
|---|---|
| Name: | WESTERN DENTAL |
| Address: | 10144 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 85532 |
| CERS ID: | 10456945 |
| CERS Description: | Hazardous Waste Generator |

HAZNET:

| | |
|---|---|
| Name: | WESTERN DENTAL SERVICES, INC. |
| Address: | 10144 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 923350000 |
| Year: | 2013 |
| GEPAID: | CAL000149158 |
| Contact: | Yen Lam |
| Telephone: | 7145712189 |
| Mailing Name: | Not reported |
| Mailing Address: | 530 S MAIN STREET |
| Mailing City,St,Zip: | ORANGE, CA 928630000 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAD008252405 |
| TSD County: | Los Angeles |
| Tons: | 0.0225 |
| CA Waste Code: | 352-Other organic solids |
| Method: | H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | WESTERN DENTAL SERVICES, INC. |
| Address: | 10144 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 923350000 |
| Year: | 2012 |
| GEPAID: | CAL000149158 |
| Contact: | Yen Lam |
| Telephone: | 7145712189 |
| Mailing Name: | Not reported |
| Mailing Address: | 530 S MAIN STREET |
| Mailing City,St,Zip: | ORANGE, CA 928630000 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAD044429835 |
| TSD County: | Los Angeles |
| Tons: | 0.017 |
| CA Waste Code: | 343-Unspecified organic liquid mixture |
| Method: | H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | WESTERN DENTAL SERVICES, INC. |
| Address: | 10144 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 923350000 |
| Year: | 2011 |
| GEPAID: | CAL000149158 |
| Contact: | Yen Lam |

**WESTERN DENTAL (Continued)** **S113082208**

Telephone: 7145712189
Mailing Name: Not reported
Mailing Address: 530 S MAIN STREET
Mailing City,St,Zip: ORANGE, CA 928630000
Gen County: San Bernardino
TSD EPA ID: CAD044429835
TSD County: Los Angeles
Tons: 0.051
CA Waste Code: 343-Unspecified organic liquid mixture
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: San Bernardino

Name: WESTERN DENTAL SERVICES, INC.
Address: 10144 SIERRA AVE
City,State,Zip: FONTANA, CA 923350000
Year: 2010
GEPAID: CAL000149158
Contact: Yen Lam
Telephone: 7145712189
Mailing Name: Not reported
Mailing Address: 530 S MAIN STREET
Mailing City,St,Zip: ORANGE, CA 928630000
Gen County: San Bernardino
TSD EPA ID: CAD044429835
TSD County: Los Angeles
Tons: 0.119
CA Waste Code: 343-Unspecified organic liquid mixture
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: San Bernardino

Name: WESTERN DENTAL SERVICES, INC.
Address: 10144 SIERRA AVE
City,State,Zip: FONTANA, CA 923350000
Year: 2009
GEPAID: CAL000149158
Contact: Yen Lam
Telephone: 7145712189
Mailing Name: Not reported
Mailing Address: 530 S MAIN STREET
Mailing City,St,Zip: ORANGE, CA 928630000
Gen County: San Bernardino
TSD EPA ID: CAD028409019
TSD County: Los Angeles
Tons: Not reported
CA Waste Code: 135-Unspecified aqueous solution
Method: -
Facility County: San Bernardino

Click this hyperlink while viewing on your computer to access
48 additional CA_HAZNET: record(s) in the EDR Site Report.

San Bern. Co. Permit:
Name: WESTERN DENTAL
Address: 10144 SIERRA AVE
City,State,Zip: FONTANA, CA 92335

**WESTERN DENTAL (Continued)** **S113082208**

Region: SAN BERNARDINO
Facility ID: FA0016811
Owner: Western Dental Services, Inc
Permit Number: PT0036037
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL
Facility Status: ACTIVE
Expiration Date: 08/31/2019

Name: WESTERN DENTAL
Address: 10144 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0016811
Owner: Western Dental Services, Inc
Permit Number: PT0037174
Permit Category: HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status: FEE EXEMPT
Expiration Date: 08/31/2017

CERS:
Name: WESTERN DENTAL
Address: 10144 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Site ID: 85532
CERS ID: 10456945
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-16-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 85532
Facility Name: Western Dental
Env Int Type Code: HWG
Program ID: 10456945
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 34.069530
Longitude: -117.436310

Affiliation:
Affiliation Type Desc: Legal Owner
Entity Name: Western Dental Services, Inc
Entity Title: Not reported
Affiliation Address: 530 South Main St.
Affiliation City: Orange
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92868

**WESTERN DENTAL (Continued)** **S113082208**

| | |
|---|---|
| Affiliation Phone: | (714) 480-3000 |
| | |
| Affiliation Type Desc: | Property Owner |
| Entity Name: | NEAL T. BAKER ENTERPRISES |
| Entity Title: | Not reported |
| Affiliation Address: | 1875 BUSINESS CENTER DR |
| Affiliation City: | San Bernadino |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92408 |
| Affiliation Phone: | (909) 884-7241 |
| | |
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 530 South Main St. |
| Affiliation City: | Orange |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92868 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Gerardo Mejia |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Gerardo Mejia |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Edward Saldana |
| Entity Title: | Not reported |
| Affiliation Address: | 530 South Main St. |
| Affiliation City: | Orange |

**WESTERN DENTAL (Continued)** **S113082208**

| | |
|---|---|
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92868 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Western Dental Services, Inc. |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Western Dental Services, Inc |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (714) 480-3000 |

---

**23** **MCGUIRE CONTRACTING** **RCRA NonGen / NLR** **1024780601**
**SW** **16579 SLOVER AVENUE** **CAC003000563**
**1/8-1/4** **FONTANA, CA 92337**
**0.212 mi.**
**1121 ft.**

**Relative:**
**Lower**

**Actual:**
**1084 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 02/11/2019 |
| Facility name: | MCGUIRE CONTRACTING |
| Facility address: | 16579 SLOVER AVENUE<br>FONTANA, CA 92337 |
| EPA ID: | CAC003000563 |
| Contact: | KATHIE RICE |
| Contact address: | 16579 SLOVER AVENUE<br>FONTANA, CA 92337 |
| Contact country: | Not reported |
| Contact telephone: | 909-357-1200 |
| Contact email: | KATHIE@MCGUIRECONTRACTING.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | KATHIE RICE |
| Owner/operator address: | 16579 SLOVER AVENUE<br>FONTANA, CA 92337 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 909-357-1200 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |

**MCGUIRE CONTRACTING (Continued)** **1024780601**

Legal status: Other
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: MCGUIRE CONTRACTING
Owner/operator address: 16579 SLOVER AVENUE
FONTANA, CA 92337
Owner/operator country: Not reported
Owner/operator telephone: 909-357-1200
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: Not reported
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

Violation Status: No violations found

---

**H24** **BATH & BODY WORKS #1840** **CERS HAZ WASTE** **S121310011**
**ESE** **17030 SLOVER AVE STE A-105** **HAZNET** **N/A**
**1/8-1/4** **FONTANA, CA 92337** **San Bern. Co. Permit**
**0.214 mi.** **CERS**
**1130 ft.** **Site 1 of 5 in cluster H**

**Relative:**
**Lower**

**Actual:**
**1093 ft.**

CERS HAZ WASTE:
Name: BATH & BODY WORKS #1840
Address: 17030 SLOVER AVE STE A105
City,State,Zip: FONTANA, CA 92337
Site ID: 427664
CERS ID: 10747420
CERS Description: Hazardous Waste Generator

HAZNET:
Name: BATH & BODY WORKS #1840
Address: 17030 SLOVER AVE STE A-105
City,State,Zip: FONTANA, CA 92337
Year: 2017
GEPAID: CAL000427586
Contact: MIKE RYAN

**BATH & BODY WORKS #1840 (Continued)** **S121310011**

Telephone: 6144151769
Mailing Name: Not reported
Mailing Address: 2 LIMITED PKWY
Mailing City,St,Zip: COLUMBUS, OH 43230
Gen County: San Bernardino
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Tons: 0.319
CA Waste Code: 331-Off-specification, aged or surplus organics
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: San Bernardino

San Bern. Co. Permit:
Name: BATH & BODY WORKS #1840
Address: 17030 SLOVER AVE STE A105
City,State,Zip: FONTANA, CA 92337
Region: SAN BERNARDINO
Facility ID: FA0017587
Owner: BATH & BODY WORKS LLC
Permit Number: PT0037903
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL
Facility Status: ACTIVE
Expiration Date: 11/30/2018

Name: BATH & BODY WORKS #1840
Address: 17030 SLOVER AVE STE A105
City,State,Zip: FONTANA, CA 92337
Region: SAN BERNARDINO
Facility ID: FA0017587
Owner: BATH & BODY WORKS LLC
Permit Number: PT0037844
Permit Category: HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status: FEE EXEMPT
Expiration Date: 11/30/2018

CERS:
Name: BATH & BODY WORKS #1840
Address: 17030 SLOVER AVE STE A105
City,State,Zip: FONTANA, CA 92337
Site ID: 427664
CERS ID: 10747420
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 427664
Site Name: BATH & BODY WORKS #1840
Violation Date: 04-18-2018
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 04/18/2018. Failure to provide hazardous waste labels on containers of hazardous waste; two containers lacked

**BATH & BODY WORKS #1840 (Continued)** **S121310011**

| | |
|---|---|
| | hazardous waste labeling and one container was incorrectly labeled. Correction was made during the inspection. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 427664 |
| Site Name: | BATH & BODY WORKS #1840 |
| Violation Date: | 04-18-2018 |
| Citation: | 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173 |
| Violation Description: | Failure to meet the following container management requirements: (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste. (b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. |
| Violation Notes: | Returned to compliance on 04/18/2018. Failure to maintain hazardous waste containers in a closed condition; two containers of hazardous waste were not maintained in a closed condition. This violation was corrected during the inspection. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 04-18-2018 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | ASHLEY CAMPBELL |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Ashley Campbell |
| Entity Title: | COMPLIANCE & REGULATORY AFFAIRS SPEC |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

**BATH & BODY WORKS #1840 (Continued)** **S121310011**

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Bath & Body Works, LLC |
| Entity Title: | Not reported |
| Affiliation Address: | 7 LIMITED PARKWAY |
| Affiliation City: | REYNOLDSBURG |
| Affiliation State: | OH |
| Affiliation Country: | United States |
| Affiliation Zip: | 43068 |
| Affiliation Phone: | (614) 856-6000 |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 2 LIMITED PARKWAY/ATTN: MIKE RYAN |
| Affiliation City: | COLUMBUS |
| Affiliation State: | OH |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 43230 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | Bath & Body Works #1840 |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (909) 829-0071 |

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Mike Ryan |
| Entity Title: | Not reported |
| Affiliation Address: | 2 LIMITED PARKWAY |
| Affiliation City: | COLUMBUS |
| Affiliation State: | OH |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 43230 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | L Brands |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |

**BATH & BODY WORKS #1840 (Continued)** **S121310011**

Affiliation Zip: Not reported
Affiliation Phone: Not reported

---

**H25 ESE 1/8-1/4 0.214 mi. 1130 ft.**

**BATH & BODY WORKS #1840**
**17030 SLOVER AVE STE A-105**
**FONTANA, CA 92337**

**RCRA NonGen / NLR** **1024859906**
**CAL000427586**

**Site 2 of 5 in cluster H**

**Relative: Lower**

**Actual: 1093 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 05/08/2017 |
| Facility name: | BATH & BODY WORKS #1840 |
| Facility address: | 17030 SLOVER AVE STE A-105<br>FONTANA, CA 92337 |
| EPA ID: | CAL000427586 |
| Mailing address: | 2 LIMITED PKWY<br>COLUMBUS, OH 43230 |
| Contact: | MIKE RYAN |
| Contact address: | 2 LIMITED PKWY<br>COLUMBUS, OH 43230 |
| Contact country: | Not reported |
| Contact telephone: | 614-415-1769 |
| Contact email: | MRYAN@LB.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | BATH & BODY WORKS LLC |
| Owner/operator address: | 7 LIMITED PKWY<br>REYNOLDSBURG, OH 43068 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 614-856-6000 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | MIKE RYAN |
| Owner/operator address: | 2 LIMITED PKWY<br>COLUMBUS, OH 43230 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 614-415-1769 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

Handler Activities Summary:
U.S. importer of hazardous waste: No

**BATH & BODY WORKS #1840 (Continued)** **1024859906**

| | |
|---|---|
| Mixed waste (haz. and radioactive): | No |
| Recycler of hazardous waste: | No |
| Transporter of hazardous waste: | Yes |
| 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 |

Violation Status: No violations found

---

**I26**
**SSE**
**1/8-1/4**
**0.234 mi.**
**1235 ft.**

**O'REILLY AUTO PARTS #4945**
**10560 SIERRA AVE**
**FONTANA, CA 92337**

**CERS HAZ WASTE** **S121143944**
**San Bern. Co. Permit** **N/A**
**CERS**

**Site 1 of 2 in cluster I**

**Relative:**
**Lower**

**Actual:**
**1085 ft.**

CERS HAZ WASTE:

| | |
|---|---|
| Name: | O'REILLY AUTO PARTS #4945 |
| Address: | 10560 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92337 |
| Site ID: | 360728 |
| CERS ID: | 10649983 |
| CERS Description: | Hazardous Waste Generator |

San Bern. Co. Permit:

| | |
|---|---|
| Name: | O'REILLY AUTO PARTS #4945 |
| Address: | 10560 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92337 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0016607 |
| Owner: | O'Reilly Auto Enterprises, L.L.C. |
| Permit Number: | PT0037185 |
| Permit Category: | HAZARDOUS MATERIALS 1-3 CHEMICALS |
| Facility Status: | ACTIVE |
| Expiration Date: | 08/31/2019 |

| | |
|---|---|
| Name: | O'REILLY AUTO PARTS #4945 |
| Address: | 10560 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92337 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0016607 |
| Owner: | O'Reilly Auto Enterprises, L.L.C. |
| Permit Number: | PT0037186 |
| Permit Category: | CONDITIONALLY EXEMPT SM QTY GENERATOR |
| Facility Status: | ACTIVE |
| Expiration Date: | 08/31/2019 |

CERS:

| | |
|---|---|
| Name: | O'REILLY AUTO PARTS #4945 |
| Address: | 10560 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92337 |

**O'REILLY AUTO PARTS #4945 (Continued)** **S121143944**

Site ID: 360728
CERS ID: 10649983
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 360728
Site Name: O'Reilly Auto Parts #4945
Violation Date: 04-04-2018
Citation: 22 CCR 12 66262.12 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.12
Violation Description: Failure to obtain an Identification Number prior to treating, storing, disposing of, transporting or offering for transportation any hazardous waste.
Violation Notes: Returned to compliance on 04/24/2018. Failure to obtain a valid hazardous waste generator; the facility hazardous waste generator ID number (CAL000407613) is currently inactive. Compliance documentation was received on 5/22/2018 (Note: ID number reactivation occurred on 4/24/2018). CB
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-04-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-04-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 360728
Facility Name: O'Reilly Auto Parts #4945
Env Int Type Code: HWG
Program ID: 10649983
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 34.061890
Longitude: -117.435740

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Verisk 3E, Regulatory Department/O?Reilly Auto Parts
Entity Title: Not reported
Affiliation Address: 3207 Grey Hawk Court, Suite 200

**O'REILLY AUTO PARTS #4945 (Continued)** **S121143944**

| | |
|---|---|
| Affiliation City: | Carlsbad |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92010 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Erin Baltazar, Agent for O'Reilly Auto Enterprises, L.L.C. |
| Entity Title: | Regulatory Compliance Specialist, Verisk 3E |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | O'Reilly Auto Enterprises, L.L.C. |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (417) 862-3333 |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | O'Reilly Auto Enterprises, L.L.C. |
| Entity Title: | Not reported |
| Affiliation Address: | 702 E. Bethany Home Road |
| Affiliation City: | Phoenix |
| Affiliation State: | AZ |
| Affiliation Country: | United States |
| Affiliation Zip: | 85014 |
| Affiliation Phone: | (417) 862-3333 |

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Erin Baltazar, Agent for O'Reilly Auto Enterprises, L.L.C. |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |

**O'REILLY AUTO PARTS #4945 (Continued)** **S121143944**

| | |
|---|---|
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | Verisk 3E, Reg.Dept/O'Reilly Auto Parts, 3207 Grey Hawk Ct, Ste 200 |
| Affiliation City: | Carlsbad |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92010 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | O'Reilly Auto Parts |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

---

**I27** **OREILLY AUTO PARTS STORE 4945** **RCRA NonGen / NLR** **1024850232**
**SSE** **10560 SIERRA AVE** **CAL000407613**
**1/8-1/4** **FONTANA, CA 92337**
**0.234 mi.**
**1235 ft.** **Site 2 of 2 in cluster I**

**Relative:**
**Lower**

**Actual:**
**1085 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 06/09/2015 |
| Facility name: | OREILLY AUTO PARTS STORE 4945 |
| Facility address: | 10560 SIERRA AVE<br>FONTANA, CA 92337 |
| EPA ID: | CAL000407613 |
| Mailing address: | 233 S PATTERSON AVE<br>SPRINGFIELD, MO 65802 |
| Contact: | JOHN BOUNDS |
| Contact address: | 233 S PATTERSON AVE<br>SPRINGFIELD, MO 65802 |
| Contact country: | Not reported |
| Contact telephone: | 417-520-4589 |
| Contact email: | JBOUNDS2@OREILLYAUTO.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | O'REILLY AUTO ENTERPRISES LLC |
| Owner/operator address: | 233 S PATTERSON AVE<br>SPRINGFIELD, MO 65802 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 417-520-4589 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

**OREILLY AUTO PARTS STORE 4945 (Continued)** **1024850232**

| | |
|---|---|
| Owner/operator name: | JOHN BOUNDS |
| Owner/operator address: | 233 S PATTERSON AVE<br>SPRINGFIELD, MO 65802 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 417-520-4589 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| 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: | Yes |
| 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 |

Violation Status: No violations found

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**J28** **SIERRA FUEL INC** **HAZNET** **S118231201**
**NNE** **10115 SIERRA AVE** **San Bern. Co. Permit** **N/A**
**1/8-1/4** **FONTANA, CA 92335**
**0.242 mi.**
**1276 ft.** **Site 1 of 8 in cluster J**

**Relative:**
**Higher**

**Actual:**
**1123 ft.**

HAZNET:

| | |
|---|---|
| Name: | SIERRA VALERO INC |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2017 |
| GEPAID: | CAL000262151 |
| Contact: | ALI DASHTI |
| Telephone: | 9093561906 |
| Mailing Name: | Not reported |
| Mailing Address: | 10115 SIERRA AVE |
| Mailing City,St,Zip: | FONTANA, CA 92335 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAT080013352 |
| TSD County: | Los Angeles |
| Tons: | 0.834 |
| CA Waste Code: | 133-Aqueous solution with total organic residues 10 percent or more |
| Method: | H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Facility County: | San Bernardino |

**SIERRA FUEL INC (Continued)** **S118231201**

Name: SIERRA VALERO
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Year: 2014
GEPAID: CAL000262151
Contact: ALI DASHTI
Telephone: 9093561906
Mailing Name: Not reported
Mailing Address: 10115 SIERRA AVE
Mailing City,St,Zip: FONTANA, CA 92335
Gen County: San Bernardino
TSD EPA ID: CAD028409019
TSD County: Los Angeles
Tons: 1.1259
CA Waste Code: 241-Tank bottom waste
Method: H135-Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Facility County: San Bernardino

Name: SIERRA VALERO
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Year: 2002
GEPAID: CAL000262151
Contact: ALI DASHTI
Telephone: 9093561906
Mailing Name: Not reported
Mailing Address: 10115 SIERRA AVE
Mailing City,St,Zip: FONTANA, CA 92335
Gen County: San Bernardino
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Tons: 0.45453
CA Waste Code: 222-Oil/water separation sludge
Method: R01-Recycler
Facility County: San Bernardino

San Bern. Co. Permit:
Name: SIERRA FUEL INC
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0007027
Owner: DASHTI, ALIAKBAR
Permit Number: PT0002191
Permit Category: HAZMAT HANDLER, UST ONLY - PER YEAR
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: SIERRA FUEL INC
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0007027
Owner: DASHTI, ALIAKBAR
Permit Number: PT0002192
Permit Category: WASTE INCIDENTAL UST OPERATION ONLY -PER YEAR

**SIERRA FUEL INC (Continued)** **S118231201**

Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: SIERRA FUEL INC
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0007027
Owner: DASHTI, ALIAKBAR
Permit Number: PT0012106
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: SIERRA FUEL INC
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0007027
Owner: DASHTI, ALIAKBAR
Permit Number: PT0012107
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: SIERRA FUEL INC
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0007027
Owner: DASHTI, ALIAKBAR
Permit Number: PT0012108
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: SIERRA FUEL INC
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0007027
Owner: DASHTI, ALIAKBAR
Permit Number: PT0012105
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: SIERRA FUEL INC
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0007027
Owner: DASHTI, ALIAKBAR
Permit Number: PT0012109
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)
Facility Status: INACTIVE
Expiration Date: 10/31/2018

**J29 NNE 1/8-1/4 0.242 mi. 1276 ft.** | **SIERRA VALERO INC**
**10115 SIERRA AVE**
**FONTANA, CA 92335**

**Site 2 of 8 in cluster J**

**RCRA NonGen / NLR** | **1024805167**
**CAL000262151**

**Relative: Higher**

**Actual: 1123 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 11/13/2002 |
| Facility name: | SIERRA VALERO INC |
| Facility address: | 10115 SIERRA AVE<br>FONTANA, CA 92335 |
| EPA ID: | CAL000262151 |
| Contact: | ALI DASHTI |
| Contact address: | 10115 SIERRA AVE<br>FONTANA, CA 92335 |
| Contact country: | Not reported |
| Contact telephone: | 909-356-1906 |
| Contact email: | SIERRAVALERO@GMAIL.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | SIERRA VALERO |
| Owner/operator address: | 10115 SIERRA AVE<br>FONTANA, CA 92335 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 909-356-1906 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | ALI DASHTI |
| Owner/operator address: | 10115 SIERRA AVE<br>FONTANA, CA 92335 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 909-356-1906 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| 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: | Yes |
| Treater, storer or disposer of HW: | No |
| Underground injection activity: | No |
| On-site burner exemption: | No |
| Furnace exemption: | No |

**SIERRA VALERO INC (Continued)** **1024805167**

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

Violation Status: No violations found

---

**J30 NNE 1/8-1/4 0.242 mi. 1276 ft.** **EXXON SERVICE STATION #7-7098** **SWEEPS UST** **S101629921**
**10115 SIERRA AVE** **CA FID UST** **N/A**
**FONTANA, CA 92335**

**Site 3 of 8 in cluster J**

**Relative: Higher**

**Actual: 1123 ft.**

SWEEPS UST:

Name: EXXON SERVICE STATION #7-7098
Address: 10115 SIERRA AVE
City: FONTANA
Status: Active
Comp Number: 23937
Number: 9
Board Of Equalization: 44-000285
Referral Date: 07-28-92
Action Date: 07-28-92
Created Date: 02-29-88
Owner Tank Id: 1
SWRCB Tank Id: 36-000-023937-000001
Tank Status: A
Capacity: 8000
Active Date: 08-26-88
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 4

Name: EXXON SERVICE STATION #7-7098
Address: 10115 SIERRA AVE
City: FONTANA
Status: Active
Comp Number: 23937
Number: 9
Board Of Equalization: 44-000285
Referral Date: 07-28-92
Action Date: 07-28-92
Created Date: 02-29-88
Owner Tank Id: 2
SWRCB Tank Id: 36-000-023937-000002
Tank Status: A
Capacity: 8000
Active Date: 08-26-88
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Name: EXXON SERVICE STATION #7-7098
Address: 10115 SIERRA AVE

**EXXON SERVICE STATION #7-7098 (Continued)** **S101629921**

| | |
|---|---|
| City: | FONTANA |
| Status: | Active |
| Comp Number: | 23937 |
| Number: | 9 |
| Board Of Equalization: | 44-000285 |
| Referral Date: | 07-28-92 |
| Action Date: | 07-28-92 |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 3 |
| SWRCB Tank Id: | 36-000-023937-000003 |
| Tank Status: | A |
| Capacity: | 8000 |
| Active Date: | 08-26-88 |
| Tank Use: | M.V. FUEL |
| STG: | P |
| Content: | LEADED |
| Number Of Tanks: | Not reported |

| | |
|---|---|
| Name: | EXXON SERVICE STATION #7-7098 |
| Address: | 10115 SIERRA AVE |
| City: | FONTANA |
| Status: | Active |
| Comp Number: | 23937 |
| Number: | 9 |
| Board Of Equalization: | 44-000285 |
| Referral Date: | 07-28-92 |
| Action Date: | 07-28-92 |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 4 |
| SWRCB Tank Id: | 36-000-023937-000004 |
| Tank Status: | A |
| Capacity: | 550 |
| Active Date: | 08-26-88 |
| Tank Use: | OIL |
| STG: | W |
| Content: | WASTE OIL |
| Number Of Tanks: | Not reported |

CA FID UST:

| | |
|---|---|
| Facility ID: | 36002371 |
| Regulated By: | UTNKA |
| Regulated ID: | 00023937 |
| Cortese Code: | Not reported |
| SIC Code: | Not reported |
| Facility Phone: | Not reported |
| Mail To: | Not reported |
| Mailing Address: | 10115 SIERRA AVE |
| Mailing Address 2: | Not reported |
| Mailing City,St,Zip: | FONTANA 92335 |
| Contact: | Not reported |
| Contact Phone: | Not reported |
| DUNs Number: | Not reported |
| NPDES Number: | Not reported |
| EPA ID: | Not reported |
| Comments: | Not reported |
| Status: | Active |

**J31 NNE 1/8-1/4 0.242 mi. 1276 ft.** | **VALLEY TEXACO** | **UST** | **U003784718**
**10115 SIERRA AVE** | **N/A**
**FONTANA, CA 92335**

**Site 4 of 8 in cluster J**

**Relative: Higher**
**Actual: 1123 ft.**

UST:

| | |
|---|---|
| Name: | VALLEY TEXACO |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility ID: | 86008769 |
| Permitting Agency: | SAN BERNARDINO COUNTY |
| Latitude: | 34.071347 |
| Longitude: | -117.433823 |
| | |
| Name: | SIERRA FUEL INC. |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility ID: | FA0007027 |
| Permitting Agency: | San Bernardino County Fire Department |
| Latitude: | 34.070004 |
| Longitude: | -117.435181 |

---

**J32 NNE 1/8-1/4 0.242 mi. 1276 ft.** | **EXXON SERVICE STATION** | **HIST UST** | **U001574834**
**10115 SIERRA AVE** | **N/A**
**FONTANA, CA 92335**

**Site 5 of 8 in cluster J**

**Relative: Higher**
**Actual: 1123 ft.**

HIST UST:

| | |
|---|---|
| Name: | EXXON SERVICE STATION |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| File Number: | 00029E4F |
| URL: | http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029E4F.pdf |
| Region: | STATE |
| Facility ID: | 00000023937 |
| Facility Type: | Gas Station |
| Other Type: | Not reported |
| Contact Name: | HAROLD HUMAN |
| Telephone: | 7148239700 |
| Owner Name: | EXXON COMPANY U.S.A. |
| Owner Address: | 16945 NORTH CHASE BLVD. |
| Owner City,St,Zip: | HOUSTON, TX 77210 |
| Total Tanks: | 0004 |
| | |
| Tank Num: | 001 |
| Container Num: | 1 |
| Year Installed: | 1964 |
| Tank Capacity: | 00008000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | PREMIUM |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Stock Inventor |
| | |
| Tank Num: | 002 |
| Container Num: | 2 |
| Year Installed: | 1964 |
| Tank Capacity: | 00008000 |
| Tank Used for: | PRODUCT |

**EXXON SERVICE STATION (Continued)** **U001574834**

| | |
|---|---|
| Type of Fuel: | UNLEADED |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Stock Inventor |
| | |
| Tank Num: | 003 |
| Container Num: | 3 |
| Year Installed: | 1964 |
| Tank Capacity: | 00008000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | REGULAR |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Stock Inventor |
| | |
| Tank Num: | 004 |
| Container Num: | 4 |
| Year Installed: | 1964 |
| Tank Capacity: | 00000550 |
| Tank Used for: | WASTE |
| Type of Fuel: | WASTE OIL |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Stock Inventor |

Click here for Geo Tracker PDF:

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**J33** **TEXACO SERVICE STATION** **RCRA-SQG** **1006805338**
**NNE** **10115 SIERRA AVE** **LUST** **CAR000126003**
**1/8-1/4** **FONTANA, CA 92335** **FINDS**
**0.242 mi.** **ECHO**
**1276 ft.** **Site 6 of 8 in cluster J** **HAZNET**

**Relative:**
**Higher**

**Actual:**
**1123 ft.**

RCRA-SQG:

| | |
|---|---|
| Date form received by agency: | 08/16/2002 |
| Facility name: | TEXACO SERVICE STATION |
| Facility address: | 10115 SIERRA AVE<br>S A P 120437<br>FONTANA, CA 92335-6724 |
| EPA ID: | CAR000126003 |
| Mailing address: | P O BOX 2648<br>HOUSTON, TX 77252-2648 |
| Contact: | SONDRA BIENVENU |
| Contact address: | P O BOX 2648<br>HOUSTON, TX 77252-2648 |
| Contact country: | US |
| Contact telephone: | 713-241-5036 |
| Contact email: | Not reported |
| 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: | EQUILON ENTERPRISES L L C |
| Owner/operator address: | P O BOX 2648<br>HOUSTON, TX 77252 |

**TEXACO SERVICE STATION (Continued)** **1006805338**

| | |
|---|---|
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 713-241-5036 |
| 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: | Not reported |
| 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 |

Hazardous Waste Summary:

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D018
. Waste name: BENZENE

Violation Status: No violations found

LUST REG 8:

| | |
|---|---|
| Name: | TEXACO SERVICE STATION |
| Address: | 10115 SIERRA AVE |
| City: | FONTANA |
| Region: | 8 |
| County: | San Bernardino |
| Regional Board: | Santa Ana Region |
| Facility Status: | Case Closed |
| Case Number: | 083602475T |
| Local Case Num: | 94028 |
| Case Type: | Soil only |
| Substance: | Gasoline |
| Qty Leaked: | Not reported |
| Abate Method: | Not reported |
| Cross Street: | VALLEY |
| Enf Type: | Not reported |
| Funding: | Not reported |
| How Discovered: | Nuisance Conditions |
| How Stopped: | Not reported |
| Leak Cause: | UNK |

**TEXACO SERVICE STATION (Continued)** **1006805338**

| | |
|---|---|
| Leak Source: | Piping |
| Global ID: | T0607100334 |
| How Stopped Date: | 6/17/1993 |
| Enter Date: | 8/29/1994 |
| Date Confirmation of Leak Began: | Not reported |
| Date Preliminary Assessment Began: | Not reported |
| Discover Date: | 6/17/1993 |
| Enforcement Date: | Not reported |
| Close Date: | 3/28/1995 |
| Date Prelim Assessment Workplan Submitted: | 5/26/1994 |
| Date Pollution Characterization Began: | Not reported |
| Date Remediation Plan Submitted: | Not reported |
| Date Remedial Action Underway: | Not reported |
| Date Post Remedial Action Monitoring: | Not reported |
| Enter Date: | 8/29/1994 |
| GW Qualifies: | Not reported |
| Soil Qualifies: | Not reported |
| Operator: | Not reported |
| Facility Contact: | Not reported |
| Interim: | Not reported |
| Oversite Program: | LUST |
| Latitude: | 34.069948 |
| Longitude: | -117.4354771 |
| MTBE Date: | Not reported |
| Max MTBE GW: | Not reported |
| MTBE Concentration: | 0 |
| Max MTBE Soil: | Not reported |
| MTBE Fuel: | 1 |
| MTBE Tested: | Site NOT Tested for MTBE.Includes Unknown and Not Analyzed. |
| MTBE Class: | * |
| Staff: | RS |
| Staff Initials: | LH6 |
| Lead Agency: | Local Agency |
| Local Agency: | 36000L |
| Hydr Basin #: | UPPER SANTA ANA VALL |
| Beneficial: | Not reported |
| Priority: | Not reported |
| Cleanup Fund Id: | Not reported |
| Work Suspended: | Not reported |

Summary: Not reported

FINDS:

Registry ID: 110059785068

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when

**TEXACO SERVICE STATION (Continued)** **1006805338**

complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

Registry ID: 110013308303

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

| | |
|---|---|
| Envid: | 1006805338 |
| Registry ID: | 110059785068 |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110059785068 |

| | |
|---|---|
| Envid: | 1006805338 |
| Registry ID: | 110013308303 |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110013308303 |

HAZNET:

| | |
|---|---|
| Name: | TEXACO SERVICE STATION S A P 120437 |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 923356724 |
| Year: | 2006 |
| GEPAID: | CAR000126003 |
| Contact: | J. Traylor/ENV REPORTING ANALYST |
| Telephone: | 7132416992 |
| Mailing Name: | Not reported |
| Mailing Address: | PO Box 3127 |
| Mailing City,St,Zip: | HOUSTON, TX 772530000 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAD028409019 |

**TEXACO SERVICE STATION (Continued)** **1006805338**

| | |
|---|---|
| TSD County: | Los Angeles |
| Tons: | 0.0125 |
| CA Waste Code: | 352-Other organic solids |
| Method: | H01-Transfer Station |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | TEXACO SERVICE STATION S A P 120437 |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 923356724 |
| Year: | 2004 |
| GEPAID: | CAR000126003 |
| Contact: | J. Traylor/ENV REPORTING ANALYST |
| Telephone: | 7132416992 |
| Mailing Name: | Not reported |
| Mailing Address: | PO Box 3127 |
| Mailing City,St,Zip: | HOUSTON, TX 772530000 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAD008364432 |
| TSD County: | Los Angeles |
| Tons: | 0.01 |
| CA Waste Code: | 352-Other organic solids |
| Method: | R01-Recycler |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | TEXACO SERVICE STATION S A P 120437 |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 923356724 |
| Year: | 2002 |
| GEPAID: | CAR000126003 |
| Contact: | J. Traylor/ENV REPORTING ANALYST |
| Telephone: | 7132416992 |
| Mailing Name: | Not reported |
| Mailing Address: | PO Box 3127 |
| Mailing City,St,Zip: | HOUSTON, TX 772530000 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAD028409019 |
| TSD County: | Los Angeles |
| Tons: | 2.2428 |
| CA Waste Code: | 134-Aqueous solution with total organic residues less than 10 percent |
| Method: | T01-Treatment, Tank |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | TEXACO SERVICE STATION S A P 120437 |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 923356724 |
| Year: | 2002 |
| GEPAID: | CAR000126003 |
| Contact: | J. Traylor/ENV REPORTING ANALYST |
| Telephone: | 7132416992 |
| Mailing Name: | Not reported |
| Mailing Address: | PO Box 3127 |
| Mailing City,St,Zip: | HOUSTON, TX 772530000 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAD028409019 |
| TSD County: | Los Angeles |
| Tons: | 0.68805 |
| CA Waste Code: | 241-Tank bottom waste |

**TEXACO SERVICE STATION (Continued)** **1006805338**

Method: T01-Treatment, Tank
Facility County: San Bernardino

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**J34 NNE 1/8-1/4 0.242 mi. 1276 ft.** | **TEXACO SERVICE STATION**
**10115 SIERRA**
**FONTANA, CA 92335**
**Site 7 of 8 in cluster J** | **LUST**
**CERS HAZ WASTE**
**CERS TANKS**
**HIST CORTESE**
**CERS** | **S103620384**
**N/A**

**Relative: Higher**

**Actual: 1123 ft.**

LUST:

| | |
|---|---|
| Name: | TEXACO SERVICE STATION |
| Address: | 10115 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Lead Agency: | SAN BERNARDINO COUNTY |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607100334 |
| Global Id: | T0607100334 |
| Latitude: | 34.070001 |
| Longitude: | -117.435176 |
| Status: | Completed - Case Closed |
| Status Date: | 03/28/1995 |
| Case Worker: | Not reported |
| RB Case Number: | 083602475T |
| Local Agency: | Not reported |
| File Location: | Local Agency |
| Local Case Number: | 94028 |
| Potential Media Affect: | Soil |
| Potential Contaminants of Concern: | Gasoline |
| Site History: | Not reported |

LUST:

| | |
|---|---|
| Global Id: | T0607100334 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | ROSE SCOTT |
| Organization Name: | SANTA ANA RWQCB (REGION 8) |
| Address: | 3737 MAIN STREET, SUITE 500 |
| City: | RIVERSIDE |
| Email: | rose.scott@waterboards.ca.gov |
| Phone Number: | 9513206375 |

LUST:

| | |
|---|---|
| Global Id: | T0607100334 |
| Action Type: | Other |
| Date: | 06/17/1993 |
| Action: | Leak Discovery |
| Global Id: | T0607100334 |
| Action Type: | Other |
| Date: | 06/17/1993 |
| Action: | Leak Stopped |
| Global Id: | T0607100334 |
| Action Type: | Other |
| Date: | 05/26/1994 |
| Action: | Leak Reported |

LUST:

**TEXACO SERVICE STATION (Continued)** **S103620384**

Global Id: T0607100334
Status: Open - Case Begin Date
Status Date: 06/17/1993

Global Id: T0607100334
Status: Open - Site Assessment
Status Date: 05/26/1994

Global Id: T0607100334
Status: Completed - Case Closed
Status Date: 03/28/1995

Name: VALLEY TEXACO STATION
Address: 10115 SIERRA AVENUE
City,State,Zip: FONTANA, CA 92335
Lead Agency: SAN BERNARDINO COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607125645
Global Id: T0607125645
Latitude: 34.069854
Longitude: -117.435621
Status: Completed - Case Closed
Status Date: 11/22/2006
Case Worker: Not reported
RB Case Number: 083604038T
Local Agency: Not reported
File Location: Local Agency
Local Case Number: 2005010
Potential Media Affect: Soil
Potential Contaminants of Concern: Diesel
Site History: Not reported

LUST:
Global Id: T0607125645
Contact Type: Regional Board Caseworker
Contact Name: Ken Williams
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
City: RIVERSIDE
Email: ken.williams@waterboards.ca.gov
Phone Number: Not reported

LUST:
Global Id: T0607125645
Action Type: Other
Date: 07/20/2005
Action: Leak Discovery

Global Id: T0607125645
Action Type: REMEDIATION
Date: 02/13/2007
Action: Not reported

Global Id: T0607125645
Action Type: REMEDIATION
Date: 02/13/2007

**TEXACO SERVICE STATION (Continued)** **S103620384**

Action: Not reported

Global Id: T0607125645
Action Type: ENFORCEMENT
Date: 11/22/2006
Action: Closure/No Further Action Letter

Global Id: T0607125645
Action Type: Other
Date: 08/18/2005
Action: Leak Reported

LUST:
Global Id: T0607125645
Status: Open - Case Begin Date
Status Date: 07/20/2005

Global Id: T0607125645
Status: Open - Site Assessment
Status Date: 10/21/2005

Global Id: T0607125645
Status: Completed - Case Closed
Status Date: 11/22/2006

CERS HAZ WASTE:
Name: SIERRA FUEL INC.
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Site ID: 153499
CERS ID: 10046152
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: SIERRA FUEL INC.
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Site ID: 153499
CERS ID: 10046152
CERS Description: Underground Storage Tank

HIST CORTESE:
edr_fname: TEXACO SERVICE STATION
edr_fadd1: 10115 SIERRA
City,State,Zip: FONTANA, CA 92335
Region: CORTESE
Facility County Code: 36
Reg By: LTNKA
Reg Id: 083602475T

CERS:
Name: TEXACO SERVICE STATION
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335

**TEXACO SERVICE STATION (Continued)** **S103620384**

Site ID: 217366
CERS ID: T0607100334
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: ROSE SCOTT - SANTA ANA RWQCB (REGION 8)
Entity Title: Not reported
Affiliation Address: 3737 MAIN STREET, SUITE 500
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: 9513206375

Name: VALLEY TEXACO STATION
Address: 10115 SIERRA AVENUE
City,State,Zip: FONTANA, CA 92335
Site ID: 226111
CERS ID: T0607125645
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: Ken Williams - SANTA ANA RWQCB (REGION 8)
Entity Title: Not reported
Affiliation Address: 3737 MAIN STREET, SUITE 500
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Name: SIERRA FUEL INC.
Address: 10115 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Site ID: 153499
CERS ID: 10046152
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 153499
Site Name: SIERRA Fuel INC.
Violation Date: 06-23-2014
Citation: HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections
Violation Description: UST Program - Operations/Maintenance - General
Violation Notes: Returned to compliance on 06/22/2015. Failure to correct past UST violations within 30 days of receiving a UST inspection report (23CCR 2712(f)) VIOLATION #317 - FAILURE TO CERTIFY ANNUALLY WAS A REPEATED VIOLATION FOR THE PAST FEW YEARS. WITHIN 30 DAYS SUBMIT DOCUMENTATION OF A WORK PLAN TO THIS DEPARTMENT ON ACTIONS THAT WILL BE TAKEN TO PREVENT THIS VIOLATION FROM BEING REPEATED.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

**TEXACO SERVICE STATION (Continued)** **S103620384**

Site ID: 153499
Site Name: SIERRA Fuel INC.
Violation Date: 06-22-2015
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description: Failure of the overfill prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.
Violation Notes: Returned to compliance on 06/22/2015. LIGHT AT EXTERNAL ANNUNCIATOR WAS INOPERABLE DURING INSPECTION MONITORING CERTIFICATION. COMPLIANCE REQUIREMENT: LIGHT WAS REPAIRED AND VERIFIED FUNCTIONAL DURING TESTING. VIOLATION CORRECTED.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153499
Site Name: SIERRA Fuel INC.
Violation Date: 06-22-2015
Citation: HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)
Violation Description: Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: Returned to compliance on 01/05/2017. OBSERVED CERS INVENTORY MISSING INCOMPLETE, MISSING HAZARDOUS WASTE AND CURRENT PROPANE QUANTITIES. COMPLIANCE REQUIREMENT: SUBMIT A SIGNED CERTIFICATE OF COMPLIANCE INDICATING CERS INVENTORY HAS BEEN UPDATED TO REFLECT CURRENT INVENTORY WITHIN 30 DAYS.
Violation Division: San Bernardino County Fire Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 153499
Site Name: SIERRA Fuel INC.
Violation Date: 06-23-2014
Citation: 23 CCR 16 2638 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638
Violation Description: Failure to test leak detection equipment as required every 12 months (VPH, sensor, LLD, ATG, etc.) and/or submit monitoring system certification to the CUPA within 30 days of completion of the test
Violation Notes: Returned to compliance on 06/22/2015. LAST UST MONITORING SYSTEM CERTIFICATION WAS ON 6/17/13 AND IS 6 DAYS PAST DUE. THE YEAR BEFORE (2013) THE UST MONITORING SYSTEM CERTIFICATION WAS DUE ON 4/26/2012 AND WAS APPROX 2 MONTHS PAST DUE. TWO YEARS BEFORE, THE UST MONITORING SYSTEM CERTIFICATION WAS DUE ON 3/3/2011 AND WAS OVER 1 MONTH PAST DUE. WITHIN 30 DAYS SUBMIT DOCUMENTATION OF A WORK PLAN TO THIS DEPARTMENT ON ACTIONS THAT WILL BE TAKEN TO PREVENT THIS VIOLATION

**TEXACO SERVICE STATION (Continued)** **S103620384**

FROM BEING REPEATED. THE UST MONITORING SYSTEM CERTIFICATION WILL BE DUE ON OR BEFORE 6/23/2015. THE FAILURE TO COMPLY WITH THIS DUE DATE WILL RESULT IN IMMEDIATE ENFORCEMENT ACTION WHICH MAYH INCLUDE FINES AND/OR TANKS BEING RED TAGGED.

Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153499
Site Name: SIERRA Fuel INC.
Violation Date: 06-23-2014
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description: Failure of the overfill prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.
Violation Notes: Returned to compliance on 06/23/2014. 89 TANK ATG USED FOR OVERFILL PREVENTION FAILED WHEN TESTED DUE TO AN INOPERABLE FLOAT ASSEMBLY. THE FLOAT ASSEMBLY WAS REPLACED AND ATG PASSED UPON RETEST.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 153499
Site Name: SIERRA Fuel INC.
Violation Date: 06-22-2015
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General
Violation Notes: Returned to compliance on 08/17/2016. Failure to manage hazardous waste lawfully (CHSC 25154) CONTAINER FOR HAZARDOUS WASTE LIQUIDS WAS NOT AVAILABLE FOR CONTRACTOR'S TEST WATER. COMPLIANCE REQUIREMENT: ENSURE PROPER CONTAINERS ARE AVAILABLE FOR HAZARDOUS WASTE GENERATED FROM THIS FACILITY. WHEN USING HAZARDOUS WASTE CONTAINERS ENSURE THEY ARE PROPERLY LABELED AND CLOSED WHEN NOT IN USE. SUBMIT A STATEMENT INDICATING DRUM IS AVAILABLE ONSITE FOR HAZARDOUS WASTE COLLECTION AND STORAGE WITHIN 30 DAYS.
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Site ID: 153499
Site Name: SIERRA Fuel INC.
Violation Date: 06-23-2014
Citation: 23 CCR 16 2666 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2666
Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.

**TEXACO SERVICE STATION (Continued)** **S103620384**

Violation Notes: Returned to compliance on 06/23/2014. VISUAL ALARM IN THE OVERFILL PREVENTION EXTERNAL ANNUNCIATOR WAS INITIALLY INOPERABLE. THE LIGHT BULB IN THE ANNUNCIATOR WAS REPLACED AND WITNESSED OPERABLE AT THE TIME OF INSPECTION.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-26-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: SIERRA VALERO- UST INSPECTION
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-26-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: SIERRA VALERO- UST PAPERWORK INSPECTION ONLY
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 05-26-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: SIERRA VALERO- UST SB989 INSPECTION....
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-22-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: ANNUAL MONITORING CERTIFICATION
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-22-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: HAZARDOUS MATERIALS HANDLER INSPECTION, UST ONLY
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-22-2015
Violations Found: Yes

**TEXACO SERVICE STATION (Continued)** **S103620384**

| | |
|---|---|
| Eval Type: | Routine done by local agency |
| Eval Notes: | WASTE INCIDENTAL TO UST ONLY INSPECTION |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 06-23-2014 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | HAZ MAT UST ONLY INSPECTION. |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 06-23-2014 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | UST ANNUAL INPSECTION WITH MONITORING SYSTEM CERTIFICATION |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | UST |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 06-29-2018 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | UST |
| Eval Source: | CERS |

Enforcement Action:

| | |
|---|---|
| Site ID: | 153499 |
| Site Name: | SIERRA Fuel INC. |
| Site Address: | 10115 SIERRA AVE |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 06-22-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS |

| | |
|---|---|
| Site ID: | 153499 |
| Site Name: | SIERRA Fuel INC. |
| Site Address: | 10115 SIERRA AVE |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 06-22-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |

**TEXACO SERVICE STATION (Continued)** **S103620384**

| | |
|---|---|
| Enf Action Program: | HW |
| Enf Action Source: | CERS |

| | |
|---|---|
| Site ID: | 153499 |
| Site Name: | SIERRA Fuel INC. |
| Site Address: | 10115 SIERRA AVE |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 06-22-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | UST |
| Enf Action Source: | CERS |

| | |
|---|---|
| Site ID: | 153499 |
| Site Name: | SIERRA Fuel INC. |
| Site Address: | 10115 SIERRA AVE |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 06-23-2014 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | UST |
| Enf Action Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 153499 |
| Facility Name: | SIERRA Fuel INC. |
| Env Int Type Code: | HWG |
| Program ID: | 10046152 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Unknown |
| Latitude: | 34.069999 |
| Longitude: | -117.435173 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | ALIAKBAR DASHTI |
| Entity Title: | OWNER / OPERATOR |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 10115 SIERRA AVE |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |

**TEXACO SERVICE STATION (Continued)** **S103620384**

| | |
|---|---|
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | SIERRA Fuel INC. |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | SIERRA Fuel INC. |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (714) 470-8997 |
| | |
| Affiliation Type Desc: | Property Owner |
| Entity Name: | SIERRA FUEL INC. |
| Entity Title: | Not reported |
| Affiliation Address: | 10115 SIERRA AVE |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 350-4000 |
| | |
| Affiliation Type Desc: | UST Property Owner Name |
| Entity Name: | SIERRA FUEL INC. |
| Entity Title: | Not reported |
| Affiliation Address: | 10115 SIERRA AVE. |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 350-4000 |
| | |
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Pezhman Dashti |
| Entity Title: | Not reported |

**TEXACO SERVICE STATION (Continued)** **S103620384**

| | |
|---|---|
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Pezhman Dashti |
| Entity Title: | Not reported |
| Affiliation Address: | 10115 SIERRA AVE |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | DASHTI, ALIAKBAR |
| Entity Title: | Not reported |
| Affiliation Address: | 10115 SIERRA AVE |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 353-3254 |

| | |
|---|---|
| Affiliation Type Desc: | UST Permit Applicant |
| Entity Name: | ALI DASHTI |
| Entity Title: | OWNER / OPERATOR |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (909) 356-1906 |

| | |
|---|---|
| Affiliation Type Desc: | UST Tank Operator |
| Entity Name: | ALI DASHTI |
| Entity Title: | Not reported |
| Affiliation Address: | 10115 SIERRA AVE. |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 350-4000 |

| | |
|---|---|
| Affiliation Type Desc: | UST Tank Owner |
| Entity Name: | SIERRA Fuel INC. |
| Entity Title: | Not reported |
| Affiliation Address: | 10115 SIERRA AVE. |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 350-4000 |

**K35 WNW 1/8-1/4 0.244 mi. 1289 ft.** | **ACT COMPLIANCE DBA FLEETSERV 16516 WASHINGTON DR FONTANA, CA 92335** | **RCRA NonGen / NLR** | **1024839481 CAL000387521**

**Site 1 of 2 in cluster K**

**Relative: Higher**

**Actual: 1107 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 07/18/2013 |
| Facility name: | ACT COMPLIANCE DBA FLEETSERV |
| Facility address: | 16516 WASHINGTON DR<br>FONTANA, CA 92335 |
| EPA ID: | CAL000387521 |
| Mailing address: | PO BOX 79108<br>CORONA, CA 92877 |
| Contact: | MICHAEL SCHWARTZ |
| Contact address: | 725 S. LUGO AVENUE<br>SAN BERNARDINO, CA 92408-0000 |
| Contact country: | Not reported |
| Contact telephone: | 888-315-4228 |
| Contact email: | MICHELLE@FLEETSERV.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | ACT COMPLIANCE DBA FLEETSERV |
| Owner/operator address: | 16516 WASHINGTON DR<br>FONTANA, CA 92335 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 888-315-4228 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | MICHAEL SCHWARTZ |
| Owner/operator address: | 725 S. LUGO AVENUE<br>SAN BERNARDINO, CA 92408 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 888-315-4228 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| 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: | Yes |
| Treater, storer or disposer of HW: | No |
| Underground injection activity: | No |

**ACT COMPLIANCE DBA FLEETSERV (Continued)** **1024839481**

| | |
|---|---|
| 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 |

Violation Status: No violations found

---

**K36 WNW 1/8-1/4 0.244 mi. 1289 ft.** **ACT COMPLIANCE DBA FLEETSERV** **CERS HAZ WASTE** **S113883371**
**16516 WASHINGTON DR** **HAZNET** **N/A**
**FONTANA, CA 92335** **San Bern. Co. Permit**
**CERS**

**Site 2 of 2 in cluster K**

**Relative: Higher**
**Actual: 1107 ft.**

CERS HAZ WASTE:

| | |
|---|---|
| Name: | ACT COMPLIANCE DBA FLEETSERV |
| Address: | 16516 WASHINGTON DR |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 2946 |
| CERS ID: | 10451869 |
| CERS Description: | Hazardous Waste Generator |

HAZNET:

| | |
|---|---|
| Name: | ACT COMPLIANCE DBA FLEETSERV |
| Address: | 16516 WASHINGTON DR |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2016 |
| GEPAID: | CAL000387521 |
| Contact: | MICHAEL SCHWARTZ |
| Telephone: | 8883154228 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 79108 |
| Mailing City,St,Zip: | CORONA, CA 92877 |
| Gen County: | San Bernardino |
| TSD EPA ID: | AZR000515924 |
| TSD County: | 99 |
| Tons: | 0.25 |
| CA Waste Code: | 352-Other organic solids |
| Method: | H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | ACT COMPLIANCE DBA FLEETSERV |
| Address: | 16516 WASHINGTON DR |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2015 |
| GEPAID: | CAL000387521 |
| Contact: | MICHAEL SCHWARTZ |
| Telephone: | 8883154228 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 79108 |
| Mailing City,St,Zip: | CORONA, CA 92877 |
| Gen County: | San Bernardino |
| TSD EPA ID: | AZR000515924 |

**ACT COMPLIANCE DBA FLEETSERV (Continued)** **S113883371**

| | |
|---|---|
| TSD County: | 99 |
| Tons: | 0.875 |
| CA Waste Code: | 352-Other organic solids |
| Method: | H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | ACT COMPLIANCE DBA FLEETSERV |
| Address: | 16516 WASHINGTON DR |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2014 |
| GEPAID: | CAL000387521 |
| Contact: | MICHAEL SCHWARTZ |
| Telephone: | 8883154228 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 79108 |
| Mailing City,St,Zip: | CORONA, CA 92877 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAD099452708 |
| TSD County: | Los Angeles |
| Tons: | 0.76 |
| CA Waste Code: | 221-Waste oil and mixed oil |
| Method: | H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | ACT COMPLIANCE DBA FLEETSERV |
| Address: | 16516 WASHINGTON DR |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2014 |
| GEPAID: | CAL000387521 |
| Contact: | MICHAEL SCHWARTZ |
| Telephone: | 8883154228 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 79108 |
| Mailing City,St,Zip: | CORONA, CA 92877 |
| Gen County: | San Bernardino |
| TSD EPA ID: | NVT330010000 |
| TSD County: | 99 |
| Tons: | 1 |
| CA Waste Code: | 352-Other organic solids |
| Method: | H132-Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | ACT COMPLIANCE DBA FLEETSERV |
| Address: | 16516 WASHINGTON DR |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2013 |
| GEPAID: | CAL000387521 |
| Contact: | MICHAEL SCHWARTZ |
| Telephone: | 8883154228 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 79108 |
| Mailing City,St,Zip: | CORONA, CA 92877 |
| Gen County: | San Bernardino |
| TSD EPA ID: | NVT330010000 |

**ACT COMPLIANCE DBA FLEETSERV (Continued)** **S113883371**

TSD County: 99
Tons: 0.85
CA Waste Code: 352-Other organic solids
Method: H132-Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization)
Facility County: San Bernardino

Click this hyperlink while viewing on your computer to access additional CA_HAZNET: detail in the EDR Site Report.

San Bern. Co. Permit:
Name: ACT COMPLIANCE DBA FLEETSERV
Address: 16516 WASHINGTON DR
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0015075
Owner: ACT Compliance DBA FleetServ
Permit Number: PT0026268
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR
Facility Status: ACTIVE
Expiration Date: 08/31/2019

Name: ACT COMPLIANCE DBA FLEETSERV
Address: 16516 WASHINGTON DR
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0015075
Owner: ACT Compliance DBA FleetServ
Permit Number: PT0026267
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 08/31/2019

CERS:
Name: ACT COMPLIANCE DBA FLEETSERV
Address: 16516 WASHINGTON DR
City,State,Zip: FONTANA, CA 92335
Site ID: 2946
CERS ID: 10451869
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 2946
Site Name: ACT Compliance DBA FleetServ
Violation Date: 05-10-2016
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General
Violation Notes: Returned to compliance on 06/30/2016. Failure to note accumulation start date on labels (CCR 66262.34(f)(2))
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Site ID: 2946
Site Name: ACT Compliance DBA FleetServ
Violation Date: 05-10-2016

**ACT COMPLIANCE DBA FLEETSERV (Continued)** **S113883371**

Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General
Violation Notes: Returned to compliance on 06/30/2016. Failure to complete hazardous waste labels (CCR 66262.34(f)(3))
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Site ID: 2946
Site Name: ACT Compliance DBA FleetServ
Violation Date: 05-10-2016
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple
Violation Description: Haz Waste Generator Program - Administration/Documentation - General
Violation Notes: Returned to compliance on 06/30/2016. Failure to retain Hazardous Waste Manifests for at least 3 years (CCR 66262.40(a))
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Site ID: 2946
Site Name: ACT Compliance DBA FleetServ
Violation Date: 05-10-2016
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple
Violation Description: Haz Waste Generator Program - Administration/Documentation - General
Violation Notes: Returned to compliance on 06/30/2016. Failure to transport hazardous waste under a Manifest (CCR 66262.20)
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Site ID: 2946
Site Name: ACT Compliance DBA FleetServ
Violation Date: 05-10-2016
Citation: HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)
Violation Description: Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: Not reported
Violation Division: San Bernardino County Fire Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 2946
Site Name: ACT Compliance DBA FleetServ
Violation Date: 05-10-2016
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General
Violation Notes: Returned to compliance on 06/30/2016. Failure to label hazardous waste containers (CCR 66262.34(f)(3))
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

**ACT COMPLIANCE DBA FLEETSERV (Continued)** **S113883371**

| | |
|---|---|
| Site ID: | 2946 |
| Site Name: | ACT Compliance DBA FleetServ |
| Violation Date: | 05-10-2016 |
| Citation: | HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2 |
| Violation Description: | Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date. |
| Violation Notes: | Not reported |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 2946 |
| Site Name: | ACT Compliance DBA FleetServ |
| Violation Date: | 05-10-2016 |
| Citation: | HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections |
| Violation Description: | Haz Waste Generator Program - Abandonment/Illegal Disposal/Unauthorized Treatment - General |
| Violation Notes: | Returned to compliance on 06/30/2016. Failure to transport Hazardous Waste with a valid registration (CHSC 25163(a)) |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | HW |
| Violation Source: | CERS |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 05-10-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | HAZARDOUS WASTE GENERATOR INSPECTION FOR FLEET SERV |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 08-30-2016 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | HAZARDOUS MATERIALS CLOSURE INSPECTION |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 08-30-2016 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | HAZARDOUS WASTE GENERATOR CLOSURE INSPECTION |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 05-10-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |

**ACT COMPLIANCE DBA FLEETSERV (Continued)** **S113883371**

| | |
|---|---|
| Eval Notes: | HAZARDOUS MATERIALS INSPECTION FOR FLEET SERV |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

Enforcement Action:

| | |
|---|---|
| Site ID: | 2946 |
| Site Name: | ACT Compliance DBA FleetServ |
| Site Address: | 16516 WASHINGTON DR |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 05-10-2016 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS |

| | |
|---|---|
| Site ID: | 2946 |
| Site Name: | ACT Compliance DBA FleetServ |
| Site Address: | 16516 WASHINGTON DR |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 05-10-2016 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | HW |
| Enf Action Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 2946 |
| Facility Name: | ACT Compliance DBA FleetServ |
| Env Int Type Code: | HWG |
| Program ID: | 10451869 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Center of a facility or station. |
| Latitude: | 34.068170 |
| Longitude: | -117.443700 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | ACT Compliance DBA FleetServ |
| Entity Title: | Not reported |

**ACT COMPLIANCE DBA FLEETSERV (Continued)** **S113883371**

| | |
|---|---|
| Affiliation Address: | PO Box 79108 |
| Affiliation City: | Corona |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92877 |
| Affiliation Phone: | (951) 226-3460 |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | ACT Compliance DBA FleetServ |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Michelle Schwartz |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Michael Schwartz |
| Entity Title: | Not reported |
| Affiliation Address: | PO Box 79108 |
| Affiliation City: | Corona |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92877 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | PO Box 79108 |
| Affiliation City: | Corona |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92877 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | ACT Compliance DBA FleetServ |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (951) 226-3460 |

**ACT COMPLIANCE DBA FLEETSERV (Continued)** **S113883371**

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Michelle Schwartz |
| Entity Title: | Secretary |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Property Owner |
| Entity Name: | Michael Schwartz |
| Entity Title: | Not reported |
| Affiliation Address: | PO Box 79108 |
| Affiliation City: | Corona |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92877 |
| Affiliation Phone: | (909) 578-1272 |

---

**L37** **SALLY BEAUTY SUPPLIES** **RCRA NonGen / NLR** **1024852510**
**North** **16771 VALLEY BLVD** **CAL000411721**
**1/8-1/4** **FONTANA, CA 92335**
**0.248 mi.**
**1309 ft.** **Site 1 of 2 in cluster L**

**Relative:**
**Higher**

**Actual:**
**1122 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 10/28/2015 |
| Facility name: | SALLY BEAUTY SUPPLIES |
| Facility address: | 16771 VALLEY BLVD<br>FONTANA, CA 92335 |
| EPA ID: | CAL000411721 |
| Contact: | RANDY GOSS |
| Contact address: | 3001 COLORADO BLVD<br>DENTON, TX 76210 |
| Contact country: | Not reported |
| Contact telephone: | 940-898-7500 |
| Contact email: | RGOSS@SALLYBEAUTY.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | RANDY GOSS |
| Owner/operator address: | 3001 COLORADO BLVD<br>DENTON, TX 76210 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 940-898-7500 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

**SALLY BEAUTY SUPPLIES (Continued)** **1024852510**

| | |
|---|---|
| Owner/operator name: | SALLY BEAUTY HOLDING LLC |
| Owner/operator address: | 3001 COLORADO BLVD<br>DENTON, TX 76210 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 940-898-7500 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| 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: | Yes |
| 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 |

Violation Status: No violations found

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**L38**
**North**
**1/8-1/4**
**0.248 mi.**
**1309 ft.**

**SALLY BEAUTY SUPPLY**
**16771 VALLEY BLVD**
**FONTANA, CA 92335**

**Site 2 of 2 in cluster L**

**CERS HAZ WASTE** **S120765455**
**HAZNET** **N/A**
**San Bern. Co. Permit**
**CERS**

**Relative:**
**Higher**

**Actual:**
**1122 ft.**

CERS HAZ WASTE:

| | |
|---|---|
| Name: | SALLY BEAUTY SUPPLY |
| Address: | 16771 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 366276 |
| CERS ID: | 10664278 |
| CERS Description: | Hazardous Waste Generator |

HAZNET:

| | |
|---|---|
| Name: | SALLY BEAUTY SUPPLIES |
| Address: | 16771 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2017 |
| GEPAID: | CAL000411721 |
| Contact: | RANDY GOSS |
| Telephone: | 9408987500 |
| Mailing Name: | Not reported |
| Mailing Address: | 16771 VALLEY BLVD |
| Mailing City,St,Zip: | FONTANA, CA 92335 |
| Gen County: | San Bernardino |

**SALLY BEAUTY SUPPLY (Continued)** **S120765455**

TSD EPA ID: MXC130619001
TSD County: Not reported
Tons: 0.026
CA Waste Code: 352-Other organic solids
Method: H050-Energy Recovery At This Site--Use As Fuel(Includes On-Site Fuel Blending)
Facility County: San Bernardino

Name: SALLY BEAUTY SUPPLIES
Address: 16771 VALLEY BLVD
City,State,Zip: FONTANA, CA 92335
Year: 2017
GEPAID: CAL000411721
Contact: RANDY GOSS
Telephone: 9408987500
Mailing Name: Not reported
Mailing Address: 16771 VALLEY BLVD
Mailing City,St,Zip: FONTANA, CA 92335
Gen County: San Bernardino
TSD EPA ID: MXC130619001
TSD County: Not reported
Tons: 0.0635
CA Waste Code: 331-Off-specification, aged or surplus organics
Method: H020-Solvents Recovery
Facility County: San Bernardino

Name: SALLY BEAUTY SUPPLIES
Address: 16771 VALLEY BLVD
City,State,Zip: FONTANA, CA 92335
Year: 2017
GEPAID: CAL000411721
Contact: RANDY GOSS
Telephone: 9408987500
Mailing Name: Not reported
Mailing Address: 16771 VALLEY BLVD
Mailing City,St,Zip: FONTANA, CA 92335
Gen County: San Bernardino
TSD EPA ID: MXC130619001
TSD County: Not reported
Tons: 0.1475
CA Waste Code: 561-Detergent waste chemicals
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County: San Bernardino

Name: SALLY BEAUTY SUPPLIES
Address: 16771 VALLEY BLVD
City,State,Zip: FONTANA, CA 92335
Year: 2016
GEPAID: CAL000411721
Contact: DAVID EPSTEIN
Telephone: 8566928100
Mailing Name: Not reported
Mailing Address: 17574 COLIMA RD
Mailing City,St,Zip: ROWLAND HEIGHTS, CA 91748
Gen County: San Bernardino
TSD EPA ID: MXC130619001

**SALLY BEAUTY SUPPLY (Continued)** **S120765455**

| | |
|---|---|
| TSD County: | Not reported |
| Tons: | 0.076 |
| CA Waste Code: | 331-Off-specification, aged or surplus organics |
| Method: | H020-Solvents Recovery |
| Facility County: | San Bernardino |

| | |
|---|---|
| Name: | SALLY BEAUTY SUPPLIES |
| Address: | 16771 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2016 |
| GEPAID: | CAL000411721 |
| Contact: | DAVID EPSTEIN |
| Telephone: | 8566928100 |
| Mailing Name: | Not reported |
| Mailing Address: | 17574 COLIMA RD |
| Mailing City,St,Zip: | ROWLAND HEIGHTS, CA 91748 |
| Gen County: | San Bernardino |
| TSD EPA ID: | MXC130619001 |
| TSD County: | Not reported |
| Tons: | 0.0375 |
| CA Waste Code: | 352-Other organic solids |
| Method: | H050-Energy Recovery At This Site--Use As Fuel(Includes On-Site Fuel Blending) |
| Facility County: | San Bernardino |

Click this hyperlink while viewing on your computer to access
3 additional CA_HAZNET: record(s) in the EDR Site Report.

San Bern. Co. Permit:

| | |
|---|---|
| Name: | SALLY BEAUTY SUPPLY |
| Address: | 16771 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0017284 |
| Owner: | SALLY BEAUTY HOLDING LLC |
| Permit Number: | PT0036788 |
| Permit Category: | CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL |
| Facility Status: | ACTIVE |
| Expiration Date: | 02/28/2019 |

| | |
|---|---|
| Name: | SALLY BEAUTY SUPPLY |
| Address: | 16771 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0017284 |
| Owner: | SALLY BEAUTY HOLDING LLC |
| Permit Number: | PT0038193 |
| Permit Category: | HAZMAT HANDLER GENERAL ACT.(NB) |
| Facility Status: | FEE EXEMPT |
| Expiration Date: | 02/28/2018 |

CERS:

| | |
|---|---|
| Name: | SALLY BEAUTY SUPPLY |
| Address: | 16771 VALLEY BLVD |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 366276 |

**SALLY BEAUTY SUPPLY (Continued)** **S120765455**

CERS ID: 10664278
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 366276
Site Name: SALLY BEAUTY SUPPLY
Violation Date: 03-28-2018
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 03/28/2018. Failure to properly label the container of toxic waste; this hazardous waste is being identified as universal waste. Correction was made during the inspection. CB
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-28-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 366276
Facility Name: SALLY BEAUTY SUPPLY
Env Int Type Code: HWG
Program ID: 10664278
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 34.069960
Longitude: -117.438220

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Randy Goss
Entity Title: Not reported
Affiliation Address: 3001 COLORADO BLVD
Affiliation City: DENTON
Affiliation State: TX
Affiliation Country: Not reported
Affiliation Zip: 76210
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 16771 VALLEY BLVD

**SALLY BEAUTY SUPPLY (Continued)** **S120765455**

| | |
|---|---|
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Larry Burton |
| Entity Title: | Director, Temarry Recycling, Inc |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | Sally Beauty Holding LLC |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (940) 898-7500 |

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Larry Burton |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Sally Beauty Holding LLC |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |

**SALLY BEAUTY SUPPLY (Continued)** **S120765455**

| | |
|---|---|
| Entity Name: | Sally Beauty Holding LLC |
| Entity Title: | Not reported |
| Affiliation Address: | 3001 COLORADO BLVD. |
| Affiliation City: | DENTON |
| Affiliation State: | TX |
| Affiliation Country: | United States |
| Affiliation Zip: | 76210 |
| Affiliation Phone: | (940) 898-7500 |

---

**H39**
**ESE**
**1/8-1/4**
**0.248 mi.**
**1309 ft.**

**ROSS DRESS FOR LESS #0318**
**17084 SLOVER AVE STE 102**
**FONTANA, CA 92337**

**CERS HAZ WASTE** **S118236335**
**San Bern. Co. Permit** **N/A**
**CERS**

**Site 3 of 5 in cluster H**

**Relative:**
**Lower**

**Actual:**
**1093 ft.**

CERS HAZ WASTE:

| | |
|---|---|
| Name: | FIVE BELOW 1310 |
| Address: | 17084 SLOVER AVE STE D101 |
| City,State,Zip: | FONTANA, CA 92337 |
| Site ID: | 439932 |
| CERS ID: | 10766605 |
| CERS Description: | Hazardous Waste Generator |

| | |
|---|---|
| Name: | ROSS DRESS FOR LESS #0318 |
| Address: | 17084 SLOVER AVE STE 102 |
| City,State,Zip: | FONTANA, CA 92337 |
| Site ID: | 149070 |
| CERS ID: | 10506382 |
| CERS Description: | Hazardous Waste Generator |

San Bern. Co. Permit:

| | |
|---|---|
| Name: | ROSS DRESS FOR LESS #0318 |
| Address: | 17084 SLOVER AVE STE 102 |
| City,State,Zip: | FONTANA, CA 92337 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0015662 |
| Owner: | Ross Dress For Less Inc. |
| Permit Number: | PT0034225 |
| Permit Category: | CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL |
| Facility Status: | ACTIVE |
| Expiration Date: | 10/31/2019 |

| | |
|---|---|
| Name: | FIVE BELOW 1310 |
| Address: | 17084 SLOVER AVE STE D101 |
| City,State,Zip: | FONTANA, CA 92337 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0018012 |
| Owner: | Five Below |
| Permit Number: | PT0038925 |
| Permit Category: | CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL |
| Facility Status: | ACTIVE |
| Expiration Date: | 08/31/2019 |

| | |
|---|---|
| Name: | FIVE BELOW 1310 |
| Address: | 17084 SLOVER AVE STE D101 |
| City,State,Zip: | FONTANA, CA 92337 |

**ROSS DRESS FOR LESS #0318 (Continued)** **S118236335**

Region: SAN BERNARDINO
Facility ID: FA0018012
Owner: Five Below
Permit Number: PT0038924
Permit Category: HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status: FEE EXEMPT
Expiration Date: 08/31/2019

Name: ROSS DRESS FOR LESS #0318
Address: 17084 SLOVER AVE STE 102
City,State,Zip: FONTANA, CA 92337
Region: SAN BERNARDINO
Facility ID: FA0015662
Owner: Ross Dress For Less Inc.
Permit Number: PT0037288
Permit Category: HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status: FEE EXEMPT
Expiration Date: 10/31/2017

CERS:
Name: ROSS DRESS FOR LESS #0318
Address: 17084 SLOVER AVE STE 102
City,State,Zip: FONTANA, CA 92337
Site ID: 149070
CERS ID: 10506382
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 149070
Site Name: Ross Dress For Less #0318
Violation Date: 03-31-2015
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple
Violation Description: Haz Waste Generator Program - Training - General
Violation Notes: Returned to compliance on 10/10/2017. Failure to train facility personnel in hazardous waste management procedures (CCR 66265.16) Assistant store manager stated, during a re-inspection on 10/10/2017, that the facility employees receive training related to hazardous material management. CB
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-31-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-31-2015
Violations Found: Yes
Eval Type: Routine done by local agency

**ROSS DRESS FOR LESS #0318 (Continued)** **S118236335**

| | |
|---|---|
| Eval Notes: | ROUTINE GENERATOR INSPECTION-ROSS |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 10-10-2017 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | RE-INSPECTION. |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | HW |
| Eval Source: | CERS |

Enforcement Action:

| | |
|---|---|
| Site ID: | 149070 |
| Site Name: | Ross Dress For Less #0318 |
| Site Address: | 17084 SLOVER AVE STE 102 |
| Site City: | FONTANA |
| Site Zip: | 92337 |
| Enf Action Date: | 03-31-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | HW |
| Enf Action Source: | CERS |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | ASHLEY CAMPBELL |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Ross Dress For Less Inc. |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (925) 965-4831 |
| | |
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |

**ROSS DRESS FOR LESS #0318 (Continued)** **S118236335**

| | |
|---|---|
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 5130 Hacienda Dr |
| Affiliation City: | Dublin |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 94568-7579 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Ashley Campbell |
| Entity Title: | ENVIRONMENTAL COMPLIANCE SPECIALIST |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Ross Dress For Less Inc. |
| Entity Title: | Not reported |
| Affiliation Address: | 5130 Hacienda Dr |
| Affiliation City: | Dublin |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 94568-7579 |
| Affiliation Phone: | (925) 965-4831 |

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Ross Stores, Inc. |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | ASHLEY CAMPBELL |
| Entity Title: | Not reported |
| Affiliation Address: | 5151 San Felipe, Suite 1000 |
| Affiliation City: | HOUSTON |
| Affiliation State: | TX |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 77056 |
| Affiliation Phone: | Not reported |

**H40 ESE 1/8-1/4 0.248 mi. 1309 ft.** | **FIVE BELOW INC**
**17084 SLOVER AVE STE D101**
**FONTANA, CA 92337**
**Site 4 of 5 in cluster H** | **RCRA NonGen / NLR** | **1024860015**
**CAL000427789**

**Relative: Lower**
**Actual: 1093 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 05/15/2017 |
| Facility name: | FIVE BELOW INC |
| Facility address: | 17084 SLOVER AVE STE D101<br>FONTANA, CA 92337 |
| EPA ID: | CAL000427789 |
| Mailing address: | 701 MARKET STREET<br>SUITE 300<br>PHILADELPHIA, PA 19106-0000 |
| Contact: | MAINTENANCE DEPARTMENT |
| Contact address: | 701 MARKET STREET SUITE 300<br>PHILADELPHIA, PA 19106 |
| Contact country: | Not reported |
| Contact telephone: | 215-207-2595 |
| Contact email: | MAINTENANCE@FIVEBELOW.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | MAINTENANCE DEPARTMENT |
| Owner/operator address: | 701 MARKET STREET SUITE 300<br>PHILADELPHIA, PA 19106 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 215-207-2595 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | FIVE BELOW, INC |
| Owner/operator address: | 701 MARKET STREET SUITE 300<br>PHILADELPHIA, PA 19106 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 215-546-7909 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Owner |
| Owner/Op start date: | Not reported |
| 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: | Yes |
| Treater, storer or disposer of HW: | No |

**FIVE BELOW INC (Continued)** **1024860015**

| | |
|---|---|
| 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 |

Violation Status: No violations found

---

**H41**
**ESE**
**1/8-1/4**
**0.248 mi.**
**1309 ft.**

**ROSS DRESS FOR LESS #0318** **RCRA NonGen / NLR** **1024844772**
**17084 SLOVER AVE STE 102** **CAL000397432**
**FONTANA, CA 92337**

**Site 5 of 5 in cluster H**

**Relative:**
**Lower**

**Actual:**
**1093 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date form received by agency: | 06/05/2014 |
| Facility name: | ROSS DRESS FOR LESS #0318 |
| Facility address: | 17084 SLOVER AVE STE 102<br>FONTANA, CA 92337-7590 |
| EPA ID: | CAL000397432 |
| Mailing address: | 5151 SAN FELIPE ST STE 1000<br>HOUSTON, TX 77056 |
| Contact: | KATHY HATCH |
| Contact address: | 5130 HACIENDA DR 3RD FLOOR<br>DUBLIN, CA 94568 |
| Contact country: | Not reported |
| Contact telephone: | 925-965-4015 |
| Contact email: | ERIC.GUARD@ROS.COM |
| EPA Region: | 09 |
| Classification: | Non-Generator |
| Description: | Handler: Non-Generators do not presently generate hazardous waste |

Owner/Operator Summary:

| | |
|---|---|
| Owner/operator name: | KATHY HATCH |
| Owner/operator address: | 5130 HACIENDA DR 3RD FLOOR<br>DUBLIN, CA 94568 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 925-965-4015 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |
| Owner/operator extension: | Not reported |
| Legal status: | Other |
| Owner/Operator Type: | Operator |
| Owner/Op start date: | Not reported |
| Owner/Op end date: | Not reported |

| | |
|---|---|
| Owner/operator name: | ROSS DRESS FOR LESS INC |
| Owner/operator address: | 5130 HACIENDA DR<br>DUBLIN, CA 94568 |
| Owner/operator country: | Not reported |
| Owner/operator telephone: | 925-965-4831 |
| Owner/operator email: | Not reported |
| Owner/operator fax: | Not reported |

**ROSS DRESS FOR LESS #0318 (Continued)** **1024844772**

Owner/operator extension: Not reported
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: Not reported
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: Yes
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

Violation Status: No violations found

---

**J42** **BP WEST COAST PRODUCTS LLC 01815** **LUST** **S113113831**
**NNE** **10087 SIERRA** **HAZNET** **N/A**
**1/4-1/2** **FONTANA, CA 92335**
**0.291 mi.**
**1534 ft.** **Site 8 of 8 in cluster J**

**Relative:**
**Higher**

**Actual:**
**1126 ft.**

LUST:
Name: ARCO #1815
Address: 10087 SIERRA BLVD
City,State,Zip: FONTANA, CA 92335
Lead Agency: SAN BERNARDINO COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000005327
Global Id: T10000005327
Latitude: 34.07208
Longitude: -117.4339
Status: Completed - Case Closed
Status Date: 01/29/1991
Case Worker: Not reported
RB Case Number: Not reported
Local Agency: Not reported
File Location: Not reported
Local Case Number: Not reported
Potential Media Affect: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

LUST:
Global Id: T10000005327
Action Type: Other
Date: 09/21/1990
Action: Leak Began

Global Id: T10000005327

**BP WEST COAST PRODUCTS LLC 01815 (Continued)** **S113113831**

| | |
|---|---|
| Action Type: | Other |
| Date: | 09/21/1990 |
| Action: | Leak Discovery |
| | |
| Global Id: | T10000005327 |
| Action Type: | Other |
| Date: | 09/21/1990 |
| Action: | Leak Reported |

LUST:

| | |
|---|---|
| Global Id: | T10000005327 |
| Status: | Open - Case Begin Date |
| Status Date: | 09/21/1990 |
| | |
| Global Id: | T10000005327 |
| Status: | Completed - Case Closed |
| Status Date: | 01/29/1991 |

HAZNET:

| | |
|---|---|
| Name: | BP WEST COAST PRODUCTS LLC 01815 |
| Address: | 10087 SIERRA |
| City,State,Zip: | FONTANA, CA 923350000 |
| Year: | 2002 |
| GEPAID: | CAL000225441 |
| Contact: | CARLOS RODRIGUEZ |
| Telephone: | 7146705402 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 6038 |
| Mailing City,St,Zip: | ARTESIA, CA 907026038 |
| Gen County: | San Bernardino |
| TSD EPA ID: | CAT080013352 |
| TSD County: | Los Angeles |
| Tons: | 1.26 |
| CA Waste Code: | 134-Aqueous solution with total organic residues less than 10 percent |
| Method: | R01-Recycler |
| Facility County: | San Bernardino |

---

**43** **PONCE RECYCLING** **SWRCY** **S120834977**
**NNE** **9954 SIERRA AVE** **N/A**
**1/4-1/2** **FONTANA, CA 92335**
**0.439 mi.**
**2318 ft.**

**Relative:**
**Higher**

**Actual:**
**1136 ft.**

SWRCY:

| | |
|---|---|
| Name: | PONCE RECYCLING |
| Address: | 9954 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Reg Id: | 260783 |
| Cert Id: | RC260783.001 |
| Mailing Address: | 5425 W 64th St |
| Mailing City: | Los Angeles |
| Mailing State: | CA |
| Mailing Zip Code: | 90056 |
| Website: | Not reported |
| Email: | ponceerecycling@aol.com |
| Phone Number: | (323) 533-4862 |

**PONCE RECYCLING (Continued)** **S120834977**

| | |
|---|---|
| Rural: | N |
| Operation Begin Date: | 07/24/2017 |
| Aluminium: | Y |
| Glass: | Y |
| Plastic: | Y |
| Bimetal: | Y |
| Hours of Operation: | Mon - Sun 8:30 am - 4:30 pm |
| Organization ID: | 39719 |
| Organization Name: | Ponce Recycling Inc |

---

**44**
**NE**
**1/4-1/2**
**0.455 mi.**
**2401 ft.**

**Relative:**
**Higher**

**Actual:**
**1134 ft.**

**KAISER FOUNDATION HOSP**
**9961 SIERRA AVE**
**FONTANA, CA 92335**

**ENVIROSTOR** **U001574868**
**UST** **N/A**
**AST**
**CERS HAZ WASTE**
**HIST UST**
**CERS TANKS**
**CHMIRS**
**EMI**
**HAZNET**
**NPDES**
**San Bern. Co. Permit**
**CIWQS**
**CERS**

ENVIROSTOR:

| | |
|---|---|
| Name: | KAISER PERMANENTE - FONTANA |
| Address: | 9961 SIERRA AVENUE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility ID: | 71003588 |
| Status: | Inactive - Needs Evaluation |
| Status Date: | Not reported |
| Site Code: | Not reported |
| Site Type: | Tiered Permit |
| Site Type Detailed: | Tiered Permit |
| Acres: | Not reported |
| NPL: | NO |
| Regulatory Agencies: | NONE SPECIFIED |
| Lead Agency: | NONE SPECIFIED |
| Program Manager: | Not reported |
| Supervisor: | Not reported |
| Division Branch: | Cleanup Cypress |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | Not reported |
| Latitude: | 34.0728 |
| Longitude: | -117.4336 |
| APN: | NONE SPECIFIED |
| Past Use: | NONE SPECIFIED |
| Potential COC: | NONE SPECIFIED |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | NONE SPECIFIED |
| Alias Name: | CA0001355304 |
| Alias Type: | EPA Identification Number |
| Alias Name: | 71003588 |
| Alias Type: | Envirostor ID Number |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Completed Info:

| | |
|---|---|
| Completed Area Name: | Not reported |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Not reported |
| Completed Date: | Not reported |
| Comments: | Not reported |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

UST:

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSP |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility ID: | FA0004209 |
| Permitting Agency: | San Bernardino County Fire Department |
| Latitude: | 34.073377 |
| Longitude: | -117.435509 |

AST:

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSP |
| Address: | 9961 SIERRA AVE |
| City/Zip: | FONTANA,92335 |
| Certified Unified Program Agencies: | Not reported |
| Owner: | KAISER PERMANENTE |
| Total Gallons: | Not reported |
| CERSID: | 10041049 |
| Facility ID: | FA0004209 |
| Business Name: | Kaiser Permanente - Fontana Service Area |
| Phone: | 909-957-3408 |
| Fax: | 909-724-5187 |
| Mailing Address: | 9961 SIERRA AVE, ATTN: ENGINEERING |
| Mailing Address City: | FONTANA |
| Mailing Address State: | CA |
| Mailing Address Zip Code: | 92335 |
| Operator Name: | Keith Grindle |
| Operator Phone: | 909-427-4933 |
| Owner Phone: | (909) 427-7700 |
| Owner Mail Address: | 9961 SIERRA AVE |
| Owner State: | CA |
| Owner Zip Code: | 92335 |
| Owner Country: | United States |
| Property Owner Name: | Not reported |
| Property Owner Phone: | Not reported |
| Property Owner Mailing Address: | Not reported |
| Property Owner City: | Not reported |
| Property Owner Stat : | Not reported |
| Property Owner Zip Code: | Not reported |
| Property Owner Country: | Not reported |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

EPAID: CAL000110441

CERS HAZ WASTE:

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Site ID: 395683
CERS ID: 10041049
CERS Description: Hazardous Waste Generator

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Site ID: 395683
CERS ID: 10041049
CERS Description: RCRA LQ HW Generator

HIST UST:

Name: KAISER FOUNDATION HOSPITAL
Address: 9961 SIERRA AVENUE
City,State,Zip: FONTANA, CA 92335
File Number: 0002A0BB
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A0BB.pdf
Region: STATE
Facility ID: 00000033060
Facility Type: Other
Other Type: HOSPITAL
Contact Name: KEN NEAL
Telephone: 7148295161
Owner Name: KAISER FOUNDATION HOSPITAL
Owner Address: 9961 SIERRA AVENUE
Owner City,St,Zip: FONTANA, CA 92335
Total Tanks: 0003

Tank Num: 001
Container Num: SN 194744
Year Installed: 1978
Tank Capacity: 00030000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: 3/8
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: #1
Year Installed: 1970
Tank Capacity: 00015000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: #3
Year Installed: Not reported
Tank Capacity: 00000350

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Tank Used for: | PRODUCT |
| Type of Fuel: | REGULAR |
| Container Construction Thickness: | Not reported |
| Leak Detection: | None |

Click here for Geo Tracker PDF:

CERS TANKS:

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSP |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 395683 |
| CERS ID: | 10041049 |
| CERS Description: | Aboveground Petroleum Storage |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSP |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 395683 |
| CERS ID: | 10041049 |
| CERS Description: | Underground Storage Tank |

CHMIRS:

| | |
|---|---|
| Name: | Not reported |
| Address: | 9961 SIERRA AVENUE |
| City,State,Zip: | FONTANA, CA |
| OES Incident Number: | 4-6607 |
| OES notification: | 11/19/2014 |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **Not reported** |
| Property Use: | Not reported |
| Agency Id Number: | Not reported |
| Agency Incident Number: | Not reported |
| Time Notified: | Not reported |
| Time Completed: | Not reported |
| Surrounding Area: | Not reported |
| Estimated Temperature: | Not reported |
| Property Management: | Not reported |
| More Than Two Substances Involved?: | Not reported |
| Resp Agncy Personel # Of Decontaminated: | Not reported |
| Responding Agency Personel # Of Injuries: | Not reported |
| Responding Agency Personel # Of Fatalities: | Not reported |
| Others Number Of Decontaminated: | Not reported |
| Others Number Of Injuries: | Not reported |
| Others Number Of Fatalities: | Not reported |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | Not reported |
| Report Date: | Not reported |
| Facility Telephone: | Not reported |
| Waterway Involved: | No |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Waterway: | Not reported |
| Spill Site: | Merchant/Business |
| Cleanup By: | No |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Not reported |
| Other: | Not reported |
| Type: | CHEMICAL |
| Measure: | Lbs. |
| Other: | Not reported |
| Date/Time: | 1630 |
| Year: | 2014 |
| Agency: | NRC |
| Incident Date: | 11/6/2014 |
| Admin Agency: | Not reported |
| Amount: | Not reported |
| Contained: | Yes |
| Site Type: | Not reported |
| E Date: | Not reported |
| Substance: | Mercury |
| Quantity Released: | 1.6 |
| Unknown: | Not reported |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | Not reported |
| Number of Injuries: | Not reported |
| Number of Fatalities: | Not reported |
| #1 Pipeline: | No |
| #2 Pipeline: | No |
| #3 Pipeline: | No |
| #1 Vessel >= 300 Tons: | No |
| #2 Vessel >= 300 Tons: | No |
| #3 Vessel >= 300 Tons: | No |
| Evacs: | No |
| Injuries: | Broken Pipe |
| Fatals: | No |
| Comments: | Not reported |
| Description: | ***HISTORICAL*** Per NRC#1101500: "CALLER STATED THAT THERE WAS A RELEASE OF MERCURY DUE TO A CORRODED PIPE IN THE CRAWL SPACE IN THE LABORATORY. THIS IS AN OLD SECTION OF THE HOSPITAL THAT HAS WORK BEING DONE TO IT AT THIS TIME. REMEDIAL ACTIONS: SOIL WILL BE REMEDIATED. ADDITIONAL INFORMATION: THIS SECTION OF THE HOSPITAL IS BEING DEMOLISHED." |

EMI:

| | |
|---|---|
| Name: | KAISER FONTANA HOSP |
| Address: | 9961 SIERRA AV |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 1987 |
| County Code: | 36 |
| Air Basin: | SC |
| Facility ID: | 11732 |
| Air District Name: | SC |
| SIC Code: | 8062 |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Air District Name: | SOUTH COAST AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 3 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSPITAL |
| Address: | 9961 SIERRA AV |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 1990 |
| County Code: | 36 |
| Air Basin: | SC |
| Facility ID: | 11732 |
| Air District Name: | SC |
| SIC Code: | 8060 |
| Air District Name: | SOUTH COAST AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 5 |
| Reactive Organic Gases Tons/Yr: | 1 |
| Carbon Monoxide Emissions Tons/Yr: | 2 |
| NOX - Oxides of Nitrogen Tons/Yr: | 8 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 1 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSPITAL |
| Address: | 9961 SIERRA AV |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 1993 |
| County Code: | 36 |
| Air Basin: | SC |
| Facility ID: | 11732 |
| Air District Name: | SC |
| SIC Code: | 8062 |
| Air District Name: | SOUTH COAST AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 5 |
| Reactive Organic Gases Tons/Yr: | 1 |
| Carbon Monoxide Emissions Tons/Yr: | 3 |
| NOX - Oxides of Nitrogen Tons/Yr: | 6 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 1 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 1 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSPITAL |
| Address: | 9961 SIERRA AV |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 1995 |
| County Code: | 36 |
| Air Basin: | SC |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Facility ID: | 11732 |
| Air District Name: | SC |
| SIC Code: | 8062 |
| Air District Name: | SOUTH COAST AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 5 |
| Reactive Organic Gases Tons/Yr: | 1 |
| Carbon Monoxide Emissions Tons/Yr: | 3 |
| NOX - Oxides of Nitrogen Tons/Yr: | 6 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 1 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 1 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSPITAL |
| Address: | 9961 SIERRA AVE. |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2001 |
| County Code: | 36 |
| Air Basin: | SC |
| Facility ID: | 11732 |
| Air District Name: | SC |
| SIC Code: | 8062 |
| Air District Name: | SOUTH COAST AQMD |
| Community Health Air Pollution Info System: | Y |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 4 |
| Reactive Organic Gases Tons/Yr: | 2 |
| Carbon Monoxide Emissions Tons/Yr: | 19 |
| NOX - Oxides of Nitrogen Tons/Yr: | 3 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 1 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSPITAL |
| Address: | 9961 SIERRA AV |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2010 |
| County Code: | 36 |
| Air Basin: | SC |
| Facility ID: | 11732 |
| Air District Name: | SC |
| SIC Code: | 8062 |
| Air District Name: | SOUTH COAST AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 1.3561029544755001 |
| Reactive Organic Gases Tons/Yr: | 0.80628 |
| Carbon Monoxide Emissions Tons/Yr: | 12.372629999999999 |
| NOX - Oxides of Nitrogen Tons/Yr: | 4.7488900000000003 |
| SOX - Oxides of Sulphur Tons/Yr: | 7.8869999999999996E-2 |
| Particulate Matter Tons/Yr: | 2.05254 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 1.6270575599999999 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSPITAL |
| Address: | 9961 SIERRA AV |
| City,State,Zip: | FONTANA, CA 92335 |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Year: | 2011 |
| County Code: | 36 |
| Air Basin: | SC |
| Facility ID: | 11732 |
| Air District Name: | SC |
| SIC Code: | 8062 |
| Air District Name: | SOUTH COAST AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 1.2240197747 |
| Reactive Organic Gases Tons/Yr: | 0.74408 |
| Carbon Monoxide Emissions Tons/Yr: | 10.0526 |
| NOX - Oxides of Nitrogen Tons/Yr: | 4.01031 |
| SOX - Oxides of Sulphur Tons/Yr: | 0.06635 |
| Particulate Matter Tons/Yr: | 2.0016 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 1.55838678 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSPITALS/ |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2012 |
| County Code: | 36 |
| Air Basin: | SC |
| Facility ID: | 11732 |
| Air District Name: | SC |
| SIC Code: | 8062 |
| Air District Name: | SOUTH COAST AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 2.2094552544 |
| Reactive Organic Gases Tons/Yr: | 1.29952 |
| Carbon Monoxide Emissions Tons/Yr: | 8.17013 |
| NOX - Oxides of Nitrogen Tons/Yr: | 5.37899 |
| SOX - Oxides of Sulphur Tons/Yr: | 0.05807 |
| Particulate Matter Tons/Yr: | 2.20966 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 1.76270698 |

HAZNET:

| | |
|---|---|
| Name: | JCT MECHANIACAL |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Year: | 2013 |
| GEPAID: | CAC002714265 |
| Contact: | JOE MCALLISTER |
| Telephone: | 6619455680 |
| Mailing Name: | Not reported |
| Mailing Address: | 230 E AVENUE K UNIT 1 |
| Mailing City,St,Zip: | LANCASTER, CA 935354522 |
| Gen County: | San Bernardino |
| TSD EPA ID: | NVT330010000 |
| TSD County: | 99 |
| Tons: | 0.15 |
| CA Waste Code: | 352-Other organic solids |
| Method: | H132-Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Facility County: | San Bernardino |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

NPDES:

| | |
|---|---|
| Name: | KAISER FONTANA MEDICAL OFFICE BUILDING |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility Status: | Not reported |
| NPDES Number: | Not reported |
| Region: | Not reported |
| Agency Number: | Not reported |
| Regulatory Measure ID: | Not reported |
| Place ID: | Not reported |
| Order Number: | Not reported |
| WDID: | 8 36C371212 |
| Regulatory Measure Type: | Construction |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | Not reported |
| Expiration Date Of Regulatory Measure: | Not reported |
| Discharge Address: | Not reported |
| Discharge Name: | Not reported |
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |
| Status: | Terminated |
| Status Date: | 11/14/2017 |
| Operator Name: | Kaiser Permanente Foundation Health Plan |
| Operator Address: | 14520 Hawthorne Ave |
| Operator City: | Fontana |
| Operator State: | California |
| Operator Zip: | 92335 |

NPDES as of 03/2018:

| | |
|---|---|
| NPDES Number: | Not reported |
| Status: | Not reported |
| Agency Number: | Not reported |
| Region: | 8 |
| Regulatory Measure ID: | 450236 |
| Order Number: | Not reported |
| Regulatory Measure Type: | Construction |
| Place ID: | Not reported |
| WDID: | 8 36C371212 |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Expiration Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | Not reported |
| Discharge Name: | Not reported |
| Discharge Address: | Not reported |
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |
| Received Date: | 10/21/2014 |
| Processed Date: | 10/21/2014 |
| Status: | Active |
| Status Date: | 10/21/2014 |
| Place Size: | 3.1 |
| Place Size Unit: | Acres |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Contact: | Lorraine Haines |
| Contact Title: | Senior Project Manager |
| Contact Phone: | 909-427-4150 |
| Contact Phone Ext: | Not reported |
| Contact Email: | lorraine.b.haines@kp.org |
| Operator Name: | Kaiser Permanente Foundation Health Plan |
| Operator Address: | 14520 Hawthorne Ave |
| Operator City: | Fontana |
| Operator State: | California |
| Operator Zip: | 92335 |
| Operator Contact: | Joon Lee |
| Operator Contact Title: | Senior Project Manager |
| Operator Contact Phone: | 951-415-1347 |
| Operator Contact Phone Ext: | Not reported |
| Operator Contact Email: | joon.s.lee@kp.org |
| Operator Type: | Private Business |
| Developer: | United Riggers and Erectors |
| Developer Address: | 4188 Valley Blvd |
| Developer City: | Walnut |
| Developer State: | California |
| Developer Zip: | 91789 |
| Developer Contact: | Jay Baugh |
| Developer Contact Title: | Not reported |
| Constype Linear Utility Ind: | N |
| Emergency Phone: | 951-427-8049 |
| Emergency Phone Ext: | Not reported |
| Constype Above Ground Ind: | N |
| Constype Below Ground Ind: | N |
| Constype Cable Line Ind: | N |
| Constype Comm Line Ind: | N |
| Constype Commertial Ind: | N |
| Constype Electrical Line Ind: | N |
| Constype Gas Line Ind: | N |
| Constype Industrial Ind: | N |
| Constype Other Description: | Not reported |
| Constype Other Ind: | N |
| Constype Recons Ind: | Y |
| Constype Residential Ind: | N |
| Constype Transport Ind: | N |
| Constype Utility Description: | Not reported |
| Constype Utility Ind: | N |
| Constype Water Sewer Ind: | N |
| Dir Discharge Uswater Ind: | N |
| Receiving Water Name: | Santa Ana River |
| Certifier: | Lorraine Haines |
| Certifier Title: | Project Manager |
| Certification Date: | 23-APR-15 |
| Primary Sic: | Not reported |
| Secondary Sic: | Not reported |
| Tertiary Sic: | Not reported |
| | |
| NPDES Number: | CAS000002 |
| Status: | Terminated |
| Agency Number: | 0 |
| Region: | 8 |
| Regulatory Measure ID: | 450236 |
| Order Number: | 2009-0009-DWQ |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Regulatory Measure Type: | Enrollee |
| Place ID: | Not reported |
| WDID: | 8 36C371212 |
| Program Type: | Construction |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | 10/21/2014 |
| Expiration Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | 11/02/2017 |
| Discharge Name: | Kaiser Permanente Foundation Health Plan |
| Discharge Address: | 14520 Hawthorne Ave |
| Discharge City: | Fontana |
| Discharge State: | California |
| Discharge Zip: | 92335 |
| Received Date: | Not reported |
| Processed Date: | Not reported |
| Status: | Not reported |
| Status Date: | Not reported |
| Place Size: | Not reported |
| Place Size Unit: | Not reported |
| Contact: | Not reported |
| Contact Title: | Not reported |
| Contact Phone: | Not reported |
| Contact Phone Ext: | Not reported |
| Contact Email: | Not reported |
| Operator Name: | Not reported |
| Operator Address: | Not reported |
| Operator City: | Not reported |
| Operator State: | Not reported |
| Operator Zip: | Not reported |
| Operator Contact: | Not reported |
| Operator Contact Title: | Not reported |
| Operator Contact Phone: | Not reported |
| Operator Contact Phone Ext: | Not reported |
| Operator Contact Email: | Not reported |
| Operator Type: | Not reported |
| Developer: | Not reported |
| Developer Address: | Not reported |
| Developer City: | Not reported |
| Developer State: | Not reported |
| Developer Zip: | Not reported |
| Developer Contact: | Not reported |
| Developer Contact Title: | Not reported |
| Constype Linear Utility Ind: | Not reported |
| Emergency Phone: | Not reported |
| Emergency Phone Ext: | Not reported |
| Constype Above Ground Ind: | Not reported |
| Constype Below Ground Ind: | Not reported |
| Constype Cable Line Ind: | Not reported |
| Constype Comm Line Ind: | Not reported |
| Constype Commertial Ind: | Not reported |
| Constype Electrical Line Ind: | Not reported |
| Constype Gas Line Ind: | Not reported |
| Constype Industrial Ind: | Not reported |
| Constype Other Description: | Not reported |
| Constype Other Ind: | Not reported |
| Constype Recons Ind: | Not reported |
| Constype Residential Ind: | Not reported |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Constype Transport Ind: | Not reported |
| Constype Utility Description: | Not reported |
| Constype Utility Ind: | Not reported |
| Constype Water Sewer Ind: | Not reported |
| Dir Discharge Uswater Ind: | Not reported |
| Receiving Water Name: | Not reported |
| Certifier: | Not reported |
| Certifier Title: | Not reported |
| Certification Date: | Not reported |
| Primary Sic: | Not reported |
| Secondary Sic: | Not reported |
| Tertiary Sic: | Not reported |

| | |
|---|---|
| Name: | KAISER FONTANA MEDICAL OFFICE BUILDING |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility Status: | Terminated |
| NPDES Number: | CAS000002 |
| Region: | 8 |
| Agency Number: | 0 |
| Regulatory Measure ID: | 450236 |
| Place ID: | Not reported |
| Order Number: | 2009-0009-DWQ |
| WDID: | 8 36C371212 |
| Regulatory Measure Type: | Enrollee |
| Program Type: | Construction |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | 10/21/2014 |
| Termination Date Of Regulatory Measure: | 11/02/2017 |
| Expiration Date Of Regulatory Measure: | Not reported |
| Discharge Address: | 14520 Hawthorne Ave |
| Discharge Name: | Kaiser Permanente Foundation Health Plan |
| Discharge City: | Fontana |
| Discharge State: | California |
| Discharge Zip: | 92335 |
| Status: | Not reported |
| Status Date: | Not reported |
| Operator Name: | Not reported |
| Operator Address: | Not reported |
| Operator City: | Not reported |
| Operator State: | Not reported |
| Operator Zip: | Not reported |

NPDES as of 03/2018:

| | |
|---|---|
| NPDES Number: | Not reported |
| Status: | Not reported |
| Agency Number: | Not reported |
| Region: | 8 |
| Regulatory Measure ID: | 450236 |
| Order Number: | Not reported |
| Regulatory Measure Type: | Construction |
| Place ID: | Not reported |
| WDID: | 8 36C371212 |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Expiration Date Of Regulatory Measure: | Not reported |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Termination Date Of Regulatory Measure: | Not reported |
| Discharge Name: | Not reported |
| Discharge Address: | Not reported |
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |
| Received Date: | 10/21/2014 |
| Processed Date: | 10/21/2014 |
| Status: | Active |
| Status Date: | 10/21/2014 |
| Place Size: | 3.1 |
| Place Size Unit: | Acres |
| Contact: | Lorraine Haines |
| Contact Title: | Senior Project Manager |
| Contact Phone: | 909-427-4150 |
| Contact Phone Ext: | Not reported |
| Contact Email: | lorraine.b.haines@kp.org |
| Operator Name: | Kaiser Permanente Foundation Health Plan |
| Operator Address: | 14520 Hawthorne Ave |
| Operator City: | Fontana |
| Operator State: | California |
| Operator Zip: | 92335 |
| Operator Contact: | Joon Lee |
| Operator Contact Title: | Senior Project Manager |
| Operator Contact Phone: | 951-415-1347 |
| Operator Contact Phone Ext: | Not reported |
| Operator Contact Email: | joon.s.lee@kp.org |
| Operator Type: | Private Business |
| Developer: | United Riggers and Erectors |
| Developer Address: | 4188 Valley Blvd |
| Developer City: | Walnut |
| Developer State: | California |
| Developer Zip: | 91789 |
| Developer Contact: | Jay Baugh |
| Developer Contact Title: | Not reported |
| Constype Linear Utility Ind: | N |
| Emergency Phone: | 951-427-8049 |
| Emergency Phone Ext: | Not reported |
| Constype Above Ground Ind: | N |
| Constype Below Ground Ind: | N |
| Constype Cable Line Ind: | N |
| Constype Comm Line Ind: | N |
| Constype Commertial Ind: | N |
| Constype Electrical Line Ind: | N |
| Constype Gas Line Ind: | N |
| Constype Industrial Ind: | N |
| Constype Other Description: | Not reported |
| Constype Other Ind: | N |
| Constype Recons Ind: | Y |
| Constype Residential Ind: | N |
| Constype Transport Ind: | N |
| Constype Utility Description: | Not reported |
| Constype Utility Ind: | N |
| Constype Water Sewer Ind: | N |
| Dir Discharge Uswater Ind: | N |
| Receiving Water Name: | Santa Ana River |
| Certifier: | Lorraine Haines |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Certifier Title: | Project Manager |
| Certification Date: | 23-APR-15 |
| Primary Sic: | Not reported |
| Secondary Sic: | Not reported |
| Tertiary Sic: | Not reported |
| | |
| NPDES Number: | CAS000002 |
| Status: | Terminated |
| Agency Number: | 0 |
| Region: | 8 |
| Regulatory Measure ID: | 450236 |
| Order Number: | 2009-0009-DWQ |
| Regulatory Measure Type: | Enrollee |
| Place ID: | Not reported |
| WDID: | 8 36C371212 |
| Program Type: | Construction |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | 10/21/2014 |
| Expiration Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | 11/02/2017 |
| Discharge Name: | Kaiser Permanente Foundation Health Plan |
| Discharge Address: | 14520 Hawthorne Ave |
| Discharge City: | Fontana |
| Discharge State: | California |
| Discharge Zip: | 92335 |
| Received Date: | Not reported |
| Processed Date: | Not reported |
| Status: | Not reported |
| Status Date: | Not reported |
| Place Size: | Not reported |
| Place Size Unit: | Not reported |
| Contact: | Not reported |
| Contact Title: | Not reported |
| Contact Phone: | Not reported |
| Contact Phone Ext: | Not reported |
| Contact Email: | Not reported |
| Operator Name: | Not reported |
| Operator Address: | Not reported |
| Operator City: | Not reported |
| Operator State: | Not reported |
| Operator Zip: | Not reported |
| Operator Contact: | Not reported |
| Operator Contact Title: | Not reported |
| Operator Contact Phone: | Not reported |
| Operator Contact Phone Ext: | Not reported |
| Operator Contact Email: | Not reported |
| Operator Type: | Not reported |
| Developer: | Not reported |
| Developer Address: | Not reported |
| Developer City: | Not reported |
| Developer State: | Not reported |
| Developer Zip: | Not reported |
| Developer Contact: | Not reported |
| Developer Contact Title: | Not reported |
| Constype Linear Utility Ind: | Not reported |
| Emergency Phone: | Not reported |
| Emergency Phone Ext: | Not reported |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Constype Above Ground Ind: | Not reported |
| Constype Below Ground Ind: | Not reported |
| Constype Cable Line Ind: | Not reported |
| Constype Comm Line Ind: | Not reported |
| Constype Commertial Ind: | Not reported |
| Constype Electrical Line Ind: | Not reported |
| Constype Gas Line Ind: | Not reported |
| Constype Industrial Ind: | Not reported |
| Constype Other Description: | Not reported |
| Constype Other Ind: | Not reported |
| Constype Recons Ind: | Not reported |
| Constype Residential Ind: | Not reported |
| Constype Transport Ind: | Not reported |
| Constype Utility Description: | Not reported |
| Constype Utility Ind: | Not reported |
| Constype Water Sewer Ind: | Not reported |
| Dir Discharge Uswater Ind: | Not reported |
| Receiving Water Name: | Not reported |
| Certifier: | Not reported |
| Certifier Title: | Not reported |
| Certification Date: | Not reported |
| Primary Sic: | Not reported |
| Secondary Sic: | Not reported |
| Tertiary Sic: | Not reported |

San Bern. Co. Permit:

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSP |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0004209 |
| Owner: | KAISER PERMANENTE |
| Permit Number: | PT0001866 |
| Permit Category: | HAZARDOUS MATERIALS 11-30 CHEMICALS |
| Facility Status: | ACTIVE |
| Expiration Date: | 10/31/2019 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSP |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0004209 |
| Owner: | KAISER PERMANENTE |
| Permit Number: | PT0025376 |
| Permit Category: | APSA 10,001-100,000 GAL FAC CAPACITY |
| Facility Status: | ACTIVE |
| Expiration Date: | 10/31/2019 |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSP |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Region: | SAN BERNARDINO |
| Facility ID: | FA0004209 |
| Owner: | KAISER PERMANENTE |
| Permit Number: | PT0025451 |
| Permit Category: | REGULAR UST ANNUAL INSPECTION (PER TANK) |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0004209
Owner: KAISER PERMANENTE
Permit Number: PT0019501
Permit Category: LARGE QUANTITY GENERATOR
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0004209
Owner: KAISER PERMANENTE
Permit Number: PT0025450
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0004209
Owner: KAISER PERMANENTE
Permit Number: PT0012376
Permit Category: COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK)
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0004209
Owner: KAISER PERMANENTE
Permit Number: PT0012377
Permit Category: COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK)
Facility Status: ACTIVE
Expiration Date: 10/31/2019

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0004209
Owner: KAISER PERMANENTE
Permit Number: PT0012378
Permit Category: COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK)
Facility Status: ACTIVE
Expiration Date: 10/31/2019

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0004209
Owner: KAISER PERMANENTE
Permit Number: PT0036543
Permit Category: RCRA LQG GENERAL ACTIVITY(NB)
Facility Status: FEE EXEMPT
Expiration Date: 10/31/2017

Name: KAISER FOUNDATION HOSP
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Region: SAN BERNARDINO
Facility ID: FA0004209
Owner: KAISER PERMANENTE
Permit Number: PT0001867
Permit Category: HAZARDOUS WASTE GENERATOR - 11-25 EMPLOYEES
Facility Status: INACTIVE
Expiration Date: 10/31/2008

CIWQS:
Name: KAISER FONTANA MEDICAL OFFICE BUILDING
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Agency: Kaiser Permanente Foundation Health Plan
Agency Address: 14520 Hawthorne Ave, Fontana, CA 92335
Place/Project Type: Construction - Reconstruction
SIC/NAICS: Not reported
Region: 8
Program: CONSTW
Regulatory Measure Status: Terminated
Regulatory Measure Type: Storm water construction
Order Number: 2009-0009-DWQ
WDID: 8 36C371212
NPDES Number: CAS000002
Adoption Date: Not reported
Effective Date: 10/21/2014
Termination Date: 11/02/2017
Expiration/Review Date: Not reported
Design Flow: Not reported
Major/Minor: Not reported
Complexity: Not reported
TTWQ: Not reported
Enforcement Actions within 5 years: 0
Violations within 5 years: 0
Latitude: 34.073384
Longitude: -117.435189

Name: KAISER MEDICAL CENTRE REPLACEMENT HOSPITAL
Address: 9961 SIERRA AVE
City,State,Zip: FONTANA, CA 92335
Agency: Kaiser Permanente Health Plan
Agency Address: 17238 Valley Blvd, Fontana, CA 92335
Place/Project Type: Construction - Reconstruction
SIC/NAICS: Not reported

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

| | |
|---|---|
| Region: | 8 |
| Program: | CONSTW |
| Regulatory Measure Status: | Terminated |
| Regulatory Measure Type: | Storm water construction |
| Order Number: | 2009-0009-DWQ |
| WDID: | 8 36C353283 |
| NPDES Number: | CAS000002 |
| Adoption Date: | Not reported |
| Effective Date: | 09/04/2008 |
| Termination Date: | 12/03/2013 |
| Expiration/Review Date: | Not reported |
| Design Flow: | Not reported |
| Major/Minor: | Not reported |
| Complexity: | Not reported |
| TTWQ: | Not reported |
| Enforcement Actions within 5 years: | 0 |
| Violations within 5 years: | 0 |
| Latitude: | 34.07285 |
| Longitude: | -117.43365 |

CERS:

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSPITALS |
| Address: | 9961 SIERRA AVENUE |
| City,State,Zip: | FONTANA, CA 92335-6720 |
| Site ID: | 475284 |
| CERS ID: | 110002414600 |
| CERS Description: | US EPA Air Emission Inventory System (EIS) |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | VINCE HERNANDEZ |
| Entity Title: | Not reported |
| Affiliation Address: | 9961 SIERRA AVENA ATTN FACILITIES SERVICES |
| Affiliation City: | FONTANA |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | UST PO Name |
| Entity Name: | KAISER FNDTN HOSPITALS |
| Entity Title: | Not reported |
| Affiliation Address: | ONE KAISER PLAZA |
| Affiliation City: | OAKLAND |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Name: | KAISER FOUNDATION HOSP |
| Address: | 9961 SIERRA AVE |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 395683 |
| CERS ID: | 10041049 |
| CERS Description: | Chemical Storage Facilities |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Violations:

| | |
|---|---|
| Site ID: | 395683 |
| Site Name: | KAISER FOUNDATION HOSP |
| Violation Date: | 11-03-2017 |
| Citation: | HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286 |
| Violation Description: | Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit. |
| Violation Notes: | Returned to compliance on 11/15/2017. 12/05/17: CORRECTIONS WERE MADE TO THE CERS SUBMITTAL 11/15/17, CLEAR VIOLATIONS PER G. BEACH-PREYES OBSERVATION: SUBMITTED UNDERGROUND STORAGE TANK (UST) INFORMATION IN CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS) WAS NOT ACCURATE, COMPLETE, OR CURRENT. CORRECT THE FOLLOWING: 1) UPDATE TANK INSTALLED DATES ACCORDINGLY AS NOTED ON THIS REPORT. 2) UPDATE MONITORING PLAN TO INDICATE THAT NEW CUP TANKS HAVE TS-UHS SENSORS MONITORING TANK SUMP ANNULARS COMPLIANCE REQUIREMENT: UPDATE AND RESUBMIT ACCURATE, COMPLETE, AND CURRENT UST INFORMATION IN CERS. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 395683 |
| Site Name: | KAISER FOUNDATION HOSP |
| Violation Date: | 11-08-2013 |
| Citation: | 23 CCR 16 2715 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715 |
| Violation Description: | Failure to comply with one or more of the designated operator monthly inspection requirements: failed to inspect the monthly alarm history report; attach a copy of the alarm history; failed to inspect for the presence of liquid or debris in the spill container/spill bucket and under dispenser containment; failed to inspect the under dispenser containment to ensure that monitoring equipment is placed in the proper position; failure to inspect for liquid or debris in the containment sump where an alarm occurred or for which there is no record of a service visit; or failure to check that all testing and maintenance has been completed and documented. |
| Violation Notes: | Returned to compliance on 11/07/2015. UST MONTHLY INSPECTION REPRORTS MISSING ALARM HISTORY PRINTOUTS EXCEPT FOR FEBRUARY OF 2013. UST D.O. MONTHLY INSPECTION REPORTS MUST INCLUDE ALARM HISTORY PRINT OUTS AND BE AVAILABLE ON SITE FOR REVIEW. OBTAIN/MAINTAIN ON SITE MISSNG ALARM HISTORY PRINT OUTS. |
| Violation Division: | San Bernardino County Fire Department |
| Violation Program: | UST |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 395683 |
| Site Name: | KAISER FOUNDATION HOSP |
| Violation Date: | 11-04-2015 |
| Citation: | HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b) |
| Violation Description: | Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance stored in the primary containment into the secondary containment. |
| Violation Notes: | Returned to compliance on 12/03/2015. OBSERVATION: 1) Brine was observed in both the S1 & S2 sumps, located in the South UST#1. COMPLIANCE REQUIREMENT: 1) Submit a copy of the work order, |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

documenting that the integrity both the S1 & S2 sumps are sound. If a leak in the sump's secondary containment is discovered, contact this office to see if a construction permit is required for repairs.

Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 06-11-2019
Citation: HSC 6.7 25290.1(c)(3),25290.2(c)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(c)(3),25290.2(c)(3)
Violation Description: Failure to keep water out of the secondary containment of UST systems installed on or after July 1, 2003.
Violation Notes: OBSERVED POOLED WATER INSIDE THE TRANSITION SUMP FROM EITHER RAIN/IRRIGATION WITH LIQUIDS SENSOR IN ALARM. POOLED LIQUIDS INSIDE THE TRANSITION SUMP WILL BE REMOVED BY UST CONTRACTOR. INVESTIGATE THE CAUSE OF THE LIQUID INTRUSION AND SUBMIT SCOPE OF WORK THAT WILL PREVENT FURTHER INTRUSION OF LIQUIDS INSIDE THE CONTAINMENTS TO THIS DEPARTMENT WITHIN 15 DAYS.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 09-11-2017
Citation: HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description: Failure to test or inspect each aboveground container for integrity based on industry standards discussed in the SPCC Plan: 1. On a regular schedule. 2. After making material repairs. 3. Use non-destructive testing. 4. Inspect each container?s supports, foundations, and outside for signs of deterioration, discharges, or accumulation of oil inside diked areas.
Violation Notes: Integrity testing based on industry standards as discussed in the SPCC plan is not conducted for each aboveground container.
Violation Division: San Bernardino County Fire Department
Violation Program: APSA
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-04-2015
Citation: 23 CCR 16 2638 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638
Violation Description: Failure to test leak detection equipment as required every 12 months (VPH, sensor, LLD, ATG, etc.) and/or submit monitoring system certification to the CUPA within 30 days of completion of the test
Violation Notes: Returned to compliance on 12/03/2015. OBSERVATION: 1)The liquid sensor (ULS-type) was observed to be damaged. Sensor was observed in the S3 sump, located in the South UST#1. 2)The SCCM (Secondary Containment Control Module) , for Zone 1 failed when tested . Vacuum sensor was observed in the South UST#1. 3) The annular sensor failed when tested. Failed sensor was observed in the North diesel tank 3. COMPLIANCE REQUIREMENT: Replace/ repair all non-functional sensors. Call office for a witnessed re-test of repair/ replaced sensors.

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 09-11-2017
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Returned to compliance on 11/15/2018. Hazardous materials above reportable threshold were observed on site, but not included in the Business Plan Inventory.
Violation Division: San Bernardino County Fire Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-05-2018
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: OBSERVATION: Please make the following corrections on CERS: o 1) For Tank #1 the piping sump and access sump have VR-208 sensors. On CERS the sensors are recorded as VR-205 o 2) For Tank 4 and 5, the tank monitoring leak sensor model should recorded as TS-HIS. o 3) For Tank 4 and 5, the pipe monitoring leak sensor model should recorded as TS-UHS/TS-ULS CORRECTIVE ACTION: Please make the corrections on CERS for the tanks stated in the observation section as stated in the inspection narrative.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-04-2016
Citation: HSC 6.7 25292(e) - California Health and Safety Code, Chapter 6.7, Section(s) 25292(e)
Violation Description: Failure to install a line leak detector (LLD).
Violation Notes: Returned to compliance on 11/04/2016. 1/27/16 - Per SWRCB LG 162-3 this system is exempt from leak detection. Violation is N/A and is cleared. TC 12/21/16 - An email was received on 12/13/16 (prior to the original compliance deadline of 11/18/16) from Jim Brown of Belshire requesting reconsideration of this violation. After discussion with J May a 60 day extension is granted. TCongdon NEW CUP UST TANK SYSTEM ARE A PRESSURE SYSTEM WITHOUT LEAK DETECTORS. IN LIEU OF INSTALLATION OF THE LEAK DETECTORS, AN ANNUAL LINE INTEGRITY TEST FOR THIS UST SYSTEM IS REQUIRED. SCHEDULE A WITNESSED LINE INTEGRITY TEST WITH THIS DEPARTMENT WITHIN 14 DAYS.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-04-2015
Citation: 23 CCR 16 2632, 2634, 2636, 2666 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632, 2634, 2636, 2666
Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.
Violation Notes: Returned to compliance on 12/03/2015. OBSERVATION: 4) South UST#1 & UST#2 external audio/ visual overfill alarmed failed when tested. COMPLIANCE REQUIREMENT: Submit work order documenting repair/ and functionality of the overfill alarm.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-08-2013
Citation: HSC 6.7 25299 - California Health and Safety Code, Chapter 6.7, Section(s) 25299
Violation Description: Failure to comply with one or more of the operating permit conditions.
Violation Notes: Returned to compliance on 11/08/2013. NORTH FILL TANK SENSOR (VR208) FAILED WHEN INITIALLY TESTED. SENSOR WAS REPLACED "LIKE FOR LIKE" AND PASSED WHEN TESTED. VIOLATION CORRECTED AT THE TIME OF INSPECTION.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-07-2014
Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)
Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance stored in the primary containment into the secondary containment.
Violation Notes: Returned to compliance on 11/07/2014. OBSERVED VISUAL EXTERNAL MONITORING ALARM NOT VISIBLE AND OBSTRUCTED BY PORTABLE STORAGE UNIT. COMPLIANCE REQUIREMENT: STORAGE UNIT WAS RELOCATED DURING INSPECTION, VISUAL ALARM LIGHT AT ENUNCIATOR WAS VISIBLE. VIOLATION CORRECTED.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-03-2017
Citation: 23 CCR 16 2712(i), 2632(d)(2), 2634(e), 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i), 2632(d)(2), 2634(e), 2641(h)
Violation Description: Failure to submit a current UST Response Plan available on site.
Violation Notes: Returned to compliance on 11/15/2017. OBSERVATION: UST MONITORING PLAN IN CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS) DID NOT INDICATE THAT TS-UHS SENSORS MONITOR TANK SUMP ANNULARS. COMPLIANCE REQUIREMENT: UPDATE AND RESUBMIT ACCURATE AND CURRENT UST MONITORING PLAN IN CERS.

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 06-11-2019
Citation: HSC 6.7 25290.1(e) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(e)
Violation Description: Failure to maintain the interstitial space such that a breach in the primary or secondary containment is detected before the liquid or vapor phase of the hazardous substance stored in the UST tank is released into the environment, i.e., vapor, pressure, hydrostatic (VPH) monitoring.
Violation Notes: OBSERVED THE FOLLOWING FAILURES/ALARMS AT THE TIME OF INSPECTION: -NO BRINE INSIDE THE TRANSITION PIPING SUMP. -VENT CONTAINMENT BRINE LEAK. -ALL VACUUM LINE FAILURES. 3 LOW VACUUM ALARMS AND 1 HIGH VACUUM ALARM. -BRINE LEAKS INSIDE 3 OUT OF 4 TURBINE SUMPS. SUBMIT PLANS FOR REPAIR OF ALL ABOVE NOTED FAILURES TO THIS DEPARTMENT WITHIN 15 DAYS.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 08-14-2013
Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)
Violation Description: Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.
Violation Notes: Returned to compliance on 09/20/2013.
Violation Division: San Bernardino County Fire Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-04-2016
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description: Failure of the overfill prevention system to meet one of the following requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.
Violation Notes: Returned to compliance on 12/15/2016. COMPLIANCE ACTIVITY (12/06/2016)WITNESS RE-TEST-PASSED AND REC'D SIGNED C OF C. SB EXTERNAL OVERFILL ANNUNCIATOR AT THE OLD CUP WAS OBSERVED TO BE INOPERABLE AT THE TIME OF INSPECTION. REPAIR/REPLACE INOPERABLE

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

OVERFILL EXTERNAL ANNUNCIATOR AND SCHEDULE A WITNESSED RETEST OF ALL OVERFILL ALARMS AT THE OLD CUP WITH THIS DEPARTMENT WITHIN 14 DAYS.

Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-04-2015
Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)
Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance stored in the primary containment into the secondary containment.
Violation Notes: Returned to compliance on 12/03/2015. OBSERVATION: 1)The liquid sensor (ULS-type) was observed to be damaged. Sensor was observed in the S3 sump, located in the South UST#1. 2)The SCCM (Secondary Containment Control Module) , for Zone 1 failed when tested . Vacuum sensor was observed in the South UST#1. 3) The annular sensor failed when tested. Failed sensor was observed in the North diesel tank 3. COMPLIANCE REQUIREMENT: Replace/ repair all non-functional sensors. Call office for a witnessed re-test of repair/ replaced sensors.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-05-2018
Citation: HSC 6.7 25290.1(d) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(d)
Violation Description: Failure of a UST system installed on or after July 1, 2004 to be designed and constructed with a monitoring system capable of detecting the entry of the liquid or vapor-phase of the hazardous substance stored in the primary containment into the secondary containment and capable of detecting water intrusion into the secondary containment.
Violation Notes: OBSERVATION: Please make the following repairs: 1) The hydrostatic sensor (TS-UHS) in Sump 8 was not working. Technician stated that the sensor needs to be ordered. 2) Alarms on monitoring panel: o Transition Sump- brine sensor o Tank 2 Sump 8- brine sensor o Zone 1 Tank 1- vacuum sensor too high CORRECTIVE ACTION: 1) Replace non-working hydrostatic sensor (TS-UHS) in Sump 8. 2) Repair to eliminate brine leak in the system.- Contact this Division with scope of work. Ensure that required permits are obtained prior to making repairs.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Violation Date: 11-04-2016
Citation: 23 CCR 16 2712 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712
Violation Description: Failure to comply with any of the applicable requirements of the permit issued for the operation of the UST system.

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Violation Notes: Returned to compliance on 12/15/2016. COMPLIANCE ACTIVITY (12/06/2016)WITNESS RE-TEST-PASSED AND REC'D SIGNED C OF C. SB INCON UST MONITORING PANEL DID NOT HAVE A FUNCTIONING AUDIBLE ALARM DURING THE UST MONITORING SYSTEM CERTIFICATION. IMMEDIATELY PROVIDE AN AUDIBLE ALARM AT THE INCON UST MONITORING PANEL AND SCHEDULE A WITNESSED TEST OF THE ALARM WITH THIS DEPARTMENT WITHIN 14 DAYS. NOTE: CONTACT THIS DEPARTMENT FOR APPROVAL PRIOR TO ANY REPAIRS REQUIRING PERMITS.
Violation Division: San Bernardino County Fire Department
Violation Program: UST
Violation Source: CERS

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 06-11-2019
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: UST RE-INSPECTION IN CONJUNCTION WITH PERMIT FINAL FOR SR0192369. OTHER UST FAILURES WERE OBSERVED DURING FINAL INSPECTION.
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-14-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: KAISER INSEPECTION
Eval Division: San Bernardino County Fire Department
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-14-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: KAISER INSPECTION
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-14-2013
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: KAISER INSPECTION
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-11-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-11-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-11-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-03-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: ANNUAL UST INSPECTION WITH MONITORING CERTIFICATION
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-04-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: KAISER HOSPITAL- UST MONITORING CERTIFICATION (PRE-2004 & POST-2004 SYSTEMS)
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-07-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: ANNUAL MONITORING CERTIFICATION
Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-08-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: BP INSPECTION DURING MONT CERT
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

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|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 11-08-2013 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | UST MONT CERT. VPH TANKS. ADRIAN S. WITNESSED THE MONT CERT ON THE NORTH TANKS. |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | UST |
| Eval Source: | CERS |

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|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 11-08-2013 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | UST ANNUAL INSPECTION WITH MONITORING SYSTEM CERTIFICATION CONDUCTED IN CONJUCTION WITH FIRAS TAHER. |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | UST |
| Eval Source: | CERS |

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|---|---|
| Eval General Type: | Other/Unknown |
| Eval Date: | 12-15-2016 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | KIESER (RE-TEST)-UST REINSPECTION |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | UST |
| Eval Source: | CERS |

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|---|---|
| Eval General Type: | Other/Unknown |
| Eval Date: | 11-04-2016 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | UST SB989 TEST COMPLETED IN CONJUNCTION OF THE UST MONITORING SYSTEM CERTIFICATION. SEE C01 REPORT FOR INSPECTION INFORMATION AND NARRATIVE. |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | UST |
| Eval Source: | CERS |

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|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 11-04-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | UST ANNUAL INSPECTION WITH MONITORING SYSTEM CERTIFICATION FOLLOWED BY SB989 TEST. |
| Eval Division: | San Bernardino County Fire Department |
| Eval Program: | UST |
| Eval Source: | CERS |

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|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 11-05-2018 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | On-site to conduct an Annual Underground Storage Tank (UST) inspection. Inspection was conducted during the annual monitoring certification testing. |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

Eval Division: San Bernardino County Fire Department
Eval Program: UST
Eval Source: CERS

Enforcement Action:
Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Site Address: 9961 SIERRA AVE
Site City: FONTANA
Site Zip: 92335
Enf Action Date: 08-14-2013
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: San Bernardino County Fire Department
Enf Action Program: HMRRP
Enf Action Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Site Address: 9961 SIERRA AVE
Site City: FONTANA
Site Zip: 92335
Enf Action Date: 11-04-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: San Bernardino County Fire Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Site Address: 9961 SIERRA AVE
Site City: FONTANA
Site Zip: 92335
Enf Action Date: 11-04-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: San Bernardino County Fire Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 395683
Site Name: KAISER FOUNDATION HOSP
Site Address: 9961 SIERRA AVE
Site City: FONTANA
Site Zip: 92335
Enf Action Date: 11-07-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: San Bernardino County Fire Department
Enf Action Program: UST
Enf Action Source: CERS

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

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|---|---|
| Site ID: | 395683 |
| Site Name: | KAISER FOUNDATION HOSP |
| Site Address: | 9961 SIERRA AVE |
| Site City: | FONTANA |
| Site Zip: | 92335 |
| Enf Action Date: | 11-08-2013 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | San Bernardino County Fire Department |
| Enf Action Program: | UST |
| Enf Action Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 395683 |
| Facility Name: | KAISER FOUNDATION HOSP |
| Env Int Type Code: | APSA |
| Program ID: | 10041049 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Unknown |
| Latitude: | 34.073380 |
| Longitude: | -117.435621 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | San Bernardino County Fire |
| Entity Title: | Not reported |
| Affiliation Address: | 620 South E Street |
| Affiliation City: | San Bernardino |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92415-0153 |
| Affiliation Phone: | (909) 386-8401 |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Christopher Trice |
| Entity Title: | Environmental Health & Safeety Director |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Henry R Plontz |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (909) 427-5655 |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Kaiser Permanente - Fontana Service Area |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

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|---|---|
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

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|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 9961 SIERRA AVE, ATTN: ENGINEERING |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | Not reported |

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|---|---|
| Affiliation Type Desc: | UST Permit Applicant |
| Entity Name: | Henry Plontz |
| Entity Title: | CHIEF ENGINEER |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (909) 427-5648 |

| | |
|---|---|
| Affiliation Type Desc: | UST Property Owner Name |
| Entity Name: | KAISER FOUNDATION HOSPITALS |
| Entity Title: | Not reported |
| Affiliation Address: | ONE KAISER PLAZA |
| Affiliation City: | OAKLAND |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 94612 |
| Affiliation Phone: | (510) 271-5800 |

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|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Kaiser Permanente |
| Entity Title: | Not reported |
| Affiliation Address: | 9961 SIERRA AVE |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 427-7700 |

| | |
|---|---|
| Affiliation Type Desc: | UST Tank Operator |
| Entity Name: | FONTANA MEDICAL CENTER - ATTN: CHIEF ENGINEER |
| Entity Title: | Not reported |
| Affiliation Address: | 9961 SIERRA AVE |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | (909) 427-5645 |

**KAISER FOUNDATION HOSP (Continued)** **U001574868**

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|---|---|
| Affiliation Type Desc: | UST Tank Owner |
| Entity Name: | Kaiser Foundation Hospitals |
| Entity Title: | Not reported |
| Affiliation Address: | ONE KAISER PLAZA |
| Affiliation City: | OAKLAND |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 94612 |
| Affiliation Phone: | (510) 271-5800 |

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Diana J. Hogan, Yorke Engineering, LLC |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

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|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Henry Plontz |
| Entity Title: | Not reported |
| Affiliation Address: | 9961 SIERRA AVE, ATTN: Chief Engineer |
| Affiliation City: | FONTANA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 92335 |
| Affiliation Phone: | Not reported |

---

**45**
**SSW**
**1/2-1**
**0.717 mi.**
**3787 ft.**

**CYPRESS CONTINUATION HIGH SCHOOL**
**SANTA ANA/CYPRESS AVENUE**
**FONTANA, CA 92337**

**ENVIROSTOR SCH** **S106568121 N/A**

**Relative:**
**Lower**

**Actual:**
**1052 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | CYPRESS CONTINUATION HIGH SCHOOL |
| Address: | SANTA ANA/CYPRESS AVENUE |
| City,State,Zip: | FONTANA, CA 92337 |
| Facility ID: | 60000039 |
| Status: | No Further Action |
| Status Date: | 01/05/2005 |
| Site Code: | 404535 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 7.5 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Amit Pathak |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program: | Not reported |
| Restricted Use: | NO |

**CYPRESS CONTINUATION HIGH SCHOOL (Continued)** **S106568121**

Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.0549
Longitude: -117.443
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Arsenic Chlordane DDD DDE DDT Dioxin (as 2,3,7,8-TCDD TEQ Endrin Lead
Not reported
Confirmed COC: Arsenic Lead
Potential Description: SOIL
Alias Name: FONTANA USD-PRPSD CYPRESS AVE CONTINU HS
Alias Type: Alternate Name
Alias Name: 404535
Alias Type: Project Code (Site Code)
Alias Name: 36010058
Alias Type: Envirostor ID Number
Alias Name: 60000039
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 05/04/2004
Comments: ORDER - DTSC entered into an Environmental Oversight Agreement (Docket Number HSA-A 03/04-136) with the Fontana Unified School District to provide oversight for a Preliminary Endangerment Assessment for the proposed Cypress Continuation High School site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 08/17/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 07/20/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 06/08/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/05/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 08/11/2004
Comments: Not reported

**CYPRESS CONTINUATION HIGH SCHOOL (Continued)** **S106568121**

| | |
|---|---|
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

SCH:

| | |
|---|---|
| Name: | CYPRESS CONTINUATION HIGH SCHOOL |
| Address: | SANTA ANA/CYPRESS AVENUE |
| City,State,Zip: | FONTANA, CA 92337 |
| Facility ID: | 60000039 |
| Site Type: | School Investigation |
| Site Type Detail: | School |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 7.5 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Amit Pathak |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404535 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Not reported |
| Status: | No Further Action |
| Status Date: | 01/05/2005 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.0549 |
| Longitude: | -117.443 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Arsenic, Chlordane, DDD, DDE, DDT, Dioxin (as 2,3,7,8-TCDD TEQ, Endrin, Lead |
| Confirmed COC: | Arsenic, Lead |
| Potential Description: | SOIL |
| Alias Name: | FONTANA USD-PRPSD CYPRESS AVE CONTINU HS |
| Alias Type: | Alternate Name |
| Alias Name: | 404535 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010058 |
| Alias Type: | Envirostor ID Number |
| Alias Name: | 60000039 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 05/04/2004 |

**CYPRESS CONTINUATION HIGH SCHOOL (Continued)** **S106568121**

Comments: ORDER - DTSC entered into an Environmental Oversight Agreement (Docket Number HSA-A 03/04-136) with the Fontana Unified School District to provide oversight for a Preliminary Endangerment Assessment for the proposed Cypress Continuation High School site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 08/17/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 07/20/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 06/08/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/05/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 08/11/2004
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

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**M46** **BIRCH CONTINUATION HIGH SCHOOL ADDITION** **ENVIROSTOR** **S105954561**
**WSW** **LOCUST AVENUE/BARBEE STREET** **SCH** **N/A**
**1/2-1** **FONTANA, CA 92336**
**0.725 mi.**
**3827 ft.** **Site 1 of 8 in cluster M**

**Relative:** ENVIROSTOR:
**Lower**
Name: BIRCH CONTINUATION HIGH SCHOOL ADDITION
**Actual:** Address: LOCUST AVENUE/BARBEE STREET
**1065 ft.** City,State,Zip: FONTANA, CA 92336
Facility ID: 36010046
Status: No Further Action
Status Date: 07/09/2003

**BIRCH CONTINUATION HIGH SCHOOL ADDITION (Continued)** **S105954561**

Site Code: 404462
Site Type: School Investigation
Site Type Detailed: School
Acres: 3.8
NPL: NO
Regulatory Agencies: DTSC
Lead Agency: DTSC
Program Manager: Not reported
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 47
Senate: 20
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.06029
Longitude: -117.4512
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Endosulfan Arsenic Mercury (elemental DDD Zinc Dieldrin DDT Heptachlor epoxide Lead DDE Chlordane
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL, SV, SURFW
Alias Name: BIRCH CONTINUATION HIGH SCHOOL ADDITION
Alias Type: Alternate Name
Alias Name: FONTANA UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: FONTANA USD-BIRCH CONTINUATION HS ADDT
Alias Type: Alternate Name
Alias Name: 404462
Alias Type: Project Code (Site Code)
Alias Name: 36010046
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 07/01/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 06/16/2003
Comments: Background report; no review/approval needed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/05/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 07/09/2003

**BIRCH CONTINUATION HIGH SCHOOL ADDITION (Continued)** **S105954561**

| | |
|---|---|
| Comments: | Not reported |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

SCH:

| | |
|---|---|
| Name: | BIRCH CONTINUATION HIGH SCHOOL ADDITION |
| Address: | LOCUST AVENUE/BARBEE STREET |
| City,State,Zip: | FONTANA, CA 92336 |
| Facility ID: | 36010046 |
| Site Type: | School Investigation |
| Site Type Detail: | School |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 3.8 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | DTSC |
| Lead Agency: | DTSC |
| Lead Agency Description: | * DTSC |
| Project Manager: | Not reported |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404462 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Not reported |
| Status: | No Further Action |
| Status Date: | 07/09/2003 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Endosulfan, Endosulfan, Arsenic, Mercury (elemental, DDD, Zinc, Dieldrin, DDT, Heptachlor epoxide, Lead, DDE, Chlordane |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | SOIL, SV, SURFW |
| Alias Name: | BIRCH CONTINUATION HIGH SCHOOL ADDITION |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-BIRCH CONTINUATION HS ADDT |
| Alias Type: | Alternate Name |
| Alias Name: | 404462 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010046 |
| Alias Type: | Envirostor ID Number |

Completed Info:

**BIRCH CONTINUATION HIGH SCHOOL ADDITION (Continued)** **S105954561**

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Report |
| Completed Date: | 07/01/2004 |
| Comments: | Not reported |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Other Report |
| Completed Date: | 06/16/2003 |
| Comments: | Background report; no review/approval needed. |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 08/05/2004 |
| Comments: | Not reported |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 07/09/2003 |
| Comments: | Not reported |

| | |
|---|---|
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

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**M47** **ELEMENTARY SCHOOL NO. 28** **ENVIROSTOR** **S105954560**
**WSW** **RANDALL AVENUE/BEECH AVENUE** **SCH** **N/A**
**1/2-1** **FONTANA, CA 92335**
**0.725 mi.**
**3827 ft.** **Site 2 of 8 in cluster M**

**Relative:**
**Lower**

**Actual:**
**1065 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | ELEMENTARY SCHOOL NO. 28 |
| Address: | RANDALL AVENUE/BEECH AVENUE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility ID: | 36010045 |
| Status: | No Further Action |
| Status Date: | 07/07/2006 |
| Site Code: | 404453 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 9.5 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Rana Georges |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 47 |

**ELEMENTARY SCHOOL NO. 28 (Continued)** **S105954560**

Senate: 20
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.06029
Longitude: -117.4512
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: No Contaminants found
Potential Description: NMA
Alias Name: ELEMENTARY SCHOOL NO. 28
Alias Type: Alternate Name
Alias Name: FONTANA UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: FONTANA USD-PROPOSED ES NO. 28
Alias Type: Alternate Name
Alias Name: 404453
Alias Type: Project Code (Site Code)
Alias Name: 36010045
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 07/07/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/28/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 09/15/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 06/29/2006
Comments: DTSC approved the SSI report for no further action based on the results for lead based paint investigation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 05/27/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)

**ELEMENTARY SCHOOL NO. 28 (Continued)** **S105954560**

| | |
|---|---|
| Completed Date: | 06/04/2003 |
| Comments: | Not reported |
| | |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

SCH:

| | |
|---|---|
| Name: | ELEMENTARY SCHOOL NO. 28 |
| Address: | RANDALL AVENUE/BEECH AVENUE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility ID: | 36010045 |
| Site Type: | School Investigation |
| Site Type Detail: | School |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 9.5 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Rana Georges |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404453 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Not reported |
| Status: | No Further Action |
| Status Date: | 07/07/2006 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | NONE SPECIFIED, No Contaminants found |
| Confirmed COC: | No Contaminants found |
| Potential Description: | NMA |
| Alias Name: | ELEMENTARY SCHOOL NO. 28 |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-PROPOSED ES NO. 28 |
| Alias Type: | Alternate Name |
| Alias Name: | 404453 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010045 |
| Alias Type: | Envirostor ID Number |

Completed Info:

**ELEMENTARY SCHOOL NO. 28 (Continued)** **S105954560**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 07/07/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/28/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 09/15/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 06/29/2006
Comments: DTSC approved the SSI report for no further action based on the results for lead based paint investigation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 05/27/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 06/04/2003
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

---

**M48** **NEW CITRUS CONTINUATION HIGH SCHOOL** **ENVIROSTOR** **S107736738**
**WSW** **CYPRESS AVENUE/SANTA ANA AVENUE** **SCH** **N/A**
**1/2-1** **FONTANA, CA 92337**
**0.725 mi.**
**3827 ft.** **Site 3 of 8 in cluster M**

**Relative:** ENVIROSTOR:
**Lower**
Name: NEW CITRUS CONTINUATION HIGH SCHOOL
**Actual:** Address: CYPRESS AVENUE/SANTA ANA AVENUE
**1065 ft.** City,State,Zip: FONTANA, CA 92337
Facility ID: 36010040

**NEW CITRUS CONTINUATION HIGH SCHOOL (Continued)** **S107736738**

| | |
|---|---|
| Status: | No Further Action |
| Status Date: | 03/23/2009 |
| Site Code: | 404406 |
| Site Type: | School Cleanup |
| Site Type Detailed: | School |
| Acres: | 18.5 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Not reported |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | 0255-021-10, 0255-021-11, 0255-021-12, 0255-021-25, 025502110, 025502111, 025502112, 025502125 |
| Past Use: | RESIDENTIAL AREA |
| Potential COC: | Chlordane Lead |
| Confirmed COC: | 30004-NO 30013-NO |
| Potential Description: | SOIL |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-MIDDLE SCHOOL NO. 8 |
| Alias Type: | Alternate Name |
| Alias Name: | JURUPA HILLS MIDDLE SCHOOL |
| Alias Type: | Alternate Name |
| Alias Name: | Middle School #8 |
| Alias Type: | Alternate Name |
| Alias Name: | New Citrus Continuation High School |
| Alias Type: | Alternate Name |
| Alias Name: | Proposed Middle School No. 8 |
| Alias Type: | Alternate Name |
| Alias Name: | 0255-021-10 |
| Alias Type: | APN |
| Alias Name: | 0255-021-11 |
| Alias Type: | APN |
| Alias Name: | 0255-021-12 |
| Alias Type: | APN |
| Alias Name: | 0255-021-25 |
| Alias Type: | APN |
| Alias Name: | 025502110 |
| Alias Type: | APN |
| Alias Name: | 025502111 |
| Alias Type: | APN |
| Alias Name: | 025502112 |
| Alias Type: | APN |
| Alias Name: | 025502125 |
| Alias Type: | APN |
| Alias Name: | 404406 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010040 |

**NEW CITRUS CONTINUATION HIGH SCHOOL (Continued)** **S107736738**

Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/16/2007
Comments: CRU Memo sent out to internal accounting. District also notified.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/26/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 03/28/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Workplan
Completed Date: 12/08/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 4.14 Request
Completed Date: 01/04/2005
Comments: Approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Tech Memo
Completed Date: 09/18/2007
Comments: SSI Tech Memo Workplan was approvedby DTSC for implementation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 10/07/2008
Comments: DTSC approved the SSI report for FA in the form of RAW.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Tech Memo
Completed Date: 02/21/2008
Comments: The SSI Workplan Addendum No. 1 was conditionally approved by DTSC for implementation. DTSC requested that sample additional sampling locations adjacent to the structures be utilized.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 04/18/2008
Comments: Additional field sampling activities took place at the site in order

**NEW CITRUS CONTINUATION HIGH SCHOOL (Continued)** **S107736738**

to better determine the lateral and vertical extent of pesticide impacted soil associated with the former and existing structures. Soil sampling activities were conducted over the course of two days.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 10/17/2008
Comments: DTSC approved the RAW for implementation after comleting the public comments period. 13 comments were received and did not affect the RAW conclusion.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Tech Memo
Completed Date: 06/27/2008
Comments: DTSC reviewed the SSI Workplan Addendum No. 2 and concurred with the additional step-outs and step-downs necessary to delineate the soil impacted by organochlorine pesticides at the project site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 09/07/2008
Comments: Fact Sheets mailed to community.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/16/2009
Comments: DTSC approved the Removal Action Completion Report with a No Further Action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: School Cleanup Agreement
Completed Date: 09/13/2007
Comments: Signed Agreement sent (FedEx) to District.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 12/23/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/07/2003
Comments: Not reported

**NEW CITRUS CONTINUATION HIGH SCHOOL (Continued)** **S107736738**

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 03/16/2009 |
| Comments: | Not reported |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | CEQA - Notice of Exemption |
| Completed Date: | 10/17/2008 |
| Comments: | NOE completed for the site. |

| | |
|---|---|
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

SCH:

| | |
|---|---|
| Name: | NEW CITRUS CONTINUATION HIGH SCHOOL |
| Address: | CYPRESS AVENUE/SANTA ANA AVENUE |
| City,State,Zip: | FONTANA, CA 92337 |
| Facility ID: | 36010040 |
| Site Type: | School Cleanup |
| Site Type Detail: | School |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 18.5 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Not reported |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404406 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Not reported |
| Status: | No Further Action |
| Status Date: | 03/23/2009 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | 0255-021-10, 0255-021-11, 0255-021-12, 0255-021-25, 025502110, 025502111, 025502112, 025502125 |
| Past Use: | RESIDENTIAL AREA |
| Potential COC: | Chlordane, Lead |
| Confirmed COC: | 30004-NO, 30013-NO |
| Potential Description: | SOIL |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |

**NEW CITRUS CONTINUATION HIGH SCHOOL (Continued)** **S107736738**

Alias Name: FONTANA USD-MIDDLE SCHOOL NO. 8
Alias Type: Alternate Name
Alias Name: JURUPA HILLS MIDDLE SCHOOL
Alias Type: Alternate Name
Alias Name: Middle School #8
Alias Type: Alternate Name
Alias Name: New Citrus Continuation High School
Alias Type: Alternate Name
Alias Name: Proposed Middle School No. 8
Alias Type: Alternate Name
Alias Name: 0255-021-10
Alias Type: APN
Alias Name: 0255-021-11
Alias Type: APN
Alias Name: 0255-021-12
Alias Type: APN
Alias Name: 0255-021-25
Alias Type: APN
Alias Name: 025502110
Alias Type: APN
Alias Name: 025502111
Alias Type: APN
Alias Name: 025502112
Alias Type: APN
Alias Name: 025502125
Alias Type: APN
Alias Name: 404406
Alias Type: Project Code (Site Code)
Alias Name: 36010040
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/16/2007
Comments: CRU Memo sent out to internal accounting. District also notified.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/26/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 03/28/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Workplan
Completed Date: 12/08/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

**NEW CITRUS CONTINUATION HIGH SCHOOL (Continued)** **S107736738**

Completed Document Type: 4.14 Request
Completed Date: 01/04/2005
Comments: Approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Tech Memo
Completed Date: 09/18/2007
Comments: SSI Tech Memo Workplan was approvedby DTSC for implementation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 10/07/2008
Comments: DTSC approved the SSI report for FA in the form of RAW.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Tech Memo
Completed Date: 02/21/2008
Comments: The SSI Workplan Addendum No. 1 was conditionally approved by DTSC for implementation. DTSC requested that sample additional sampling locations adjacent to the structures be utilized.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 04/18/2008
Comments: Additional field sampling activities took place at the site in order to better determine the lateral and vertical extent of pesticide impacted soil associated with the former and existing structures. Soil sampling activities were conducted over the course of two days.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 10/17/2008
Comments: DTSC approved the RAW for implementation after comleting the public comments period. 13 comments were received and did not affect the RAW conclusion.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Tech Memo
Completed Date: 06/27/2008
Comments: DTSC reviewed the SSI Workplan Addendum No. 2 and concurred with the additional step-outs and step-downs necessary to delineate the soil impacted by organochlorine pesticides at the project site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 09/07/2008
Comments: Fact Sheets mailed to community.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

**NEW CITRUS CONTINUATION HIGH SCHOOL (Continued)** **S107736738**

Completed Document Type: Removal Action Completion Report
Completed Date: 03/16/2009
Comments: DTSC approved the Removal Action Completion Report with a No Further Action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: School Cleanup Agreement
Completed Date: 09/13/2007
Comments: Signed Agreement sent (FedEx) to District.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 12/23/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/07/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/16/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 10/17/2008
Comments: NOE completed for the site.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

**M49 WSW 1/2-1 0.725 mi. 3827 ft.** | **LYTLE CREEK HIGH SCHOOL NO. 4**
**LYTLE CREEK ROAD/SUMMIT AVENUE**
**FONTANA, CA 92336** | **ENVIROSTOR SCH** | **S105628825 N/A**

**Site 4 of 8 in cluster M**

**Relative: Lower**
**Actual: 1065 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | LYTLE CREEK HIGH SCHOOL NO. 4 |
| Address: | LYTLE CREEK ROAD/SUMMIT AVENUE |
| City,State,Zip: | FONTANA, CA 92336 |
| Facility ID: | 36010008 |
| Status: | No Further Action |
| Status Date: | 06/27/2000 |
| Site Code: | 404048 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 9.2 |
| NPL: | NO |
| Regulatory Agencies: | DTSC |
| Lead Agency: | DTSC |
| Program Manager: | Not reported |
| Supervisor: | Javier Hinojosa |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Arsenic |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | NMA |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-PROP. HIGH SCH-LYTLE CRK/VCA |
| Alias Type: | Alternate Name |
| Alias Name: | HIGH SCHOOL NO. 4 (PROPOSED) |
| Alias Type: | Alternate Name |
| Alias Name: | LYTLE CREEK HIGH SCHOOL #4 |
| Alias Type: | Alternate Name |
| Alias Name: | 404048 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010008 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 06/27/2000 |
| Comments: | Not reported |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Site Inspections/Visit (Non LUR) |
| Completed Date: | 03/07/2000 |

**LYTLE CREEK HIGH SCHOOL NO. 4 (Continued)** **S105628825**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 09/18/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 05/02/2000
Comments: Approval letter prepared per DL.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 01/31/2000
Comments: Phase 1

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 02/22/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 09/18/2000
Comments: CRU Memo

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: LYTLE CREEK HIGH SCHOOL NO. 4
Address: LYTLE CREEK ROAD/SUMMIT AVENUE
City,State,Zip: FONTANA, CA 92336
Facility ID: 36010008
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 9.2
National Priorities List: NO
Cleanup Oversight Agencies: DTSC
Lead Agency: DTSC
Lead Agency Description: * DTSC
Project Manager: Not reported

**LYTLE CREEK HIGH SCHOOL NO. 4 (Continued)** **S105628825**

| | |
|---|---|
| Supervisor: | Javier Hinojosa |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404048 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Not reported |
| Status: | No Further Action |
| Status Date: | 06/27/2000 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Arsenic |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | NMA |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-PROP. HIGH SCH-LYTLE CRK/VCA |
| Alias Type: | Alternate Name |
| Alias Name: | HIGH SCHOOL NO. 4 (PROPOSED) |
| Alias Type: | Alternate Name |
| Alias Name: | LYTLE CREEK HIGH SCHOOL #4 |
| Alias Type: | Alternate Name |
| Alias Name: | 404048 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010008 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 06/27/2000 |
| Comments: | Not reported |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Site Inspections/Visit (Non LUR) |
| Completed Date: | 03/07/2000 |
| Comments: | Not reported |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Report |
| Completed Date: | 09/18/2000 |
| Comments: | Not reported |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Workplan |
| Completed Date: | 05/02/2000 |
| Comments: | Approval letter prepared per DL. |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Other Report |

**LYTLE CREEK HIGH SCHOOL NO. 4 (Continued)** **S105628825**

| | |
|---|---|
| Completed Date: | 01/31/2000 |
| Comments: | Phase 1 |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Site Inspections/Visit (Non LUR) |
| Completed Date: | 02/22/2000 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 09/18/2000 |
| Comments: | CRU Memo |
| | |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

---

**M50** **NEW ELEMENTARY SCHOOL NO. 29** **ENVIROSTOR** **S108407562**
**WSW** **PALMETTO / MERRILL AVENUE** **SCH** **N/A**
**1/2-1** **FONTANA, CA 92335**
**0.725 mi.**
**3827 ft.** **Site 5 of 8 in cluster M**

**Relative:**
**Lower**

**Actual:**
**1065 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | NEW ELEMENTARY SCHOOL NO. 29 |
| Address: | PALMETTO / MERRILL AVENUE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility ID: | 36000017 |
| Status: | Inactive - Withdrawn |
| Status Date: | 08/07/2006 |
| Site Code: | 404615 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 11 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Rana Georges |
| Supervisor: | Thomas Cota |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program: | Voluntary Cleanup Program |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | * UNKNOWN |

**NEW ELEMENTARY SCHOOL NO. 29 (Continued)** **S108407562**

Potential COC: Lead
Confirmed COC: 30013-NO
Potential Description: SOIL
Alias Name: FONTANA UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: FONTANA USD-PRPSD NEW ELEMENTARY SCL #29
Alias Type: Alternate Name
Alias Name: 404615
Alias Type: Project Code (Site Code)
Alias Name: 36000017
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inactive Status Letter
Completed Date: 07/20/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/07/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 04/10/2006
Comments: DTSC approved the PEA workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 03/30/2005
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: NEW ELEMENTARY SCHOOL NO. 29
Address: PALMETTO / MERRILL AVENUE
City,State,Zip: FONTANA, CA 92335
Facility ID: 36000017
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 11

**NEW ELEMENTARY SCHOOL NO. 29 (Continued)** **S108407562**

| | |
|---|---|
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Rana Georges |
| Supervisor: | Thomas Cota |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404615 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Voluntary Cleanup Program |
| Status: | Inactive - Withdrawn |
| Status Date: | 08/07/2006 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | * UNKNOWN |
| Potential COC: | Lead |
| Confirmed COC: | 30013-NO |
| Potential Description: | SOIL |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-PRPSD NEW ELEMENTARY SCL #29 |
| Alias Type: | Alternate Name |
| Alias Name: | 404615 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36000017 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Inactive Status Letter |
| Completed Date: | 07/20/2006 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 08/07/2006 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Workplan |
| Completed Date: | 04/10/2006 |
| Comments: | DTSC approved the PEA workplan. |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 03/30/2005 |
| Comments: | Not reported |
| | |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |

**NEW ELEMENTARY SCHOOL NO. 29 (Continued)** **S108407562**

| | |
|---|---|
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

---

**M51** **ELEMENTARY SCHOOL NO. 31** **ENVIROSTOR** **S106153063**
**WSW** **7316, 7398 CYPRESS AVENUE** **SCH** **N/A**
**1/2-1** **FONTANA, CA 92336**
**0.725 mi.**
**3827 ft.** **Site 6 of 8 in cluster M**

**Relative:**
**Lower**

**Actual:**
**1065 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | ELEMENTARY SCHOOL NO. 31 |
| Address: | 7316, 7398 CYPRESS AVENUE |
| City,State,Zip: | FONTANA, CA 92336 |
| Facility ID: | 36010051 |
| Status: | No Further Action |
| Status Date: | 11/21/2003 |
| Site Code: | 404495 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 10.6 |
| NPL: | NO |
| Regulatory Agencies: | DTSC |
| Lead Agency: | DTSC |
| Program Manager: | Not reported |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Arsenic |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | SOIL |
| Alias Name: | ELEMENTARY SCHOOL NO. 31 |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-PROPOSED ELEMENTARY SCL # 31 |
| Alias Type: | Alternate Name |
| Alias Name: | 404495 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010051 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |

**ELEMENTARY SCHOOL NO. 31 (Continued)** **S106153063**

Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/16/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/17/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 02/04/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 12/02/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 11/21/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 06/18/2004
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: ELEMENTARY SCHOOL NO. 31
Address: 7316, 7398 CYPRESS AVENUE
City,State,Zip: FONTANA, CA 92336
Facility ID: 36010051
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 10.6
National Priorities List: NO
Cleanup Oversight Agencies: DTSC
Lead Agency: DTSC

**ELEMENTARY SCHOOL NO. 31 (Continued)** **S106153063**

| | |
|---|---|
| Lead Agency Description: | * DTSC |
| Project Manager: | Not reported |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404495 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Not reported |
| Status: | No Further Action |
| Status Date: | 11/21/2003 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Arsenic |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | SOIL |
| Alias Name: | ELEMENTARY SCHOOL NO. 31 |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-PROPOSED ELEMENTARY SCL # 31 |
| Alias Type: | Alternate Name |
| Alias Name: | 404495 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010051 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Report |
| Completed Date: | 03/16/2004 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Report |
| Completed Date: | 06/17/2004 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Workplan |
| Completed Date: | 02/04/2004 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Site Inspections/Visit (Non LUR) |
| Completed Date: | 12/02/2004 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Environmental Oversight Agreement |

**ELEMENTARY SCHOOL NO. 31 (Continued)** **S106153063**

| | |
|---|---|
| Completed Date: | 11/21/2003 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 06/18/2004 |
| Comments: | Not reported |
| | |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

---

**M52** **HIGH SCHOOL NO. 5 (AKA GALLEANO)** **ENVIROSTOR** **S107736450**
**WSW** **OLEANDER AVENUE/SANTA ANA AVENUE** **SCH** **N/A**
**1/2-1** **FONTANA, CA 92337**
**0.725 mi.**
**3827 ft.** **Site 7 of 8 in cluster M**

**Relative:**
**Lower**

**Actual:**
**1065 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | HIGH SCHOOL NO. 5 (AKA GALLEANO) |
| Address: | OLEANDER AVENUE/SANTA ANA AVENUE |
| City,State,Zip: | FONTANA, CA 92337 |
| Facility ID: | 36010039 |
| Status: | Certified |
| Status Date: | 08/15/2008 |
| Site Code: | 404405 |
| Site Type: | School Cleanup |
| Site Type Detailed: | School |
| Acres: | 44.9 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Not reported |
| Supervisor: | Javier Hinojosa |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | 255-001-010, 255-002-035 |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Arsenic |
| Confirmed COC: | Arsenic |
| Potential Description: | SOIL |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-PROPOSED HS NO. 5 |

**HIGH SCHOOL NO. 5 (AKA GALLEANO) (Continued)** **S107736450**

Alias Type: Alternate Name
Alias Name: HIGH SCHOOL #5 (AKA GALLEANO VINEYARDS)
Alias Type: Alternate Name
Alias Name: 255-001-010
Alias Type: APN
Alias Name: 255-002-035
Alias Type: APN
Alias Name: 110033613944
Alias Type: EPA (FRS #)
Alias Name: 404405
Alias Type: Project Code (Site Code)
Alias Name: 36010039
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 11/07/2003
Comments: further action for the B-2 area , Partial site approval for B-1.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 03/08/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 02/03/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 11/07/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/13/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 03/13/2007
Comments: SSI completed for status update on land use; due to 2 year inactivity. No additional work required, other than mitigation of Arsenic impacts at B-2 parcel.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 07/30/2007
Comments: Public comment period 8/1/07 to 8/31/07

**HIGH SCHOOL NO. 5 (AKA GALLEANO) (Continued)** **S107736450**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 07/30/2007
Comments: Public comment period 8/1/07 to 8/31/07

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 12/10/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/14/2008
Comments: The RACR approval letter was issued to Fontana USD today.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: School Cleanup Agreement
Completed Date: 11/21/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/07/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 02/26/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 12/23/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inactive Status Letter
Completed Date: 01/11/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 07/23/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo

**HIGH SCHOOL NO. 5 (AKA GALLEANO) (Continued)** **S107736450**

| | |
|---|---|
| Completed Date: | 09/16/2008 |
| Comments: | All the work has been completed and certified. |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Inactive Status Letter |
| Completed Date: | 08/04/2004 |
| Comments: | Not reported |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Certification |
| Completed Date: | 08/15/2008 |
| Comments: | The project is now complete. |

| | |
|---|---|
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

SCH:

| | |
|---|---|
| Name: | HIGH SCHOOL NO. 5 (AKA GALLEANO) |
| Address: | OLEANDER AVENUE/SANTA ANA AVENUE |
| City,State,Zip: | FONTANA, CA 92337 |
| Facility ID: | 36010039 |
| Site Type: | School Cleanup |
| Site Type Detail: | School |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 44.9 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Not reported |
| Supervisor: | Javier Hinojosa |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404405 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Not reported |
| Status: | Certified |
| Status Date: | 08/15/2008 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | 255-001-010, 255-002-035 |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Arsenic |
| Confirmed COC: | Arsenic |
| Potential Description: | SOIL |

**HIGH SCHOOL NO. 5 (AKA GALLEANO) (Continued)** **S107736450**

Alias Name: FONTANA UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: FONTANA USD-PROPOSED HS NO. 5
Alias Type: Alternate Name
Alias Name: HIGH SCHOOL #5 (AKA GALLEANO VINEYARDS)
Alias Type: Alternate Name
Alias Name: 255-001-010
Alias Type: APN
Alias Name: 255-002-035
Alias Type: APN
Alias Name: 110033613944
Alias Type: EPA (FRS #)
Alias Name: 404405
Alias Type: Project Code (Site Code)
Alias Name: 36010039
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 11/07/2003
Comments: further action for the B-2 area , Partial site approval for B-1.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 03/08/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 02/03/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 11/07/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/13/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 03/13/2007
Comments: SSI completed for status update on land use; due to 2 year inactivity. No additional work required, other than mitigation of Arsenic impacts at B-2 parcel.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

**HIGH SCHOOL NO. 5 (AKA GALLEANO) (Continued)** **S107736450**

Completed Document Type: Fact Sheets
Completed Date: 07/30/2007
Comments: Public comment period 8/1/07 to 8/31/07

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 07/30/2007
Comments: Public comment period 8/1/07 to 8/31/07

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 12/10/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/14/2008
Comments: The RACR approval letter was issued to Fontana USD today.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: School Cleanup Agreement
Completed Date: 11/21/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/07/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 02/26/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 12/23/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inactive Status Letter
Completed Date: 01/11/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 07/23/2003
Comments: Not reported

**HIGH SCHOOL NO. 5 (AKA GALLEANO) (Continued)** **S107736450**

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 09/16/2008 |
| Comments: | All the work has been completed and certified. |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Inactive Status Letter |
| Completed Date: | 08/04/2004 |
| Comments: | Not reported |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Certification |
| Completed Date: | 08/15/2008 |
| Comments: | The project is now complete. |

| | |
|---|---|
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

---

**M53** **ELEMENTARY NO. 30** **ENVIROSTOR** **S110275530**
**WSW** **SAN BERNARDINO AVENUE/CATAWBA AVENUE** **SCH** **N/A**
**1/2-1** **FONTANA, CA 92335** **CERS**
**0.725 mi.**
**3827 ft.** **Site 8 of 8 in cluster M**

**Relative:**
**Lower**

**Actual:**
**1065 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | ELEMENTARY NO. 30 |
| Address: | SAN BERNARDINO AVENUE/CATAWBA AVENUE |
| City,State,Zip: | FONTANA, CA 92335 |
| Facility ID: | 36010060 |
| Status: | Inactive - Withdrawn |
| Status Date: | 11/22/2004 |
| Site Code: | 404536 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 9 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Not reported |
| Supervisor: | * Tawfiq Deek |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 34.06029 |

**ELEMENTARY NO. 30 (Continued)** **S110275530**

Longitude: -117.4512
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: ELEMENTARY NO. 30
Alias Type: Alternate Name
Alias Name: FONTANA UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: FONTANA USD-PROPOSED ELEMENTARY NO. 30
Alias Type: Alternate Name
Alias Name: 404536
Alias Type: Project Code (Site Code)
Alias Name: 36010060
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 08/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 05/04/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 11/22/2004
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: ELEMENTARY NO. 30
Address: SAN BERNARDINO AVENUE/CATAWBA AVENUE
City,State,Zip: FONTANA, CA 92335
Facility ID: 36010060
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 9
National Priorities List: NO

**ELEMENTARY NO. 30 (Continued)** **S110275530**

| | |
|---|---|
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Not reported |
| Supervisor: | * Tawfiq Deek |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404536 |
| Assembly: | 47 |
| Senate: | 20 |
| Special Program Status: | Not reported |
| Status: | Inactive - Withdrawn |
| Status Date: | 11/22/2004 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 34.06029 |
| Longitude: | -117.4512 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | NONE SPECIFIED, No Contaminants found |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | NMA |
| Alias Name: | ELEMENTARY NO. 30 |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | FONTANA USD-PROPOSED ELEMENTARY NO. 30 |
| Alias Type: | Alternate Name |
| Alias Name: | 404536 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 36010060 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Workplan |
| Completed Date: | 08/09/2004 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 05/04/2004 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 11/22/2004 |
| Comments: | Not reported |
| | |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |

**ELEMENTARY NO. 30 (Continued)** **S110275530**

Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CERS:

| | |
|---|---|
| Name: | ELEMENTARY NO. 30 |
| Address: | SAN BERNARDINO AVENUE/CATAWBA AVENUE |
| City,State,Zip: | FONTANA, CA 92335 |
| Site ID: | 337097 |
| CERS ID: | 36010060 |
| CERS Description: | School Investigation |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Supervisor |
| Entity Name: | * Tawfiq Deek |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

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: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 10/14/2019
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: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 10/14/2019
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

***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: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 10/14/2019
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: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/03/2019
Next Scheduled EDR Contact: 10/14/2019
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: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 10/28/2019
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: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 10/28/2019
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: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
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: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
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: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
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: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly 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). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
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: 08/13/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
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: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/09/2019
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: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/09/2019
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: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 14

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 01/06/2020
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: 04/29/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
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: 04/29/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
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: 05/13/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/13/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Quarterly

***State and tribal leaking storage tank lists***

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 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 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: 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: 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: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 55

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

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 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 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: No Update Planned

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: 10/17/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 10/10/2018
Date Data Arrived at EDR: 03/08/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 02/19/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 11/01/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 09/24/2018
Date Data Arrived at EDR: 03/12/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 50

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/23/2019
Next Scheduled EDR Contact: 11/04/2019
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: 10/13/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

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: 10/12/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

CPS-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: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 55

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
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: No Update Planned

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: No Update Planned

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: No Update Planned

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: No Update Planned

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: No Update Planned

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: No Update Planned

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: No Update Planned

***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: 08/26/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 42

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

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: 09/12/2019
Next Scheduled EDR Contact: 12/30/2019
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: 10/03/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

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: 10/17/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 10/10/2018
Date Data Arrived at EDR: 03/08/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 54

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 09/24/2018
Date Data Arrived at EDR: 03/12/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 50

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/23/2019
Next Scheduled EDR Contact: 11/04/2019
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: 10/12/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/05/2019
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: 11/01/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 11/07/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/04/2019
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: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

***State and tribal voluntary cleanup sites***

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: 04/29/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

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: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

***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: 06/24/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 57

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
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: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 12/30/2019
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: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 64

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 34

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
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: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
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: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
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: 08/02/2019
Next Scheduled EDR Contact: 11/11/2019
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: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
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: 04/29/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
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: 06/30/2018
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 09/24/2019
Number of Days to Update: 70

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Varies

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Quarterly

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: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/28/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 26

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

***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: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
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

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 10/11/2018
Number of Days to Update: 29

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

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

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Quarterly

***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: 06/05/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/09/2019
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
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: 07/30/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 10/14/2019
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: 06/04/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 65

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
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: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
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: 05/15/2019
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 58

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/26/2019
Next Scheduled EDR Contact: 11/04/2019
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: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 55

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
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: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
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: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
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: 05/15/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 79

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/23/2019
Next Scheduled EDR Contact: 12/02/2019
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: 07/09/2019
Next Scheduled EDR Contact: 10/21/2019
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: 07/10/2019
Next Scheduled EDR Contact: 10/21/2019
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: 08/16/2019
Next Scheduled EDR Contact: 11/25/2019
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: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
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: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
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: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/09/2019
Next Scheduled EDR Contact: 11/18/2019
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: 09/19/2019
Next Scheduled EDR Contact: 12/30/2019
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: 08/23/2019
Next Scheduled EDR Contact: 12/02/2019
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: 09/30/2018
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 106

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/26/2019
Next Scheduled EDR Contact: 11/04/2019
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: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 12/16/2019
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: 04/25/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/22/2019
Next Scheduled EDR Contact: 11/04/2019
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: 08/20/2019
Date Data Arrived at EDR: 09/05/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 18

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 11/18/2019
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: 03/20/2019
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/12/2019
Next Scheduled EDR Contact: 10/21/2019
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: 07/03/2019
Next Scheduled EDR Contact: 10/21/2019
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: No Update Planned

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: No Update Planned

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: 06/20/2019
Date Data Arrived at EDR: 06/20/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 49

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 11/04/2019
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: 09/06/2019
Next Scheduled EDR Contact: 12/16/2019
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: 09/03/2019
Next Scheduled EDR Contact: 12/16/2019
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: 08/09/2019
Next Scheduled EDR Contact: 11/04/2019
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: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 10/14/2019
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: 04/01/2019
Date Data Arrived at EDR: 04/30/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 100

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

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: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 30

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
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: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
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: 07/10/2019
Next Scheduled EDR Contact: 10/21/2019
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: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/30/2019
Next Scheduled EDR Contact: 11/18/2019
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: 08/21/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 10/14/2019
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: 05/03/2019
Date Data Arrived at EDR: 05/29/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 71

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/27/2019
Next Scheduled EDR Contact: 12/09/2019
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: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
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: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
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: 03/27/2019
Date Data Arrived at EDR: 03/28/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 34

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/10/2019
Next Scheduled EDR Contact: 12/23/2019
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: 05/03/2019
Date Data Arrived at EDR: 06/05/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 90

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 07/15/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/07/2019
Date Data Arrived at EDR: 04/09/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 07/09/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

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: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 79

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
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: 06/24/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 57

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 04/18/2019
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 11

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 08/15/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: Varies

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: 06/04/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 55

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 65

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/19/2019
Date Data Arrived at EDR: 03/22/2019
Date Made Active in Reports: 04/09/2019
Number of Days to Update: 18

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 59

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/18/2019
Next Scheduled EDR Contact: 12/30/2019
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: 07/19/2019
Date Data Arrived at EDR: 07/22/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 66

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 07/18/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
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: 05/15/2019
Date Data Arrived at EDR: 05/16/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 63

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
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: 12/31/2017
Date Data Arrived at EDR: 05/29/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 54

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/12/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 58

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
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: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
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: 07/08/2019
Date Data Arrived at EDR: 07/09/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/09/2019
Next Scheduled EDR Contact: 10/21/2019
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: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 65

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
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: 05/17/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/09/2019
Number of Days to Update: 66

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/13/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/13/2019
Next Scheduled EDR Contact: 11/25/2019
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: 06/04/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/09/2019
Number of Days to Update: 66

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 64

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
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: 06/17/2019
Date Data Arrived at EDR: 06/18/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 65

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
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: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
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 boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/12/2019
Next Scheduled EDR Contact: 10/21/2019
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: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: No Update Planned

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: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 64

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 65

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/11/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

**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:

CS ALAMEDA: 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: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 04/10/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 70

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 26

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: 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: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 27

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/23/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 05/17/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 58

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/22/2019
Date Data Arrived at EDR: 05/23/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 56

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/26/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 29

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 06/05/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 47

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: 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: 07/11/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 71

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: 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: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/08/2019
Date Data Arrived at EDR: 07/10/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 72

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/19/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 05/06/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 07/16/2019
Number of Days to Update: 70

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: 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: 05/16/2019
Date Data Arrived at EDR: 05/17/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 13

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 05/30/2019
Date Data Arrived at EDR: 05/31/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 53

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/15/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/22/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

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: N/A
Telephone: N/A
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/09/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 71

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/17/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 71

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/17/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/12/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/27/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/27/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/17/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 19

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/17/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Annually

UST EL SEGUNDO: 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: 07/12/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/04/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: 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: 05/28/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 67

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/29/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 53

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 05/23/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 53

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/25/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 62

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 09/30/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: 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: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 9

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/09/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/09/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 04/02/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 07/16/2019
Number of Days to Update: 70

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/12/2019
Number of Days to Update: 69

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 71

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 74

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/06/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 55

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 06/28/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

ML SACRAMENTO: 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: 05/06/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 09/13/2019
Number of Days to Update: 77

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 06/28/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 07/16/2019
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 09/24/2019
Number of Days to Update: 70

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 07/16/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: 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: 05/31/2019
Date Data Arrived at EDR: 05/31/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 52

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: 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: 06/04/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 65

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/16/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 69

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

SAN DIEGO CO SAM: 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: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: 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: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/11/2019
Next Scheduled EDR Contact: 12/29/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 58

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 08/06/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/15/2019
Number of Days to Update: 1

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: 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: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 05/16/2019
Date Data Arrived at EDR: 05/23/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 56

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

HIST LUST SANTA CLARA: 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

LUST SANTA CLARA: 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: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/19/2019
Date Data Arrived at EDR: 05/23/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 60

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: 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: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: 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: 08/14/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 47

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 06/18/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 29

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/02/2019
Date Data Arrived at EDR: 07/02/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 80

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 07/18/2019
Date Data Arrived at EDR: 07/18/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 70

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/15/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 49

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 58

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 07/19/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 05/09/2019
Date Data Arrived at EDR: 05/10/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 68

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 11/18/2019
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/31/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: 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: 05/29/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 63

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/22/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Quarterly

LF VENTURA: 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: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: No Update Planned

LUST VENTURA: 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: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: No Update Planned

MED WASTE VENTURA: 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: 05/29/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 63

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/22/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 06/10/2019
Date Data Arrived at EDR: 06/12/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 42

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/26/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 07/31/2019
Number of Days to Update: 33

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 05/03/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 07/16/2019
Number of Days to Update: 70

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/25/2019
Next Scheduled EDR Contact: 11/11/2019
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: 05/14/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 83

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/07/2019
Next Scheduled EDR Contact: 11/25/2019
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/09/2019
Next Scheduled EDR Contact: 10/21/2019
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: 01/01/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 07/29/2019
Next Scheduled EDR Contact: 11/11/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/15/2019
Next Scheduled EDR Contact: 10/28/2019
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: 08/16/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/06/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
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 Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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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.

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 and Wildlife
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**

TRANSWESTERN BOYLE FONTANA
16716 - 16868 BOYLE AVENUE
FONTANA, CA 92337

**TARGET PROPERTY COORDINATES**

| | |
|---|---|
| Latitude (North): | 34.065772 - 34˚ 3' 56.78'' |
| Longitude (West): | 117.438037 - 117˚ 26' 16.93'' |
| Universal Tranverse Mercator: | Zone 11 |
| UTM X (Meters): | 459578.4 |
| UTM Y (Meters): | 3769340.5 |
| Elevation: | 1101 ft. above sea level |

**USGS TOPOGRAPHIC MAP**

| | |
|---|---|
| Target Property Map: | 5619058 FONTANA, 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 principle 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).

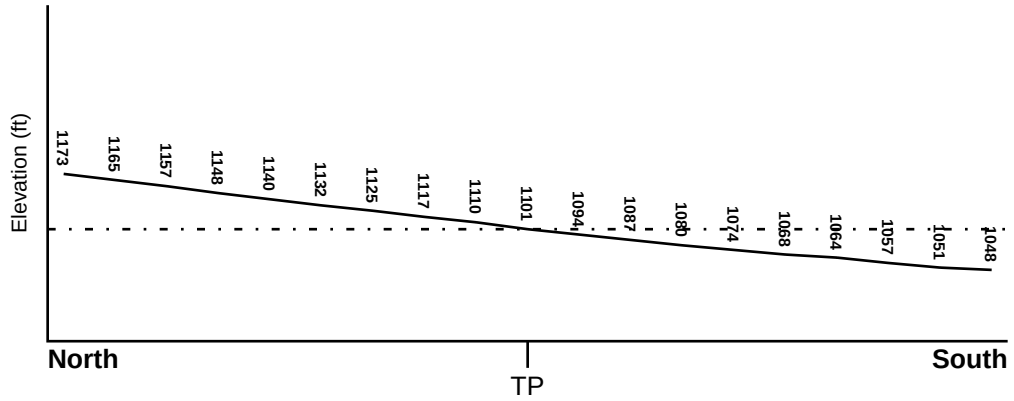
**TOPOGRAPHIC INFORMATION**

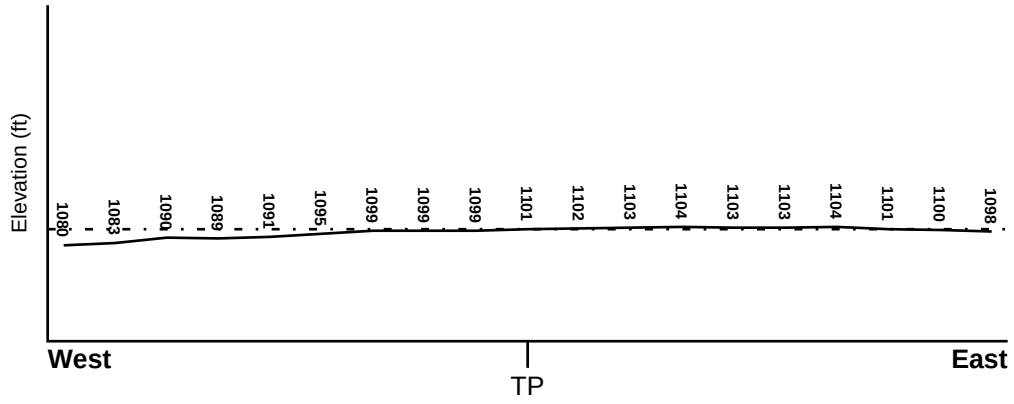
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

**TARGET PROPERTY TOPOGRAPHY**

General Topographic Gradient: General South

**SURROUNDING TOPOGRAPHY: ELEVATION PROFILES**




**Target Property Elevation: 1101 ft.**

0 1/2 1 Miles

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 |
|---|---|
| 06071C8654H | FEMA FIRM Flood data |

| Additional Panels in search area: | FEMA Source Type |
|---|---|
| 06071C8658H | FEMA FIRM Flood data |
| 06071C8665H | FEMA FIRM Flood data |
| 06071C8666H | FEMA FIRM Flood data |

**NATIONAL WETLAND INVENTORY**

| NWI Quad at Target Property | NWI Electronic Data Coverage |
|---|---|
| FONTANA | 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**

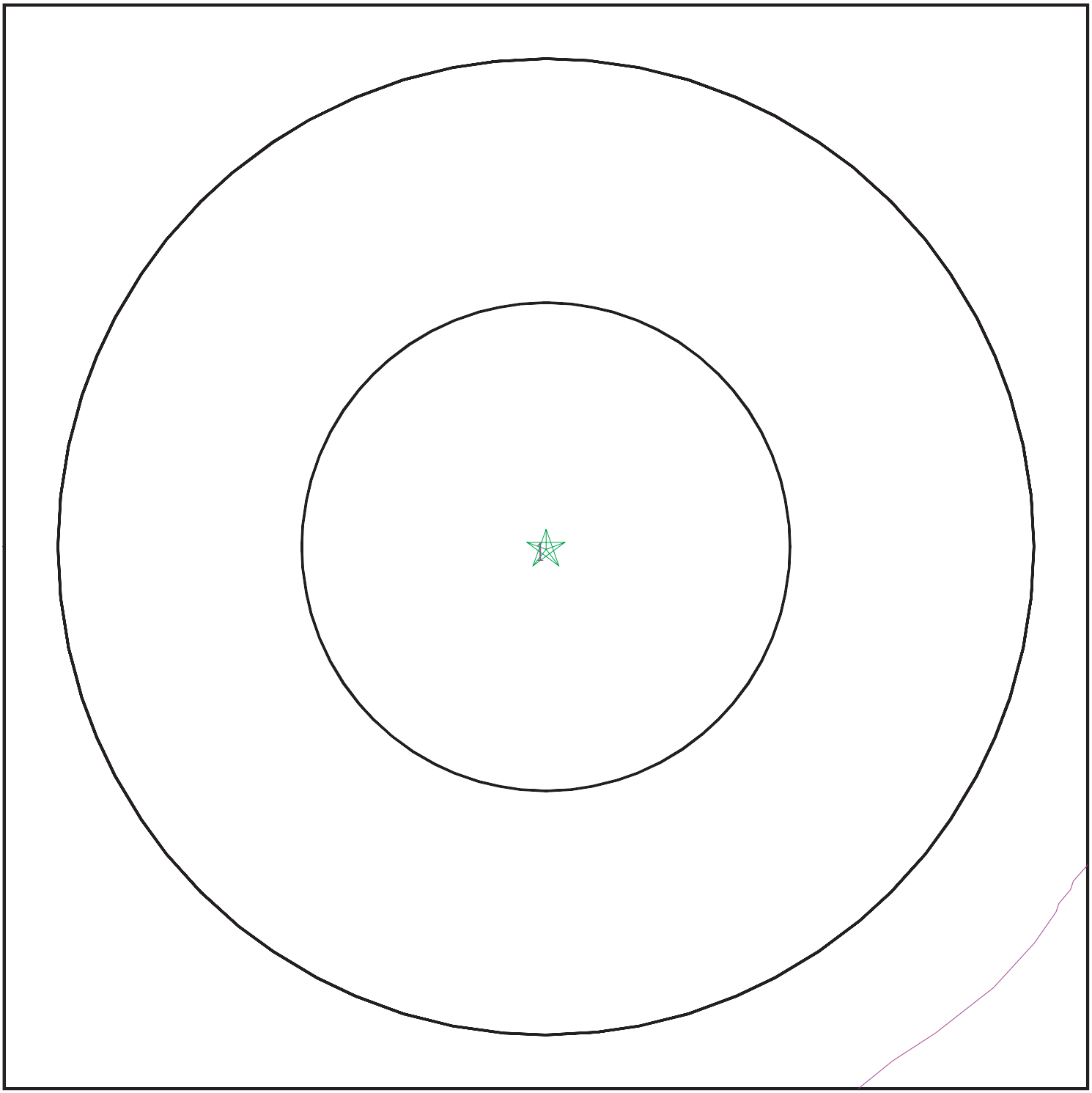
| | |
|---|---|
| Era: | Cenozoic |
| System: | Quaternary |
| Series: | Quaternary |
| Code: | Q *(decoded above as Era, System & Series)* |

**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 - 5811754.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

| | | | |
|---|---|---|---|
| SITE NAME: | Transwestern Boyle Fontana | CLIENT: | Avocet Environmental, Inc. |
| ADDRESS: | 16716 - 16868 Boyle Avenue<br>Fontana CA 92337 | CONTACT: | Philip Miller |
| | | INQUIRY #: | 5811754.2s |
| LAT/LONG: | 34.065772 / 117.438037 | DATE: | October 02, 2019 2:17 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: TUJUNGA

Soil Surface Texture: gravelly loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

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 | 18 inches | gravelly loamy sand | Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 141<br>Min: 42 | Max: 7.8<br>Min: 6.1 |
| 2 | 18 inches | 59 inches | loamy sand | Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 141<br>Min: 42 | Max: 7.8<br>Min: 6.1 |

# 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 |
|---|---|---|
| 2 | USGS40000140409 | 1/8 - 1/4 Mile SSW |
| A5 | USGS40000140230 | 1/2 - 1 Mile SSW |
| 7 | USGS40000140688 | 1/2 - 1 Mile NNE |
| 8 | USGS40000140398 | 1/2 - 1 Mile ESE |

## FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

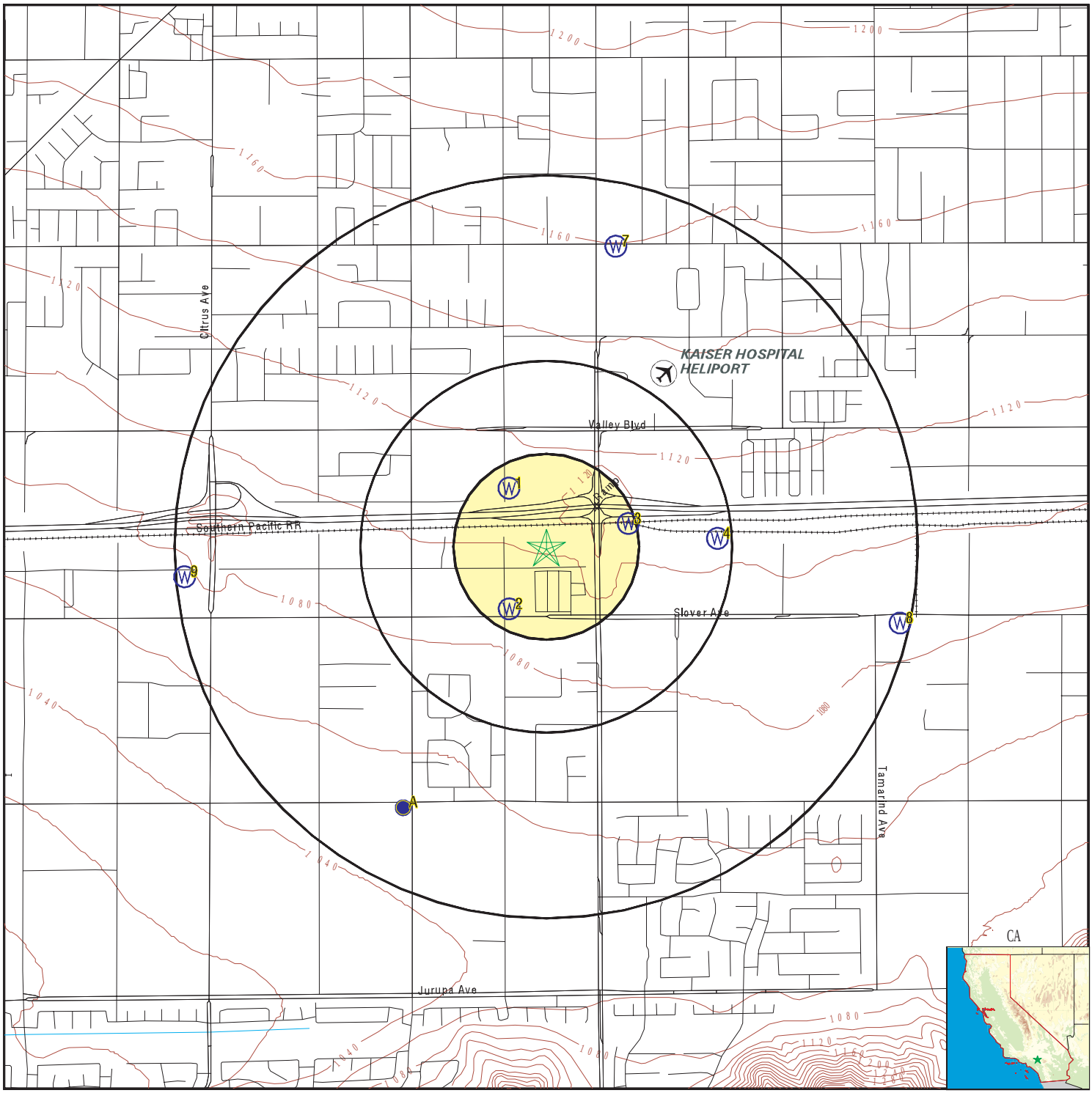
| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| No PWS System Found | | |

Note: PWS System location is not always the same as well location.

## STATE DATABASE WELL INFORMATION

| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| 1 | 999 | 1/8 - 1/4 Mile NNW |
| 3 | 1000 | 1/8 - 1/4 Mile ENE |
| 4 | CADWR8000006578 | 1/4 - 1/2 Mile East |
| A6 | CADWR8000006533 | 1/2 - 1 Mile SSW |
| 9 | CADWR8000006573 | 1/2 - 1 Mile West |

# PHYSICAL SETTING SOURCE MAP - 5811754.2s




0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- 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: | Transwestern Boyle Fontana | CLIENT: | Avocet Environmental, Inc. |
| ADDRESS: | 16716 - 16868 Boyle Avenue<br>Fontana CA 92337 | CONTACT: | Philip Miller |
| | | INQUIRY #: | 5811754.2s |
| LAT/LONG: | 34.065772 / 117.438037 | DATE: | October 02, 2019 2:17 pm |

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| Map ID<br>Direction<br>Distance<br>Elevation | Database | EDR ID Number |
|---|---|---|
| **1**<br>**NNW**<br>**1/8 - 1/4 Mile**<br>**Higher** | **CA WELLS** | **999** |

| | | | |
|---|---|---|---|
| Seq: | 999 | Prim sta c: | 01S/05W-19J01 S |
| Frds no: | 3610041008 | County: | 36 |
| District: | 13 | User id: | TAN |
| System no: | 3610041 | Water type: | G |
| Source nam: | WELL 07 - INACTIVE | Station ty: | WELL/AMBNT |
| Latitude: | 340405.0 | Longitude: | 1172620.0 |
| Precision: | 2 | Status: | IU |
| Comment 1: | Not Reported | Comment 2: | Not Reported |
| Comment 3: | Not Reported | Comment 4: | Not Reported |
| Comment 5: | Not Reported | Comment 6: | Not Reported |
| Comment 7: | Not Reported | | |

| | | | |
|---|---|---|---|
| System no: | 3610041 | System nam: | San Gabriel Valley Wc - Fontana |
| Hqname: | SAN GABRIEL VALLEY WATER CO | Address: | P.O. BOX 987 |
| City: | FONTANA | State: | CA |
| Zip: | 92334 | Zip ext: | Not Reported |
| Pop serv: | 102599 | Connection: | 29314 |
| Area serve: | FONTANA | | |

---

| | | |
|---|---|---|
| **2**<br>**SSW**<br>**1/8 - 1/4 Mile**<br>**Lower** | **FED USGS** | **USGS40000140409** |

| | | | |
|---|---|---|---|
| Organization ID: | USGS-CA | | |
| Organization Name: | USGS California Water Science Center | | |
| Monitor Location: | 001S005W19J001S | Type: | Well |
| Description: | Not Reported | HUC: | 18070203 |
| Drainage Area: | Not Reported | Drainage Area Units: | Not Reported |
| Contrib Drainage Area: | Not Reported | Contrib Drainage Area Unts: | Not Reported |
| Aquifer: | California Coastal Basin aquifers | | |
| Formation Type: | Not Reported | Aquifer Type: | Not Reported |
| Construction Date: | 19240919 | Well Depth: | Not Reported |
| Well Depth Units: | Not Reported | Well Hole Depth: | 761 |
| Well Hole Depth Units: | ft | | |

| | | | |
|---|---|---|---|
| Ground water levels,Number of Measurements: | 11 | Level reading date: | 1989-11-30 |
| Feet below surface: | 338.97 | Feet to sea level: | Not Reported |
| Note: | Not Reported | | |
| Level reading date: | 1988-06-29 | Feet below surface: | 336.37 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1987-12-11 | Feet below surface: | 337.05 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1987-08-12 | Feet below surface: | 337.14 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1973-03-01 | Feet below surface: | 359.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-03-03 | Feet below surface: | 359.7 |

| | | | |
|---|---|---|---|
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-01-01 | Feet below surface: | 359.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1971-10-04 | Feet below surface: | 359.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1971-07-02 | Feet below surface: | 359.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-10-20 | Feet below surface: | 336.25 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-04-02 | Feet below surface: | 281.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

---

**3**
**ENE** **CA WELLS** **1000**
**1/8 - 1/4 Mile**
**Higher**

| | | | |
|---|---|---|---|
| Seq: | 1000 | Prim sta c: | 01S/05W-20D01 S |
| Frds no: | 3610028001 | County: | 36 |
| District: | 13 | User id: | TAN |
| System no: | 3610028 | Water type: | G |
| Source nam: | WELL 02 - INACTIVE | Station ty: | WELL/AMBNT/MUN/INTAKE/SUPPLY |
| Latitude: | 340400.0 | Longitude: | 1172600.0 |
| Precision: | 8 | Status: | IR |
| Comment 1: | Not Reported | Comment 2: | Not Reported |
| Comment 3: | Not Reported | Comment 4: | Not Reported |
| Comment 5: | Not Reported | Comment 6: | Not Reported |
| Comment 7: | Not Reported | | |
| System no: | 3610028 | System nam: | Marygold Mwc |
| Hqname: | Not Reported | Address: | 9715 ALDER AVE |
| City: | BLOOMINGTON | State: | CA |
| Zip: | 92316 | Zip ext: | Not Reported |
| Pop serv: | 6800 | Connection: | 873 |
| Area serve: | BLOOMINGTON | | |

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**4**
**East** **CA WELLS** **CADWR8000006578**
**1/4 - 1/2 Mile**
**Higher**

| | | | |
|---|---|---|---|
| State Well #: | 01S05W20N001S | Station ID: | 48053 |
| Well Name: | CHINO-1002109 | Well Use: | Residential |
| Well Type: | Single Well | Well Depth: | 684 |
| Basin Name: | Chino | Well Completion Rpt #: | Not Reported |

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**A5**
**SSW** **FED USGS** **USGS40000140230**
**1/2 - 1 Mile**
**Lower**

| | |
|---|---|
| Organization ID: | USGS-CA |
| Organization Name: | USGS California Water Science Center |

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

| | | | |
|---|---|---|---|
| Monitor Location: | 001S005W30L001S | Type: | Well |
| Description: | Not Reported | HUC: | 18070203 |
| Drainage Area: | Not Reported | Drainage Area Units: | Not Reported |
| Contrib Drainage Area: | Not Reported | Contrib Drainage Area Unts: | Not Reported |
| Aquifer: | California Coastal Basin aquifers | | |
| Formation Type: | Not Reported | Aquifer Type: | Not Reported |
| Construction Date: | Not Reported | Well Depth: | Not Reported |
| Well Depth Units: | Not Reported | Well Hole Depth: | 492 |
| Well Hole Depth Units: | ft | | |

| | | | |
|---|---|---|---|
| Ground water levels,Number of Measurements: | 448 | Level reading date: | 2004-10-26 |
| Feet below surface: | 310.30 | Feet to sea level: | Not Reported |
| Note: | Not Reported | | |
| Level reading date: | 2004-04-19 | Feet below surface: | 308.02 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2003-10-21 | Feet below surface: | 306.44 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2003-04-22 | Feet below surface: | 304.66 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2002-10-30 | Feet below surface: | 303.13 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2002-04-10 | Feet below surface: | 300.54 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2001-10-24 | Feet below surface: | 298.41 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2001-04-17 | Feet below surface: | 296.10 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2000-10-23 | Feet below surface: | 295.97 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2000-04-18 | Feet below surface: | 294.13 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1999-10-21 | Feet below surface: | 293.16 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1999-04-13 | Feet below surface: | 291.43 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1998-10-20 | Feet below surface: | 292.59 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1998-04-15 | Feet below surface: | 291.20 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1997-10-29 | Feet below surface: | 292.13 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1997-04-17 | Feet below surface: | 290.95 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1996-10-09 | Feet below surface: | 291.44 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1996-04-24 | Feet below surface: | 290.33 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1995-10-26 | Feet below surface: | 291.73 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1995-04-21 | Feet below surface: | 290.78 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1994-10-28 | Feet below surface: | 290.80 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1994-04-18 | Feet below surface: | 290.50 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1993-10-18 | Feet below surface: | 290.96 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1993-04-15 | Feet below surface: | 288.97 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1992-10-27 | Feet below surface: | 288.68 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1992-06-15 | Feet below surface: | 288.06 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1991-12-05 | Feet below surface: | 287.55 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1991-06-19 | Feet below surface: | 286.00 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1990-11-28 | Feet below surface: | 284.93 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1990-06-27 | Feet below surface: | 282.24 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1989-11-27 | Feet below surface: | 282.86 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1989-09-18 | Feet below surface: | 282.30 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1988-11-23 | Feet below surface: | 281.86 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1988-06-30 | Feet below surface: | 281.22 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1987-12-11 | Feet below surface: | 281.75 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1987-05-04 | Feet below surface: | 279.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1987-03-03 | Feet below surface: | 285.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1986-12-30 | Feet below surface: | 285.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1986-09-30 | Feet below surface: | 286.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1986-06-30 | Feet below surface: | 286.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1986-06-26 | Feet below surface: | 289.66 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1986-04-01 | Feet below surface: | 286.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1986-01-29 | Feet below surface: | 285.70 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1986-01-06 | Feet below surface: | 287.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1985-08-30 | Feet below surface: | 288.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1985-06-26 | Feet below surface: | 289.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1985-03-29 | Feet below surface: | 292.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1984-12-27 | Feet below surface: | 292.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1984-04-03 | Feet below surface: | 296.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1983-10-04 | Feet below surface: | 298.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1983-07-20 | Feet below surface: | 299.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1983-07-01 | Feet below surface: | 299.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1983-05-31 | Feet below surface: | 299.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1983-01-04 | Feet below surface: | 300.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1982-10-01 | Feet below surface: | 296.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1982-07-06 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1982-04-05 | Feet below surface: | 303.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1982-03-31 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1981-12-30 | Feet below surface: | 303.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1981-10-01 | Feet below surface: | 301.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1981-04-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1980-09-03 | Feet below surface: | 307.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1980-06-02 | Feet below surface: | 307.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1980-04-10 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1980-03-03 | Feet below surface: | 306.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-12-03 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-11-02 | Feet below surface: | 307.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-10-01 | Feet below surface: | 310.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-09-05 | Feet below surface: | 309.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-08-07 | Feet below surface: | 309.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-07-06 | Feet below surface: | 308.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-06-04 | Feet below surface: | 306.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-05-02 | Feet below surface: | 307.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-04-03 | Feet below surface: | 306.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-03-01 | Feet below surface: | 306.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-02-01 | Feet below surface: | 308.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1979-01-02 | Feet below surface: | 309.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-12-31 | Feet below surface: | 307.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-12-06 | Feet below surface: | 308.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-11-02 | Feet below surface: | 310.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1978-10-03 | Feet below surface: | 311.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-09-06 | Feet below surface: | 309.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-08-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-07-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-06-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-05-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-04-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-03-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-02-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1978-01-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-12-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-11-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-10-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-09-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-08-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-07-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-06-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-05-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-04-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-03-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1977-02-01 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1977-01-05 | Feet below surface: | 304.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1976-11-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1976-10-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1976-09-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1976-08-01 | Feet below surface: | 305.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1976-06-01 | Feet below surface: | 302.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1976-03-01 | Feet below surface: | 302.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1975-12-01 | Feet below surface: | 302.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1975-09-01 | Feet below surface: | 300.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1975-06-01 | Feet below surface: | 301.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1975-03-01 | Feet below surface: | 302.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1974-12-01 | Feet below surface: | 302.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1973-09-01 | Feet below surface: | 300.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1973-06-01 | Feet below surface: | 297.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1973-03-01 | Feet below surface: | 297.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-12-01 | Feet below surface: | 297.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-11-01 | Feet below surface: | 297.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-10-01 | Feet below surface: | 298.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-09-01 | Feet below surface: | 297.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-08-03 | Feet below surface: | 297.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-06-05 | Feet below surface: | 298.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1972-05-02 | Feet below surface: | 298.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-03-03 | Feet below surface: | 298.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1972-01-01 | Feet below surface: | 298.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1971-10-04 | Feet below surface: | 298.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1971-07-02 | Feet below surface: | 297.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1971-03-02 | Feet below surface: | 298.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1970-12-01 | Feet below surface: | 298.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1970-09-02 | Feet below surface: | 297.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1970-06-03 | Feet below surface: | 296.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1970-03-04 | Feet below surface: | 297.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1969-12-03 | Feet below surface: | 296.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1969-09-04 | Feet below surface: | 296.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1969-07-03 | Feet below surface: | 296.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1969-06-04 | Feet below surface: | 296.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1969-03-05 | Feet below surface: | 295.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1968-12-01 | Feet below surface: | 295.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1968-09-03 | Feet below surface: | 294.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1968-06-03 | Feet below surface: | 294.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1968-03-04 | Feet below surface: | 294.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1967-12-01 | Feet below surface: | 294.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1967-09-05 | Feet below surface: | 294.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1967-06-02 | Feet below surface: | 293.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1967-03-02 | Feet below surface: | 292.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1966-12-06 | Feet below surface: | 291.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1965-06-01 | Feet below surface: | 286.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1965-03-01 | Feet below surface: | 285.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1964-12-01 | Feet below surface: | 283.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1964-08-01 | Feet below surface: | 282.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1964-06-03 | Feet below surface: | 281.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1964-03-05 | Feet below surface: | 280.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1963-11-29 | Feet below surface: | 277.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1963-09-03 | Feet below surface: | 277.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1963-06-04 | Feet below surface: | 277.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1963-03-05 | Feet below surface: | 279.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1962-12-04 | Feet below surface: | 275.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1962-08-30 | Feet below surface: | 274.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1962-06-01 | Feet below surface: | 273.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1962-03-01 | Feet below surface: | 272.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1961-12-01 | Feet below surface: | 271.33 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1961-09-01 | Feet below surface: | 270.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1961-06-08 | Feet below surface: | 269.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1961-03-06 | Feet below surface: | 267.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1960-12-08 | Feet below surface: | 267.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1960-09-08 | Feet below surface: | 267.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1960-06-03 | Feet below surface: | 265.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1960-03-03 | Feet below surface: | 265.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1959-12-03 | Feet below surface: | 264.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1959-09-01 | Feet below surface: | 264.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1959-06-06 | Feet below surface: | 263.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1959-03-05 | Feet below surface: | 263.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1958-12-04 | Feet below surface: | 262.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1958-08-29 | Feet below surface: | 262.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1958-06-05 | Feet below surface: | 261.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1958-05-05 | Feet below surface: | 262.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1958-04-08 | Feet below surface: | 261.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1958-03-07 | Feet below surface: | 261.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1958-03-03 | Feet below surface: | 259.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1958-01-02 | Feet below surface: | 260.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-12-04 | Feet below surface: | 261.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-11-04 | Feet below surface: | 260.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-10-01 | Feet below surface: | 259.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-09-03 | Feet below surface: | 259.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-08-30 | Feet below surface: | 260.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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|---|---|---|---|
| Level reading date: | 1957-08-02 | Feet below surface: | 259.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-07-02 | Feet below surface: | 259.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-06-04 | Feet below surface: | 260.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-05-30 | Feet below surface: | 258.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-05-01 | Feet below surface: | 260.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-04-02 | Feet below surface: | 258.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-03-05 | Feet below surface: | 258.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-02-05 | Feet below surface: | 258.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1957-01-03 | Feet below surface: | 258.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-12-06 | Feet below surface: | 257.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-12-03 | Feet below surface: | 262.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-11-02 | Feet below surface: | 251.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-09-07 | Feet below surface: | 257.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-09-05 | Feet below surface: | 266.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-08-02 | Feet below surface: | 267.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-07-09 | Feet below surface: | 265.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-06-05 | Feet below surface: | 256.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-06-01 | Feet below surface: | 257.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-05-07 | Feet below surface: | 266.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-03-29 | Feet below surface: | 269.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-03-03 | Feet below surface: | 255.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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|---|---|---|---|
| Level reading date: | 1956-02-02 | Feet below surface: | 262.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1956-01-03 | Feet below surface: | 267.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-12-05 | Feet below surface: | 251.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-12-02 | Feet below surface: | 262.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-11-01 | Feet below surface: | 268.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-10-03 | Feet below surface: | 267.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-09-09 | Feet below surface: | 251.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-09-06 | Feet below surface: | 261.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-08-02 | Feet below surface: | 250.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-07-05 | Feet below surface: | 254.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-06-01 | Feet below surface: | 250.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-05-04 | Feet below surface: | 253.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-03-30 | Feet below surface: | 253.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-03-02 | Feet below surface: | 253.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-03-01 | Feet below surface: | 253.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1955-02-10 | Feet below surface: | 253.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-12-03 | Feet below surface: | 253.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-12-02 | Feet below surface: | 251.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-12-01 | Feet below surface: | 253.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-11-01 | Feet below surface: | 253.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-10-01 | Feet below surface: | 252.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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|---|---|---|---|
| Level reading date: | 1954-09-02 | Feet below surface: | 253.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-08-31 | Feet below surface: | 252.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-08-02 | Feet below surface: | 255.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-07-01 | Feet below surface: | 252.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-06-03 | Feet below surface: | 252.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-05-03 | Feet below surface: | 253.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-04-02 | Feet below surface: | 251.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-03-01 | Feet below surface: | 251.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-02-01 | Feet below surface: | 251.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1954-01-07 | Feet below surface: | 252.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-11-04 | Feet below surface: | 251.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-09-30 | Feet below surface: | 251.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-09-09 | Feet below surface: | 251.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-08-04 | Feet below surface: | 251.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-07-02 | Feet below surface: | 260.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-06-15 | Feet below surface: | 250.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-06-01 | Feet below surface: | 254.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-05-04 | Feet below surface: | 255.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-04-03 | Feet below surface: | 250.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-03-10 | Feet below surface: | 250.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-03-02 | Feet below surface: | 250.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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|---|---|---|---|
| Level reading date: | 1953-02-13 | Feet below surface: | 250.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-02-02 | Feet below surface: | 250.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1953-01-08 | Feet below surface: | 250.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-12-12 | Feet below surface: | 250.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-10-31 | Feet below surface: | 254.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-10-03 | Feet below surface: | 251.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-09-12 | Feet below surface: | 250.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-09-04 | Feet below surface: | 250.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-08-01 | Feet below surface: | 250.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-07-07 | Feet below surface: | 249.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-06-10 | Feet below surface: | 249.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-06-05 | Feet below surface: | 249.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-05-05 | Feet below surface: | 249.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-04-12 | Feet below surface: | 249.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-03-04 | Feet below surface: | 249.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1952-02-12 | Feet below surface: | 249.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-12-05 | Feet below surface: | 249.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-11-02 | Feet below surface: | 249.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-10-01 | Feet below surface: | 251.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-09-03 | Feet below surface: | 249.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-08-02 | Feet below surface: | 249.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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|---|---|---|---|
| Level reading date: | 1951-07-05 | Feet below surface: | 249.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-06-01 | Feet below surface: | 247.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-05-01 | Feet below surface: | 248.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-04-02 | Feet below surface: | 247.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-03-02 | Feet below surface: | 248.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-02-01 | Feet below surface: | 248.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1951-01-02 | Feet below surface: | 254.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-12-07 | Feet below surface: | 248.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-11-01 | Feet below surface: | 246.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-10-02 | Feet below surface: | 246.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-09-05 | Feet below surface: | 246.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-08-03 | Feet below surface: | 245.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-06-02 | Feet below surface: | 242.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-04-03 | Feet below surface: | 244.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-03-02 | Feet below surface: | 245.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1950-01-04 | Feet below surface: | 245.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1949-12-02 | Feet below surface: | 245.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1949-11-29 | Feet below surface: | 243.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1949-08-29 | Feet below surface: | 243.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1949-05-31 | Feet below surface: | 243.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1949-04-07 | Feet below surface: | 243.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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|---|---|---|---|
| Level reading date: | 1949-03-31 | Feet below surface: | 243.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1949-02-28 | Feet below surface: | 243.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1949-01-12 | Feet below surface: | 243.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1948-11-30 | Feet below surface: | 244.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1948-09-07 | Feet below surface: | 243.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1948-06-01 | Feet below surface: | 242.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1948-03-23 | Feet below surface: | 242.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1948-02-26 | Feet below surface: | 242.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1947-12-03 | Feet below surface: | 242.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1947-12-02 | Feet below surface: | 242.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1947-09-02 | Feet below surface: | 243.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1947-06-03 | Feet below surface: | 242.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1947-03-17 | Feet below surface: | 243.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1947-02-27 | Feet below surface: | 243.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1946-11-26 | Feet below surface: | 243.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1946-03-26 | Feet below surface: | 244.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1946-02-28 | Feet below surface: | 244.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1946-01-03 | Feet below surface: | 244.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1945-12-04 | Feet below surface: | 244.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1945-08-30 | Feet below surface: | 244.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1945-06-05 | Feet below surface: | 244.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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|---|---|---|---|
| Level reading date: | 1945-03-19 | Feet below surface: | 245.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1945-03-06 | Feet below surface: | 245.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1945-02-06 | Feet below surface: | 245.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-12-01 | Feet below surface: | 245.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-11-29 | Feet below surface: | 245.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-09-01 | Feet below surface: | 245.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-06-02 | Feet below surface: | 246.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-04-04 | Feet below surface: | 246.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-03-10 | Feet below surface: | 246.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1943-12-02 | Feet below surface: | 247.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1943-11-15 | Feet below surface: | 247.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1943-09-01 | Feet below surface: | 247.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1943-06-11 | Feet below surface: | 247.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1943-05-05 | Feet below surface: | 247.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1943-04-02 | Feet below surface: | 246.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1943-03-02 | Feet below surface: | 247.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1942-12-10 | Feet below surface: | 247.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1942-12-03 | Feet below surface: | 247.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1942-12-01 | Feet below surface: | 247.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1942-09-01 | Feet below surface: | 247.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1942-05-28 | Feet below surface: | 246.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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|---|---|---|---|
| Level reading date: | 1942-04-14 | Feet below surface: | 246.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1942-03-03 | Feet below surface: | 246.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1941-12-08 | Feet below surface: | 246.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1941-11-21 | Feet below surface: | 246.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1941-09-03 | Feet below surface: | 247.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1941-06-09 | Feet below surface: | 247.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1941-03-25 | Feet below surface: | 247.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1941-01-29 | Feet below surface: | 247.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1941-01-13 | Feet below surface: | 247.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-09-20 | Feet below surface: | 248.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-06-08 | Feet below surface: | 246.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-05-11 | Feet below surface: | 247.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-04-11 | Feet below surface: | 247.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-03-07 | Feet below surface: | 247.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-02-14 | Feet below surface: | 247.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-01-31 | Feet below surface: | 247.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-01-02 | Feet below surface: | 247.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-12-05 | Feet below surface: | 247.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-11-24 | Feet below surface: | 247.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-11-07 | Feet below surface: | 248.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-09-11 | Feet below surface: | 247.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1939-08-02 | Feet below surface: | 247.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-07-04 | Feet below surface: | 246.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-06-06 | Feet below surface: | 246.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-05-12 | Feet below surface: | 246.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-04-15 | Feet below surface: | 246.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-04-03 | Feet below surface: | 246.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-03-06 | Feet below surface: | 246.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-02-17 | Feet below surface: | 246.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-01-19 | Feet below surface: | 247.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1938-07-10 | Feet below surface: | 246.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1938-06-05 | Feet below surface: | 246.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1938-05-01 | Feet below surface: | 246.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1938-02-21 | Feet below surface: | 246.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1938-02-06 | Feet below surface: | 247.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1938-01-01 | Feet below surface: | 246.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1937-12-06 | Feet below surface: | 247.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1937-11-07 | Feet below surface: | 247.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1937-10-03 | Feet below surface: | 247.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1937-09-06 | Feet below surface: | 247.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1937-08-07 | Feet below surface: | 246.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1937-07-05 | Feet below surface: | 246.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1937-06-20 | Feet below surface: | 246.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1937-05-13 | Feet below surface: | 246.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1937-01-16 | Feet below surface: | 246.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1936-12-17 | Feet below surface: | 246.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1936-09-15 | Feet below surface: | 246.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1936-07-15 | Feet below surface: | 245.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1936-04-17 | Feet below surface: | 243.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1936-01-27 | Feet below surface: | 243.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1935-12-16 | Feet below surface: | 243.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1935-09-14 | Feet below surface: | 243.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1935-07-15 | Feet below surface: | 243.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1935-05-25 | Feet below surface: | 242.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1935-04-17 | Feet below surface: | 242.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1935-04-15 | Feet below surface: | 242.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1934-12-17 | Feet below surface: | 242.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1934-10-15 | Feet below surface: | 241.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1934-05-15 | Feet below surface: | 240.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1934-04-16 | Feet below surface: | 239.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1933-12-15 | Feet below surface: | 239.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1933-05-01 | Feet below surface: | 238.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1933-01-27 | Feet below surface: | 237.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1932-09-16 | Feet below surface: | 237.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1932-09-14 | Feet below surface: | 237.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1932-04-16 | Feet below surface: | 237.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1931-12-19 | Feet below surface: | 237.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1931-11-18 | Feet below surface: | 237.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1931-08-26 | Feet below surface: | 236.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1931-05-09 | Feet below surface: | 234.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1931-05-02 | Feet below surface: | 234.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1931-03-30 | Feet below surface: | 234.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1930-10-08 | Feet below surface: | 234.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1930-06-03 | Feet below surface: | 232.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-11-11 | Feet below surface: | 232.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-10-14 | Feet below surface: | 232.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-09-11 | Feet below surface: | 230.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-08-09 | Feet below surface: | 231.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-07-08 | Feet below surface: | 230.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-06-19 | Feet below surface: | 230.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-05-01 | Feet below surface: | 229.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-04-03 | Feet below surface: | 229.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-03-01 | Feet below surface: | 229.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1929-02-05 | Feet below surface: | 228.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1929-01-02 | Feet below surface: | 229.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-12-04 | Feet below surface: | 229.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-11-03 | Feet below surface: | 229.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-09-18 | Feet below surface: | 229.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-08-13 | Feet below surface: | 228.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-08-01 | Feet below surface: | 228.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-07-05 | Feet below surface: | 228.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-06-05 | Feet below surface: | 227.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-05-05 | Feet below surface: | 226.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-04-10 | Feet below surface: | 226.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-03-08 | Feet below surface: | 226.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-02-11 | Feet below surface: | 226.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1928-01-03 | Feet below surface: | 226.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1927-12-07 | Feet below surface: | 226.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1927-11-25 | Feet below surface: | 226.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1927-10-07 | Feet below surface: | 226.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1927-09-09 | Feet below surface: | 227.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1927-08-12 | Feet below surface: | 227.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1926-02-11 | Feet below surface: | 225.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1924-10-06 | Feet below surface: | 225.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1922-07-15 | Feet below surface: | 255.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1919-10-15 | Feet below surface: | 232.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1919-04-24 | Feet below surface: | 233.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1919-04-03 | Feet below surface: | 232.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1918-04-12 | Feet below surface: | 233.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1917-03-29 | Feet below surface: | 237.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1916-04-03 | Feet below surface: | 239.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1915-05-01 | Feet below surface: | 240.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1914-03-29 | Feet below surface: | 242.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1912-10-14 | Feet below surface: | 240.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1912-07-20 | Feet below surface: | 240.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1912-06-27 | Feet below surface: | 240.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

---

**A6**
**SSW**
**1/2 - 1 Mile**
**Lower**

**CA WELLS** **CADWR8000006533**

| | | | |
|---|---|---|---|
| State Well #: | 01S05W30L001S | Station ID: | 26603 |
| Well Name: | Not Reported | Well Use: | Unknown |
| Well Type: | Unknown | Well Depth: | 0 |
| Basin Name: | Chino | Well Completion Rpt #: | Not Reported |

---

**7**
**NNE**
**1/2 - 1 Mile**
**Higher**

**FED USGS** **USGS40000140688**

| | | | |
|---|---|---|---|
| Organization ID: | USGS-CA | | |
| Organization Name: | USGS California Water Science Center | | |
| Monitor Location: | 001S005W20D001S | Type: | Well |
| Description: | Not Reported | HUC: | 18070203 |
| Drainage Area: | Not Reported | Drainage Area Units: | Not Reported |
| Contrib Drainage Area: | Not Reported | Contrib Drainage Area Unts: | Not Reported |
| Aquifer: | California Coastal Basin aquifers | | |
| Formation Type: | Not Reported | Aquifer Type: | Not Reported |
| Construction Date: | Not Reported | Well Depth: | 510 |
| Well Depth Units: | ft | Well Hole Depth: | 510 |
| Well Hole Depth Units: | ft | | |

Ground water levels,Number of Measurements: 39 Level reading date: 1992-10-27
Feet below surface: Not Reported Feet to sea level: Not Reported
Note: An obstruction was encountered in the well above the water surface (no water level recorded).

Level reading date: 1992-06-16 Feet below surface: 388.50
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1991-12-05 Feet below surface: 390.89
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1991-06-19 Feet below surface: 385.50
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1990-11-28 Feet below surface: 385.70
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1989-11-27 Feet below surface: 382.63
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1989-09-18 Feet below surface: 381.99
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1988-06-30 Feet below surface: 380.37
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1987-12-11 Feet below surface: 381.14
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1986-06-26 Feet below surface: Not Reported
Feet to sea level: Not Reported Note: The site was being pumped.

Level reading date: 1986-03-24 Feet below surface: 396.75
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1964-02-19 Feet below surface: 283.45
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1960-09-06 Feet below surface: 376.0
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1960-03-11 Feet below surface: 385.7
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1959-12-01 Feet below surface: 389.3
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1956-11-27 Feet below surface: 373.0
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1953-03-24 Feet below surface: 352.2
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1949-04-07 Feet below surface: 345.0
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1949-01-13 Feet below surface: 345.9
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1948-03-23 Feet below surface: 343.9
Feet to sea level: Not Reported Note: Not Reported

Level reading date: 1947-12-03 Feet below surface: 345.5

| | | | |
|---|---|---|---|
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1947-03-17 | Feet below surface: | 344.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1946-11-26 | Feet below surface: | 346.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1945-12-31 | Feet below surface: | 349.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1945-03-19 | Feet below surface: | 347.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-11-29 | Feet below surface: | 352.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-04-29 | Feet below surface: | 448.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1944-01-07 | Feet below surface: | 352.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1943-01-15 | Feet below surface: | 351.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1940-02-02 | Feet below surface: | 349.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1939-04-17 | Feet below surface: | 349.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1938-02-20 | Feet below surface: | 348.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1935-01-28 | Feet below surface: | 343 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1934-12-22 | Feet below surface: | 343 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1934-03-15 | Feet below surface: | 343 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1933-01-28 | Feet below surface: | 339.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1932-03-02 | Feet below surface: | 339.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1932-02-04 | Feet below surface: | 340.5 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1931-12-18 | Feet below surface: | 341.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| Map ID<br>Direction<br>Distance<br>Elevation | Database | EDR ID Number |
|---|---|---|
| **8**<br>**ESE**<br>**1/2 - 1 Mile**<br>**Lower** | **FED USGS** | **USGS40000140398** |

| | | | |
|---|---|---|---|
| Organization ID: | USGS-CA | | |
| Organization Name: | USGS California Water Science Center | | |
| Monitor Location: | 001S005W29A001S | Type: | Well |
| Description: | Not Reported | HUC: | 18070203 |
| Drainage Area: | Not Reported | Drainage Area Units: | Not Reported |
| Contrib Drainage Area: | Not Reported | Contrib Drainage Area Unts: | Not Reported |
| Aquifer: | California Coastal Basin aquifers | | |
| Formation Type: | Not Reported | Aquifer Type: | Not Reported |
| Construction Date: | Not Reported | Well Depth: | 921 |
| Well Depth Units: | ft | Well Hole Depth: | Not Reported |
| Well Hole Depth Units: | Not Reported | | |

| | | |
|---|---|---|
| **9**<br>**West**<br>**1/2 - 1 Mile**<br>**Lower** | **CA WELLS** | **CADWR8000006573** |

| | | | |
|---|---|---|---|
| State Well #: | 01S06W24R001S | Station ID: | 48056 |
| Well Name: | CHINO-1002239 | Well Use: | Residential |
| Well Type: | Single Well | Well Depth: | 770 |
| Basin Name: | Chino | Well Completion Rpt #: | 355448 |

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
# RADON

**AREA RADON INFORMATION**

State Database: CA Radon

Radon Test Results

| Zipcode | Num Tests | > 4 pCi/L |
|---|---|---|
| 92337 | 3 | 0 |

Federal EPA Radon Zone for SAN BERNARDINO County: 2

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.

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Federal Area Radon Information for SAN BERNARDINO COUNTY, CA

Number of sites tested: 18

| Area | Average Activity | % <4 pCi/L | % 4-20 pCi/L | % >20 pCi/L |
|---|---|---|---|---|
| Living Area - 1st Floor | 0.678 pCi/L | 100% | 0% | 0% |
| Living Area - 2nd Floor | Not Reported | Not Reported | Not Reported | Not Reported |
| Basement | Not Reported | Not Reported | Not Reported | Not Reported |

# 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 and Wildlife
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.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
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.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
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.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

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.

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 G

# PEER REVIEW OF PHASE I ENVIRONMENTAL SITE ASSESSMENT

GROUP DELTA

**LSA**
1500 Iowa Avenue, Suite 200
Riverside, CA 92507

April 30, 2020
Project No. EN8037

**Attention:** **Dionisios Glentis, Senior Environmental Planner**

**Subject:** **Environmental Due Diligence Review**
Transwestern – Boyle Avenue Building 1
16796 Boyle Avenue (APNs: 0251-202-05, -06 & -07)
Fontana, California

Dear Mr. Glentis,

Group Delta Consultants, Inc. (Group Delta) is pleased to submit to LSA this Environmental Due Diligence Review for the for the proposed Transwestern – Boyle Avenue Building 1 development consisting of Assessor's Parcel Numbers (APNs): 0251-202-01-05, 0251-202-01-06, and 0251-202-01-07, for the property located in Fontana, California (Site). In conducting this review, Group Delta reviewed a Phase I Environmental Site Assessment (ESA) report prepared for the Site by Avocet Environmental, Inc. (Avocet) dated February 3, 2020.

**PROJECT DESCRIPTION**

Based on information provided by LSA, it is our understanding the Site is part of a larger assemblage consisting of six parcels of land (APNs: 0251-202-01-05, 0251-202-01-06, 0251-202-01-07, 0251-202-12, 0251-202-12-15, and 0193-381-01) totaling approximately 12.7 acres, located on the northeast corner of Boyle Avenue and Juniper Avenue in Fontana, California. The overall site, for the purposes of this project, is split between two sub-Sites. This report addresses the parcels (APNs 0251-202-01, -05, -06 & -07) associated with the proposed Transwestern – Boyle Avenue Building 1 development (Site). The Site totals to approximately 8.08 acres and currently consists of undeveloped vacant land, single-family residential homes, and a commercial building. The Site is being considered for a new commercial/industrial logistics and distribution building with associated parking stalls.

**DUE DILLIGENCE REVIEW**

**Phase I ESA Evaluation**

A Phase I ESA report was prepared for the Site by Avocet dated February 3, 2020. It is reported that the Phase I ESA was developed in conformance with the provisions of American Society for Testing and Materials (ASTM) Practice E 1527-13 and the Environmental Protection Agency (EPA) Standards and Practices for All Appropriate Inquiries (AAI) (40 CFR Part 312). The assessment

included: 1) a property and adjacent site reconnaissance; 2) interviews with key personnel; 3) a review of historical sources; 4) a review of regulatory agency records, and; 5) a review of a regulatory database report provided by a third-party vendor.

The purpose of the Phase I ESA is to review, evaluate, and document present and past land use and practices, and visually examine Site conditions in order to identify Recognized Environmental Conditions (RECs). The term REC is defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any 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. The Phase I ESA did not identify any RECs during the course of the assessment.

Group Delta is in general agreement with these findings. Based upon Group Delta's review of the Phase I report, and its attachments, there is no information provided indicating that a release of hazardous substances or petroleum products has occurred at the Site or that any conditions on the Site meet the criteria necessary to be considered an REC. Group Delta also reviewed readily available online databases including the Department of Toxic Substances Control's (DTSC's) Envirostor database and the State Water Resources Control Board's (SWRCB's) Geotracker database and the results of that review corroborate this finding.

**Site History**

Research conducted during the performance of the Phase I ESA indicates that the Site was part of a larger orchard, assumed to have been a citrus orchard, from at least as far back as 1938 through the end of World War II. There may have been agricultural structures within the orchard; however, the end of World War II marked the beginning of a transition away from agriculture toward residential land use at and around the Site.

According to the Phase I ESA, the Site and surrounding area was partially or completely cleared of trees to make way for residences, garages, and a few other structures, and it appears that the residents used or leased the balance of their properties for a variety of businesses, including trucking, wooden pallet, electrical supply, marble/granite fabrication, plant supply, and auto repair businesses. Agriculture at the Site declined until the last few acres of trees were removed from APN 0251-202-01-07 sometime between 1990 and 1994.

**Notable Environmental Conditions**

Although no RECs were noted for the Site, the following notable environmental conditions were identified by Group Delta:

1. The Site was utilized as a citrus orchard from at least as far back as 1938 until the early 1990s. Pesticides were widely used throughout the United States during this period;

however, historical aerial photographs of the Site did not indicate evidence of any aboveground storage tanks that may have been used to store or mix pesticides, nor do they show distressed vegetation which may have resulted from pesticide overuse.

2. Large-diameter concrete standpipes were observed protruding from the ground surface at two locations further west of the Site. These protruding pipes appear to be remnants of a subsurface irrigation system assumed to be associated with the former citrus orchard, of which the Site was a part of.

3. Based on available aerial photographs, the buildings at the Site predate the restrictions on using asbestos-containing materials (ACMs) and lead-based paint (LBP). As such, it is possible that the structures contain ACMs and LBP, although Avocet did not observe any obvious hazardous conditions, such as damaged and friable ACMs, on the exteriors of the onsite buildings.

4. The Site is located immediately south of a Southern Pacific railroad track and the I-10 Freeway, which collectively constitute a major transportation corridor into the Los Angeles area. Near-surface soil adjacent to such transportation corridors can be impacted by ADL related to the use of leaded gasoline and possibly other fuel hydrocarbons.

5. The automotive workshop at APN 0251-202-07 features numerous potentially hazardous and/or flammable substances, mostly automotive fluids and related compounds (e.g., WD-40) in small containers.

6. APN 0251-202-07 is currently a storage/junk yard and other areas of the Site were observed to be utilized for junk storage. Some of the items in storage, particularly the vehicles at APN 0251-202-07, may contain fuel, lubricating oil, and other automotive fluids.

**CONCLUSIONS AND RECOMMENDATIONS**

Group Delta has reviewed the existing Phase I ESA report. Based upon the review of this report, Group Delta is presenting the following conclusions and recommendations:

1. The Site was utilized as a citrus orchard from at least as far back as 1938 until the early 1990s. The City of Fontana should consider whether conducting a limited screening of shallow soil at the Site for organochlorine pesticides is warranted for the scope of their redevelopment activities.

2. Large-diameter concrete standpipes possibly indicating a subsurface irrigation system underlying the Site may be encountered during site grading. It is unknown if subsurface

features were removed from the Site and/or surrounding site area. LSA should be prepared to encounter these features during the early phases of construction.

3. A survey for hazardous building materials, including ACM and LBP, should be conducted for the Site's remaining structures prior to demolition and redevelopment of the Site. The survey will determine hazardous building materials abatement and monitoring requirements, as well as worker health and safety requirements, during site demolition and construction.

4. Shallow soil sampling near the Southern Pacific railroad track and the I-10 Freeway may be warranted for the analyses of heavy metals and total petroleum hydrocarbons depending upon the results of shallow soil sampling at the west adjoining facility and assuming they are available for review. The City of Fontana should consider whether conducting a screening of shallow soil at the Site for heavy metals and total petroleum hydrocarbons is warranted for the scope of their redevelopment activities.

5. Group Delta concurs with Avocet's recommendation that hazardous materials containers should be consolidated by similar hazard class and transported offsite for disposal prior to vacating. All hazardous waste and petroleum products from the Site should be removed in accordance with the requirements of their Hazardous Materials Business Plan, the Riverside County Department of Environmental Health, and/or any operational permits that may be in use.

6. Group Delta concurs with Avocet's recommendation that the site owners and/or their tenants should be required to remove all of the stored items. Junk removal should be conducted with oversight to minimize the potential for potentially hazardous substances and wastes to be discharged onto the ground surface.

**CLOSING**

Thank you for allowing Group Delta to be your consultants on this project. Please feel free to call us at 949-450-2100 if you have any questions on the contents of this letter.

Sincerely,
**Group Delta**

Glenn Burks, Ph. D., P.E.
Director of Environ. Services

Tomo Demers
Project Scientist

# APPENDIX H

# WATER QUALITY MANAGEMENT PLAN

# Preliminary Storm Water Quality Management Plan (P-SWQMP)

**For:**

## Boyle Ave. and Juniper Ave. – Building 1
## North Side of Boyle Ave. Between Juniper Ave. and Sierra Ave.
## Fontana, CA 92337

**APNs: 0251-202-05, -06, -07, -16, -17 & 0193-381-01, -04**

**Prepared for:**
Transwestern Development Company
20250 Acacia Street, Suite 260
Newport Beach, CA 92660
Phone: (949) 351-5186
Contact: Stephen Batcheller

**Prepared by:**
Thienes Engineering, Inc.
14349 Firestone Boulevard
La Mirada, CA 90638
Phone: (714) 521-4811
Contact: Shannon Wilmoth (shannon@thieneseng.com)
Job No. 3778

**Preliminary Approval Date:** _____
**Construction Approval Date:** _____
**Final Approval Date:** _____

**Preliminary Submittal:** December 18, 2019
**Construction Submittal:** _____
**Final Submittal:** _____

# Project Owner's Certification

This Water Quality Management Plan (WQMP) has been prepared for ***Transwestern Development Company LLC*** by ***Thienes Engineering, Inc***. The WQMP is intended to comply with the requirements of the ***City of Fontana*** and the NPDES Areawide Stormwater Program requiring the preparation of a WQMP.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the San Bernardino County's Municipal Storm Water Management Program and the intent of the NPDES Permit for San Bernardino County and the incorporated cities of San Bernardino County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors in interest and the city/county shall be notified of the transfer. The new owner will be informed of its responsibility under this WQMP. A copy of the approved WQMP shall be available on the subject site in perpetuity.

"I certify under a penalty of law that the provisions (implementation, operation, maintenance, and fund) of the WQMP have been accepted and that the plan will be transferred to future successors."

| **Project Data** | | | |
|---|---|---|---|
| **Permit/Application Number(s):** | WQMP19-XXXXXX | **Grading Permit Number(s):** | |
| **Tract/Parcel Map Number(s):** | | **Building Permit Number(s):** | |
| **CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):** | | APN: 0251-202-05, -06, -07, -16, -17 & 0193-381-01, -04 | |

| **Owner's Signature** | | |
|---|---|---|
| **Owner Name: Stephen Batcheller** | | |
| **Title** | Western Regional Partner | |
| **Company** | Transwestern Development Company | |
| **Address** | 20250 Acacia Street, Suite 260, Newport Beach, CA 92660 | |
| **Email** | stephen.batcheller@transwestern.com | |
| **Telephone #** | (949) 351-5186 | |
| **Signature** | **Date** | |

# Preparer's Certification

| Project Data | | | |
|---|---|---|---|
| **Permit/Application Number(s):** | WQMP19-XXXXXX | **Grading Permit Number(s):** | |
| **Tract/Parcel Map Number(s):** | | **Building Permit Number(s):** | |
| **CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):** | | APN: 0251-202-05, -06, -07, -16, -17 & 0193-381-01, -04 | |

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan were prepared under my oversight and meet the requirements of Regional Water Quality Control Board Order No. R8-2010-0036."

| **Engineer: Reinhard Stenzel** | | **PE Stamp Below** |
|---|---|---|
| **Title** | Director of Engineering | |
| **Company** | Thienes Engineering, Inc. | |
| **Address** | 14349 Firestone Boulevard, La Mirada, CA 90638 | |
| **Email** | reinhard@thieneseng.com | |
| **Telephone #** | (714) 521-4811 | |
| **Signature** | | |

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# Attachments

Attachment A: Existing Condition Site Photos
Attachment B: BMP Design Calculations & Supporting Documentation
Attachment C: WQMP Site Map
Attachment D: WQMP and Stormwater BMP Transfer, Access and Maintenance Agreement
Attachment E: Educational Materials
Attachment F: Infiltration Report

# Section 1 Discretionary Permit(s)

| Form 1-1 Project Information | | | | | |
|---|---|---|---|---|---|
| **Project Name** | Boyle Ave. and Juniper Ave. – Building 1 | | | | |
| **Project Owner Contact Name:** | Stephen Batcheller | | | | |
| **Mailing Address:** | 20250 Acacia Street,<br>Suite 260<br>Newport Beach, CA 92660 | **E-mail Address:** | stephen.batcheller@transwestern.com | **Telephone:** | (949) 351-5186 |
| **Permit/Application Number(s):** | WQMP19-XXXXXX | | **Tract/Parcel Map Number(s):** | | |
| **Additional Information/ Comments:** | n/a | | | | |
| **Description of Project:** | The project site encompasses approximately 8.15 acres and there is an additional 0.90 acres of offsite run-on. Proposed improvements to the site includes a commercial type building with an area of approximately 172,628 square feet. There will be a loading dock on the southeastern side of the building. Vehicle parking will be located south and west of the building. The remainder of the site will be reserved for landscape.<br><br>The proposed onsite BMPs for water quality treatment are one set of underground infiltration chambers and a hydrodynamic separator used as pretreatment to the underground chambers. Approximately 0.55 acres of landscape and driveway areas along public ROW will drain offsite without being routed to the BMPs. Of the 0.55 acres, approximately 0.45 acres will consist of landscape and 0.10 acres of driveway. The landscape areas are considered self-treating. The driveway area will be accounted for on the onsite infiltration chambers even though it does not physically drain there.<br><br>There is approximately 0.90 acres of offsite run-on to the property. This dirt area is included in the DCV sizing for the underground chambers.<br><br>As shown in Worksheet H of Attachment B, the design infiltration rate is 6.50 in/hr which can drawdown up to 13 feet of stormwater within 24 hours. The effective ponding depth is 4.45 feet for the onsite underground infiltration chambers. With this justification, the project's design capture volume is determined using the 1.582 regression constant for 24 hours. | | | | |
| **Provide summary of Conceptual WQMP conditions (if previously submitted and approved). Attach complete copy.** | n/a | | | | |

# Section 2 Project Description

## 2.1 Project Information

This section of the WQMP should provide the information listed below. The information provided for Conceptual/Preliminary WQMP should give sufficient detail to identify the major proposed site design and LID BMPs and other anticipated water quality features that impact site planning. Final Project WQMP must specifically identify all BMP incorporated into the final site design and provide other detailed information as described herein.

The purpose of this information is to help determine the applicable development category, pollutants of concern, watershed description, and long term maintenance responsibilities for the project, and any applicable water quality credits. This information will be used in conjunction with the information in Section 3, Site Description, to establish the performance criteria and to select the LID BMP or other BMP for the project or other alternative programs that the project will participate in, which are described in Section 4.

**Form 2.1-1 Description of Proposed Project**

| [1] **Development Category (Select all that apply):** | | | |
|---|---|---|---|
| ☒ Significant re-development involving the addition or replacement of 5,000 $ft^2$ or more of impervious surface on an already developed site | ☐ New development involving the creation of 10,000 $ft^2$ or more of impervious surface collectively over entire site | ☐ Automotive repair shops with standard industrial classification (SIC) codes 5013, 5014, 5541, 7532-7534, 7536-7539 | ☐ Restaurants (with SIC code 5812) where the land area of development is 5,000 $ft^2$ or more |
| ☐ Hillside developments of 5,000 $ft^2$ or more which are located on areas with known erosive soil conditions or where the natural slope is 25 percent or more | ☐ Developments of 2,500 $ft^2$ of impervious surface or more adjacent to (within 200 ft) or discharging directly into environmentally sensitive areas or waterbodies listed on the CWA Section 303(d) list of impaired waters. | ☒ Parking lots of 5,000 $ft^2$ or more exposed to storm water | ☐ Retail gasoline outlets that are either 5,000 $ft^2$ or more, or have a projected average daily traffic of 100 or more vehicles per day |
| ☐ Non-Priority / Non-Category Project<br>*May require source control LID BMPs and other LIP requirements. Please consult with local jurisdiction on specific requirements.* | | | |

| [2] **Project Area ($ft^2$):** | 394,218* (9.05 acres) | [3] **Number of Dwelling Units:** | n/a | [4] **SIC Code:** | 4225 |
|---|---|---|---|---|---|

[5] **Is Project going to be phased?** ☐Yes ☒No
*If yes, ensure that the WQMP evaluates each phase as a distinct DA, requiring LID BMPs to address runoff at time of completion.*

[6] **Does Project include roads?** ☒Yes ☐No
*If yes, ensure that applicable requirements for road projects are addressed (see Appendix A of TGD for WQMP)*

*This value includes 0.90 acres of offsite run-on and 0.55 acres of landscape and driveway areas draining offsite without treatment. Of the 0.55 acres, approximately 0.45 acres will consist of landscape and 0.10 acres of driveway. The driveway will be accounted for in the onsite retention system even though it does not physically drain there. The landscape areas are considered self-treating.

## 2.2 Property Ownership/Management

Describe the ownership/management of all portions of the project and site. State whether any infrastructure will transfer to public agencies (City, County, Caltrans, etc.) after project completion. State if a homeowners or property owners association will be formed and be responsible for the long-term maintenance of project stormwater facilities. Describe any lot-level stormwater features that will be the responsibility of individual property owners.

| **Form 2.2-1 Property Ownership/Management** |
|---|
| Describe property ownership/management responsible for long-term maintenance of WQMP stormwater facilities: |
| Transwestern Development Company<br>20250 Acacia Street, Suite 260<br>Newport Beach, CA 92660<br>Phone: (949) 351-5186<br>Contact: Stephen Batcheller<br><br>A property owner's association (POA) will not be formed for long-term maintenance of onsite stormwater facilities.<br>The owner will maintain onsite stormwater facilities as shown in Attachment D. |

## 2.3 Potential Stormwater Pollutants

Determine and describe expected stormwater pollutants of concern based on land uses and site activities (refer to Table 3-3 in the TGD for WQMP).

**Form 2.3-1 Pollutants of Concern**

| Pollutant | Circle One: E=Expected, N=Not Expected | | Listed for Receiving Water | Additional Information and Comments |
|---|---|---|---|---|
| Pathogens (Bacterial / Virus) | **E** | N | X | Including petroleum hydrocarbons. Bacterial indicators are routinely detected in pavement runoff. |
| Phosphorous | **E** | N | | |
| Nitrogen | **E** | N | X | Expected pollutant if landscaping exists on-site. |
| Sediment | **E** | N | | Expected pollutant if landscaping exists on-site. |
| Metals | **E** | N | X | |
| Oil and Grease | **E** | N | | |
| Trash / Debris | **E** | N | | |
| Pesticides / Herbicides | **E** | N | | |
| Organic Compounds | **E** | N | | Expected pollutant if landscaping exists on-site. Including petroleum hydrocarbons and solvents. |
| Other: | | | | |

The expected POCs for the project site are ***Pathogens, Nitrogen, and Metals***.

## 2.4 Water Quality Credits

A water quality credit program is applicable for certain types of development projects if it is not feasible to meet the requirements for on-site LID. Proponents for eligible projects, as described below, can apply for water quality credits that would reduce project obligations for selecting and sizing other treatment BMP or participating in other alternative compliance programs. Refer to Section 6.2 in the TGD for WQMP to determine if water quality credits are applicable for the project.

| **Form 2.4-1 Water Quality Credits** | | | |
|---|---|---|---|
| [1] **Project Types that Qualify for Water Quality Credits:** *Select all that apply* | | | |
| ☐ Redevelopment projects that reduce the overall impervious footprint of the project site. [Credit = % impervious reduced] | Higher density development projects<br>☐ Vertical density [20%]<br>☐ 7 units/ acre [5%] | ☐ Mixed use development, (combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that demonstrate environmental benefits not realized through single use projects) [20%] | ☐ Brownfield redevelopment (redevelop real property complicated by presence or potential of hazardous contaminants) [25%] |
| ☐ Redevelopment projects in established historic district, historic preservation area, or similar significant core city center areas [10%] | ☐ Transit-oriented developments (mixed use residential or commercial area designed to maximize access to public transportation) [20%] | ☐ In-fill projects (conversion of empty lots & other underused spaces < 5 acres, substantially surrounded by urban land uses, into more beneficially used spaces, such as residential or commercial areas) [10%] | ☐ Live-Work developments (variety of developments designed to support residential and vocational needs) [20%] |
| [2] **Total Credit %:** n/a<br>*(Total all credit percentages up to a maximum allowable credit of 50 percent)* | | | |
| **Description of Water Quality Credit Eligibility (if applicable)** | n/a | | |

The proposed project will ***not*** utilize any water quality credits.

# Section 3 Site and Watershed Description

Describe the project site conditions that will facilitate the selection of BMP through an analysis of the physical conditions and limitations of the site and its receiving waters. Identify distinct drainage areas (DA) that collect flow from a portion of the site and describe how runoff from each DA (and sub-watershed DMAs) is conveyed to the site outlet(s). Refer to Section 3.2 in the TGD for WQMP. Complete form 3.2 for each DA on the project site.

| **Form 3-1 Site Location and Hydrologic Features** | | | |
|---|---|---|---|
| **Site coordinates**<br>*Take GPS measurement at approximate center of site* | **Latitude:** 34.065745 | **Longitude:** -117.43797 | **Thomas Bros Map page:**<br>Page 604 |
| [1] **San Bernardino County climatic region:** ☒Valley ☐Mountain ☐Desert | | | |
| [2] **Does the site have more than one drainage area (DA):** ☒Yes ☐No<br>*If no, proceed to Form 3-2. If yes, then use this form to show a conceptual schematic describing DMAs and hydrologic feature connecting DMAs to the site outlet(s). An example is provided below that can be modified for proposed project or a drawing clearly showing DMA and flow routing may be attached.* | | | |

# Form 3-2 Existing Hydrologic Characteristics for Drainage Area (DA)

| For each drainage area's sub-watershed DMA, provide the following characteristics | Hyd Nodes 100-101 | Hyd Nodes 200-201 | Hdy Nodes 300-301 | N/A | N/A |
|---|---|---|---|---|---|
| [1] **DMA drainage area (ft²)** | 104,544 (2.40 ac) | 89,298 (2.05ac) | 161,172 (3.70 ac) | N/A | N/A |
| [2] **Existing site impervious area (ft²)** | 5,838 | 11,456 | 0 | N/A | N/A |
| [3] **Antecedent moisture condition** *For desert areas, use http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_map.pdf* | AMC II | AMC II | AMC II | N/A | N/A |
| [4] **Hydrologic soil group** *Refer to Watershed Mapping Tool – http://sbcounty.permitrack.com/WAP* | HSG A | HSG A | HSG A | N/A | N/A |
| [5] **Longest flowpath length (ft)** | 600 | 610 | 630 | N/A | N/A |
| [6] **Longest flowpath slope (ft/ft)** | 0.0139 | 0.0142 | 0.0123 | N/A | N/A |
| [7] **Current land cover type(s)** *Select from Fig C-3 of Hydrology Manual* | Barren/Residential | Barren/Residential | Barren/Residential | N/A | N/A |
| [8] **Pre-developed pervious area condition:** *Based on the extent of wet season vegetated cover good >75%; Fair 50-75%; Poor <50% See Attachment A for photos of site to support rating* | Poor | Poor | Poor | N/A | N/A |

| Form 3-3 Watershed Description | |
|---|---|
| **Receiving Waters**<br>*Refer to Watershed Mapping Tool -*<br>*http://sbcounty.permitrack.com/WAP*<br>*See 'Drainage Facilities" link at this website* | Declez Channel<br>San Sevaine Channel<br>Santa Ana River, Reach 3<br>Prado Dam<br>Santa Ana River, Reach 2<br>Santa Ana River, Reach 1<br>Pacific Ocean |
| **Applicable TMDLs**<br>*Refer to Local Implementation Plan* | Declez Channel: None<br>San Sevaine Channel: None<br>Santa Ana River, Reach 3: Pathogens, Nitrate<br>Prado Dam: Pathogens<br>Santa Ana River, Reach 2: None<br>Santa Ana River, Reach 1: None<br>Pacific Ocean: None |
| **303(d) listed impairments**<br>*Refer to Local Implementation Plan and Watershed Mapping Tool –*<br>*http://sbcounty.permitrack.com/WAP*<br>*and State Water Resources Control Board website –*<br>*http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/index.shtml* | Declez Channel: None<br>San Sevaine Channel: None<br>Santa Ana River, Reach 3: Copper, Lead, Indicator Bacteria<br>Prado Dam: pH<br>Santa Ana River, Reach 2: None<br>Santa Ana River, Reach 1: None<br>Pacific Ocean: None |
| **Environmentally Sensitive Areas (ESA)**<br>*Refer to Watershed Mapping Tool –*<br>*http://sbcounty.permitrack.com/WAP* | n/a |
| **Unlined Downstream Water Bodies**<br>*Refer to Watershed Mapping Tool –*<br>*http://sbcounty.permitrack.com/WAP* | Santa Ana River |
| **Hydrologic Conditions of Concern** | ☐ Yes<br>*Complete Hydrologic Conditions of Concern (HCOC) Assessment. Include Forms 4.2-2 through Form 4.2-5 and Hydromodification BMP Form 4.3-10 in submittal*<br>☒ No (see Appendix B for applicability map) |
| **Watershed–based BMP included in a RWQCB approved WAP** | ☐ Yes<br>*Attach verification of regional BMP evaluation criteria in WAP*<br>• *More Effective than On-site LID*<br>• *Remaining Capacity for Project DCV*<br>• *Upstream of any Water of the US*<br>• *Operational at Project Completion*<br>• *Long-Term Maintenance Plan*<br>☒ No |

# Section 4 Best Management Practices (BMP)

## 4.1 Source Control BMP

### 4.1.1 Pollution Prevention

Non-structural and structural source control BMP are required to be incorporated into all new development and significant redevelopment projects. Form 4.1-1 and 4.1-2 are used to describe specific source control BMPs used in the WQMP or to explain why a certain BMP is not applicable. Table 7-3 of the TGD for WQMP provides a list of applicable source control BMP for projects with specific types of potential pollutant sources or activities. The source control BMP in this table must be implemented for projects with these specific types of potential pollutant sources or activities.

The preparers of this WQMP have reviewed the source control BMP requirements for new development and significant redevelopment projects. The preparers have also reviewed the specific BMP required for project as specified in Forms 4.1-1 and 4.1-2. All applicable non-structural and structural source control BMP shall be implemented in the project.

## Form 4.1-1 Non-Structural Source Control BMPs

| Identifier | Name | Check One | | Describe BMP Implementation OR, if not applicable, state reason |
|---|---|---|---|---|
| | | Included | Not Applicable | |
| N1 | Education of Property Owners, Tenants and Occupants on Stormwater BMPs | X | | Property owner will familiarize him/herself with the educational materials in Attachment "E" and the contents of the WQMP. |
| N2 | Activity Restrictions | X | | No outdoor work areas, processing, storage or wash area. |
| N3 | Landscape Management BMPs | X | | Irrigation must be consistent with the local agency's Water Conservation Ordinance. Fertilizer and pesticide usage will be consistent with local agency's Management Guidelines for Use of Fertilizers and Pesticides. |
| N4 | BMP Maintenance | X | | BMP maintenance, implementation schedules, and responsible parties are included with each specific BMP narrative. |
| N5 | Title 22 CCR Compliance (How development will comply) | | X | No hazardous wastes onsite. |
| N6 | Local Water Quality Ordinances | | X | Local agency does not have additional water quality ordinances. |
| N7 | Spill Contingency Plan | X | | Owner/tenant will have a spill contingency plan based on individual site needs. |
| N8 | Underground Storage Tank Compliance | | X | No USTs onsite. |
| N9 | Hazardous Materials Disclosure Compliance | | X | No hazardous materials onsite. |
| N10 | Uniform Fire Code Implementation | X | | Owner will comply with Article 80 of the Uniform Fire Code enforced by the fire protection agency. |
| N11 | Litter/Debris Control Program | X | | Contract with their landscape maintenance firm to provide this service during regularly schedule maintenance. |
| N12 | Employee Training | X | | The owner will ensure that tenants are also familiar with onsite BMPs and necessary maintenance required of the tenants. Owner will check with City and County at least once a year to obtain new or updated educational materials and provide these materials to tenants. Employees shall be trained to clean up spills and participate in ongoing maintenance. The WQMP requires annual employee training and new hires within 2 months. |
| N13 | Housekeeping of Loading Docks | X | | Keep all fluids indoors. Clean up spills immediately and keep spills from entering storm drain system. No direct discharges into the storm drain system. Area shall be inspected weekly for proper containment and practices with spills cleaned up immediately and disposed of properly. |
| N14 | Catch Basin Inspection Program | X | | Monthly inspection by property owner's designee. Vacuum basins when sediment or trash becomes 2-inches deep and dispose of properly. |
| N15 | Vacuum Sweeping of Private Streets and Parking Lots | X | | All landscape maintenance contractors will be required to sweep up all landscape cuttings, mowings and fertilizer materials off paved areas weekly and dispose of properly. Parking areas and drive ways will be swept monthly by sweeping contractor. |
| N16 | Other Non-structural Measures for Public Agency Projects | | X | Not a public agency project. |
| N17 | Comply with all other applicable NDPES permits | X | | Will comply with Construction General Permit and Industrial General Permit (may apply for No Exposure Certification/NEC). |

## Form 4.1-2 Structural Source Control BMPs

| Identifier | Name | Check One | | Describe BMP Implementation OR, if not applicable, state reason |
|---|---|---|---|---|
| | | Included | Not Applicable | |
| S1 | Provide storm drain system stenciling and signage (CASQA New Development BMP Handbook SD-13) | X | | "No Dumping – Drains to River" stencils will be applied. Legibility of stencil will be maintained on a yearly basis. |
| S2 | Design and construct outdoor material storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-34) | | X | No outdoor material storage areas onsite. |
| S3 | Design and construct trash and waste storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-32) | X | | Paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements diverted around the area, screened or walled to prevent off-site transport of trash. Provide solid roof or awning to prevent direct contact with rainfall. |
| S4 | Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12) | X | | Irrigation systems shall include shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines. Timers will be used to avoid over watering and watering cycles and duration shall be adjusted seasonally by the landscape maintenance contractor. The landscaping areas will be grouped with plants that have similar water requirements. Native or drought tolerant species shall also be used where appropriate to reduce excess irrigation runoff and promote surface filtration. |
| S5 | Finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement | X | | Landscaped areas will be depressed in order to increase retention of stormwater/irrigation water and promote infiltration. |
| S6 | Protect slopes and channels and provide energy dissipation (CASQA New Development BMP Handbook SD-10) | | X | Not applicable; no slopes or channels to protect. |
| S7 | Covered dock areas (CASQA New Development BMP Handbook SD-31) | | X | Finished goods being loaded and unloaded at the docks do not have the potential to contribute to stormwater pollution. No direct connections will be made to a MS4. |
| S8 | Covered maintenance bays with spill containment plans (CASQA New Development BMP Handbook SD-31) | | X | No maintenance bays onsite. |
| S9 | Vehicle wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33) | | X | No vehicle wash areas onsite. |
| S10 | Covered outdoor processing areas (CASQA New Development BMP Handbook SD-36) | | X | No outdoor processing areas onsite. |
| S11 | Equipment wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33) | | X | No equipment wash areas onsite. |

## Form 4.1-2 Structural Source Control BMPs

| Identifier | Name | Check One | | Describe BMP Implementation OR, if not applicable, state reason |
|---|---|---|---|---|
| | | Included | Not Applicable | |
| S12 | Fueling areas (CASQA New Development BMP Handbook SD-30) | | X | No fueling areas onsite. |
| S13 | Hillside landscaping (CASQA New Development BMP Handbook SD-10) | | X | No hillsides onsite. |
| S14 | Wash water control for food preparation areas | | X | No food preparation onsite. |
| S15 | Community car wash racks (CASQA New Development BMP Handbook SD-33) | | X | No community cars wash racks onsite. |

### 4.1.2 Preventive LID Site Design Practices

Site design practices associated with new LID requirements in the MS4 Permit should be considered in the earliest phases of a project. Preventative site design practices can result in smaller DCV for LID BMP and hydromodification control BMP by reducing runoff generation. Describe site design and drainage plan including:

- A narrative of site design practices utilized or rationale for not using practices
- A narrative of how site plan incorporates preventive site design practices
- Include an attached Site Plan layout which shows how preventative site design practices are included in WQMP

Refer to Section 5.2 of the TGD for WQMP for more details.

| Form 4.1-3 Preventive LID Site Design Practices Checklist | |
|---|---|
| **Site Design Practices**<br>*If yes, explain how preventative site design practice is addressed in project site plan. If no, other LID BMPs must be selected to meet targets.* | |
| **Minimize impervious areas:** ☐Yes ☒No | The project will utilize an infiltration facility to collect runoff from impervious areas. |
| **Maximize natural infiltration capacity:** ☒Yes ☐No | The infiltration facility will maximize natural infiltration. |
| **Preserve existing drainage patterns and time of concentration:** ☒Yes ☐No | Post-development drainage patterns will mimic pre-development conditions. Stormwater will be retained in the infiltration facility to assist in maintaining the time of concentration compared to existing condition. |
| **Disconnect impervious areas:** ☒Yes ☐No | The infiltration facility will disconnect impervious areas before discharging offsite. |
| **Protect existing vegetation and sensitive areas:** ☐Yes ☒No | Not applicable, there are no existing vegetation onsite (see Attachment A for recent site photos). |
| **Re-vegetate disturbed areas:** ☐Yes ☒No | Not applicable, development consists of a light industrial facility. Most of the disturbed areas will be paved; however, all disturbed areas will be collected by the infiltration facility for treatment. |
| **Minimize unnecessary compaction in stormwater retention/infiltration basin/trench areas:** ☒Yes ☐No | Heavy construction vehicles will be prohibited from unnecessary soil compaction at infiltration facility location. |
| **Utilize vegetated drainage swales in place of underground piping or imperviously lined swales:** ☐Yes ☒No | Underground piping and imperviously lined swales are located in traffic areas and could not be substituted with a vegetated swale. |
| **Stake off areas that will be used for landscaping to minimize compaction during construction :** ☒Yes ☐No | Landscaped areas will be staked to minimize unnecessary compaction during construction. |

## 4.2 Project Performance Criteria

The purpose of this section of the Project WQMP is to establish targets for post development hydrology based on performance criteria specified in the MS4 Permit. These targets include runoff volume for water quality control (referred to as LID design capture volume), and runoff volume, time of concentration, and peak runoff for protection of any downstream waterbody segments with a HCOC. ***If the project has more than one outlet for stormwater runoff, then complete additional versions of these forms for each DA / outlet.***

Methods applied in the following forms include:

- For LID BMP Design Capture Volume (DCV), the San Bernardino County Stormwater Program requires use of the P6 method (MS4 Permit Section XI.D.6a.ii) – Form 4.2-1
- For HCOC pre- and post-development hydrologic calculation, the San Bernardino County Stormwater Program requires the use of the Rational Method (San Bernardino County Hydrology Manual Section D). Forms 4.2-2 through Form 4.2-5 calculate hydrologic variables including runoff volume, time of concentration, and peak runoff from the project site pre- and post-development using the Hydrology Manual Rational Method approach. For projects greater than 640 acres (1.0 mi2), the Rational Method and these forms should not be used. For such projects, the Unit Hydrograph Method (San Bernardino County Hydrology Manual Section E) shall be applied for hydrologic calculations for HCOC performance criteria.

Refer to Section 4 in the TGD for WQMP for detailed guidance and instructions.

| **Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume** | | |
|---|---|---|
| [1] **Project area (ft²):** 331,056<br>DA 1 DMA A (7.60 ac)* | [2] **Imperviousness after applying preventative site design practices (Imp%):** 95% | [3] **Runoff Coefficient ($R_c$):** 0.807<br>$R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$ |
| [4] **Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in):** 0.538<br>http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html | | |
| [5] **Compute P6, Mean 6-hr Precipitation (inches):** 1.4807<br>*P6 = Item 4 *$C_1$, where $C_1$ is a function of site climatic region specified in Form 3-1 Item 1*<br>*(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)* | | |
| [6] **Drawdown Rate**<br>*Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.* | | 24-hrs ☒<br>48-hrs ☐ |
| [7] **Compute design capture volume, DCV (ft³):** 28,057<br>*DCV = 1/12 * [Item 1* Item 3 *Item 5 * $C_2$], where $C_2$ is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*<br>*Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2* | | |
| [1] **Project area (ft²):** 4,356<br>Driveway Runoff (0.10 ac)* | [2] **Imperviousness after applying preventative site design practices (Imp%):** 100% | [3] **Runoff Coefficient ($R_c$):** 0.892<br>$R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$ |
| [4] **Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in):** 0.538<br>http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html | | |
| [5] **Compute P6, Mean 6-hr Precipitation (inches):** 1.4807<br>*P6 = Item 4 *$C_1$, where $C_1$ is a function of site climatic region specified in Form 3-1 Item 1*<br>*(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)* | | |

## Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume

| | | |
|---|---|---|
| **[6] Drawdown Rate**<br>*Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.* | | 24-hrs ☒<br>48-hrs ☐ |
| **[7] Compute design capture volume, DCV ($ft^3$):** 408<br>*DCV = 1/12 * [Item 1* Item 3 *Item 5 * $C_2$], where $C_2$ is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*<br>*Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2* | | |
| **[1] Project area ($ft^2$):** 39,204<br>Offsite Run-On (0.90 ac)* | **[2] Imperviousness after applying preventative site design practices (Imp%):** 10% | **[3] Runoff Coefficient ($R_c$):** 0.110<br>$R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$ |
| **[4] Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in):** 0.538<br>http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html | | |
| **[5] Compute P6, Mean 6-hr Precipitation (inches):** 1.4807<br>*P6 = Item 4 *$C_1$, where $C_1$ is a function of site climatic region specified in Form 3-1 Item 1*<br>*(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)* | | |
| **[6] Drawdown Rate**<br>*Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.* | | 24-hrs ☒<br>48-hrs ☐ |
| **[7] Compute design capture volume, DCV ($ft^3$):** 455<br>*DCV = 1/12 * [Item 1* Item 3 *Item 5 * $C_2$], where $C_2$ is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*<br>*Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2* | | |

[1] See Attachment B for detailed calculations. These values include 0.90 acres of offsite run-on and 0.55 acres of landscape and driveway areas draining offsite without treatment. Of the 0.55 acres, approximately 0.45 acres will consist of landscape and 0.10 acres of driveway. The driveway will be accounted for in the onsite retention system even though it does not physically drain there. The landscape areas are considered self-treating.

## Form 4.2-2 Summary of HCOC Assessment

**Does project have the potential to cause or contribute to an HCOC in a downstream channel:** ☐Yes ☒No

*Go to: http://sbcounty.permitrack.com/WAP/*

*If "Yes", then complete HCOC assessment of site hydrology for 2yr storm event using Forms 4.2-3 through 4.2-5 and insert results below (Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual)*

*If "No," then proceed to Section 4.3 Project Conformance Analysis*

| Condition | Runoff Volume ($ft^3$) | Time of Concentration (min) | Peak Runoff (cfs) |
|---|---|---|---|
| **Pre-developed** | [1] n/a<br>*Form 4.2-3 Item 12* | [2] n/a<br>*Form 4.2-4 Item 13* | [3] n/a<br>*Form 4.2-5 Item 10* |
| **Post-developed** | [4] n/a<br>*Form 4.2-3 Item 13* | [5] n/a<br>*Form 4.2-4 Item 14* | [6] n/a<br>*Form 4.2-5 Item 14* |
| **Difference** | [7] n/a<br>*Item 4 – Item 1* | [8] n/a<br>*Item 5 – Item 2* | [9] n/a<br>*Item 6 – Item 3* |
| **Difference**<br>(as % of pre-developed) | [10] n/a<br>*Item 7 / Item 1* | [11] n/a<br>*Item 8 / Item 2* | [12] n/a<br>*Item 9 / Item 3* |

## Form 4.2-3 HCOC Assessment for Runoff Volume

| Compute weighted curve number for pre and post developed conditions | Pre-developed DA<br>*Add more columns if more than 4 DMA* | | | | Post-developed DA<br>*Add more columns if more than 4 DMA* | | | |
|---|---|---|---|---|---|---|---|---|
| | DMA A | DMA B | DMA C | DMA D | DMA A | DMA B | DMA C | DMA D |
| [1] **Land Cover type** | | | | | | | | |
| [2] **Hydrologic Soil Group (HSG)** | | | | | | | | |
| [3] **DMA Area, ft²**<br>*sum of areas of DMA should equal area of DA* | | | | | | | | |
| [4] **Curve Number (CN)**<br>*Use Items 1 and 2 to select the appropriate CN from Appendix C-2 of the TGD for WQMP* | | | | | | | | |
| | [5] **Pre-Developed area-weighted CN:** | | | | [6] **Post-Developed area-weighted CN:** | | | |
| | [7] **Pre-developed soil storage capacity, S (in):**<br>*S = (1000 / Item 5) - 10* | | | | [8] **Post-developed soil storage capacity, S (in):**<br>*S = (1000 / Item 6) - 10* | | | |
| | [9] **Initial abstraction, $I_a$ (in):**<br>*$I_a$ = 0.2 * Item 7* | | | | [10] **Initial abstraction, $I_a$ (in):**<br>*$I_a$ = 0.2 * Item 8* | | | |
| [11] **Precipitation for 2 yr, 24 hr storm (in):**<br>*Go to: http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html* | | | | | | | | |
| [12] **Pre-developed Volume (ft³):**<br>*$V_{pre}$ =(1 / 12) * (Item sum of Item 3) * [(Item 11 – Item 9)^2 / ((Item 11 – Item 9 + Item 7)* | | | | | | | | |
| [13] **Post-developed Volume (ft³):**<br>*$V_{pre}$ =(1 / 12) * (Item sum of Item 3) * [(Item 11 – Item 10)^2 / ((Item 11 – Item 10 + Item 8)* | | | | | | | | |
| [14] **Volume Reduction needed to meet HCOC Requirement, (ft³):**<br>*$V_{HCOC}$ = (Item 13 * 0.95) – Item 12* | | | | | | | | |

## Form 4.2-4 HCOC Assessment for Time of Concentration

**Compute time of concentration for pre and post developed conditions for each DA** *(For projects using the Hydrology Manual complete the form below)*

| Variables | Pre-developed DA<br>*Add more columns if more than 4 DMA* | | | | Post-developed DA<br>*Add more columns if more than 4 DMA* | | | |
|---|---|---|---|---|---|---|---|---|
| | DMA A | DMA B | DMA C | DMA D | DMA A | DMA B | DMA C | DMA D |
| [1] **Length of flowpath (ft)**<br>*Use Form 3-2 Item 5 for pre-developed condition* | | | | | | | | |
| [2] **Change in elevation (ft)** | | | | | | | | |
| [3] **Slope (ft/ft), So = Item 2 / Item 1** | | | | | | | | |
| [4] **Land cover** | | | | | | | | |
| [5] **Initial DMA Time of Concentration (min)**<br>*Appendix C-1 of the TGD for WQMP* | | | | | | | | |
| [6] **Length of conveyance from DMA outlet to project site outlet (ft)**<br>*May be zero if DMA outlet is at project site outlet* | | | | | | | | |
| [7] **Cross-sectional area of channel (ft2)** | | | | | | | | |
| [8] **Wetted perimeter of channel (ft)** | | | | | | | | |
| [9] **Manning's roughness of channel (n)** | | | | | | | | |
| [10] **Channel flow velocity (ft/sec)**<br>$V_{fps}$ = (1.49 /Item 9) * (Item 7/Item 8)$^{0.67}$ * (Item 3)$^{0.5}$ | | | | | | | | |
| [11] **Travel time to outlet (min)**<br>$T_t$ = Item 6 / (Item 10 * 60) | | | | | | | | |
| [12] **Total time of concentration (min)**<br>$T_c$ = Item 5 + Item 11 | | | | | | | | |
| [13] **Pre-developed time of concentration (min):**<br>*Minimum of Item 12 pre-developed DMA* | | | | | | | | |
| [14] **Post-developed time of concentration (min):**<br>*Minimum of Item 12 post-developed DMA* | | | | | | | | |
| [15] **Additional time of concentration needed to meet HCOC requirement (min):**<br>$T_{c\text{-}HCOC}$ = (Item 14 * 0.95) – Item 13 | | | | | | | | |

# Form 4.2-5 HCOC Assessment for Peak Runoff

**Compute peak runoff for pre and post developed conditions**

| Variables | | Pre-developed DA<br>*Add more columns if more than 3 DMA* | | | Post-developed DA<br>*Add more columns if more than 3 DMA* | | |
|---|---|---|---|---|---|---|---|
| | | DMA A | DMA B | DMA C | DMA A | DMA B | DMA C |
| [1] **Rainfall Intensity for storm duration equal to time of concentration**<br>*$I_{peak}$ = 10^(LOG Form 4.2-1 Item 4 - 0.6 LOG Form 4.2-4 Item 5 /60)* | | | | | | | |
| [2] **Drainage Area of each DMA (ft2)**<br>*For DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)* | | | | | | | |
| [3] **Ratio of pervious area to total area**<br>*For DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)* | | | | | | | |
| [4] **Pervious area infiltration rate (in/hr)**<br>*Use pervious area CN and antecedent moisture condition with Appendix C-3 of the TGD for WQMP* | | | | | | | |
| [5] **Maximum loss rate (in/hr)**<br>*$F_m$ = Item 3 * Item 4*<br>*Use area-weighted Fm from DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)* | | | | | | | |
| [6] **Peak Flow from DMA (cfs)**<br>*$Q_p$ =Item 2 * 0.9 * (Item 1 - Item 5)* | | | | | | | |
| [7] **Time of concentration adjustment factor for other DMA to site discharge point**<br>*Form 4.2-4 Item 12 DMA / Other DMA upstream of site discharge point (If ratio is greater than 1.0, then use maximum value of 1.0)* | **DMA A** | *n/a* | | | *n/a* | | |
| | **DMA B** | | *n/a* | | | *n/a* | |
| | **DMA C** | | | *n/a* | | | *n/a* |

| [8] **Pre-developed $Q_p$ at $T_c$ for DMA A:** | [9] **Pre-developed $Q_p$ at $T_c$ for DMA B:** | [10] **Pre-developed $Q_p$ at $T_c$ for DMA C:** |
|---|---|---|
| *$Q_p$ = Item $6_{DMAA}$ + [Item $6_{DMAB}$ * (Item $1_{DMAA}$ – Item $5_{DMAB}$) / (Item $1_{DMAB}$ - Item $5_{DMAB}$) * Item $7_{DMAA/2}$] + [Item $6_{DMAC}$ * (Item $1_{DMAA}$ - Item $5_{DMAC}$) / (Item $1_{DMAC}$ - Item $5_{DMAC}$) * Item $7_{DMAA/3}$]* | *$Q_p$ = Item $6_{DMAB}$ + [Item $6_{DMAA}$ * (Item $1_{DMAB}$ – Item $5_{DMAA}$) / (Item $1_{DMAA}$ - Item $5_{DMAA}$) * Item $7_{DMAB/1}$] + [Item $6_{DMAC}$ * (Item $1_{DMAB}$ - Item $5_{DMAC}$) / (Item $1_{DMAC}$ - Item $5_{DMAC}$) * Item $7_{DMAB/3}$]* | *$Q_p$ = Item $6_{DMAC}$ + [Item $6_{DMAA}$ * (Item $1_{DMAC}$ – Item $5_{DMAA}$) / (Item $1_{DMAA}$ - Item $5_{DMAA}$) * Item $7_{DMAC/1}$] + [Item $6_{DMAB}$ * (Item $1_{DMAC}$ - Item $5_{DMAB}$) / (Item $1_{DMAB}$ - Item $5_{DMAB}$) * Item $7_{DMAC/2}$]* |

**11 Peak runoff from pre-developed condition confluence analysis (cfs):**
*Maximum of Item 8, 9, and 10*

| ***12 Post-developed $Q_p$ at $T_c$ for DMA A:*** | ***13 Post-developed $Q_p$ at $T_c$ for DMA B:*** | ***14 Post-developed $Q_p$ at $T_c$ for DMA C:*** |
|---|---|---|
| *Same as Item 8 for post-developed values* | *Same as Item 9 for post-developed values* | *Same as Item 10 for post-developed values* |

***15 Peak runoff from post-developed condition confluence analysis (cfs):***
*Maximum of Item 12, 13, and 14*

***16 Peak runoff reduction needed to meet HCOC Requirement (cfs):***
*$Q_{p\text{-}HCOC}$ = (Item 14 * 0.95) – Item 11*

## 4.3 Project Conformance Analysis

Complete the following forms for each project site DA to document that the proposed LID BMPs conform to the project DCV developed to meet performance criteria specified in the MS4 Permit (WQMP Template Section 4.2). For the LID DCV, the forms are ordered according to hierarchy of BMP selection as required by the MS4 Permit (see Section 5.3.1 in the TGD for WQMP). The forms compute the following for on-site LID BMP:

- Site Design and Hydrologic Source Controls (Form 4.3-2)
- Retention and Infiltration (Form 4.3-3)
- Harvested and Use (Form 4.3-4) or
- Biotreatment (Form 4.3-5).

At the end of each form, additional fields facilitate the determination of the extent of mitigation provided by the specific BMP category, allowing for use of the next category of BMP in the hierarchy, if necessary.

The first step in the analysis, using Section 5.3.2.1 of the TGD for WQMP, is to complete Forms 4.3-1 and 4.3-3) to determine if retention and infiltration BMPs are infeasible for the project. For each feasibility criterion in Form 4.3-1, if the answer is "Yes," provide all study findings that includes relevant calculations, maps, data sources, etc. used to make the determination of infeasibility.

Next, complete Forms 4.3-2 and 4.3-4 to determine the feasibility of applicable HSC and harvest and use BMPs, and, if their implementation is feasible, the extent of mitigation of the DCV.

If no site constraints exist that would limit the type of BMP to be implemented in a DA, evaluate the use of combinations of LID BMPs, including all applicable HSC BMPs to maximize on-site retention of the DCV. If no combination of BMP can mitigate the entire DCV, implement the single BMP type, or combination of BMP types, that maximizes on-site retention of the DCV within the minimum effective area.

If the combination of LID HSC, retention and infiltration, and harvest and use BMPs are unable to mitigate the entire DCV, then biotreatment BMPs may be implemented by the project proponent. If biotreatment BMPs are used, then they must be sized to provide sufficient capacity for effective treatment of the remainder of the volume-based performance criteria that cannot be achieved with LID BMPs (TGD for WQMP Section 5.4.4.2). Under no circumstances shall any portion of the DCV be released from the site without effective mitigation and/or treatment.

| **Form 4.3-1 Infiltration BMP Feasibility** |
|---|
| Feasibility Criterion – Complete evaluation for each DA on the Project Site |
| [1] **Would infiltration BMP pose significant risk for groundwater related concerns?** ☐Yes ☒No<br>*Refer to Section 5.3.2.1 of the TGD for WQMP* |
| If Yes, Provide basis: (attach) |
| [2] **Would installation of infiltration BMP significantly increase the risk of geotechnical hazards?** ☐Yes ☒No<br>*(Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert):*<br>• *The location is less than 50 feet away from slopes steeper than 15 percent*<br>• *The location is less than eight feet from building foundations or an alternative setback.*<br>• *A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.* |
| If Yes, Provide basis: (attach) |
| [3] **Would infiltration of runoff on a Project site violate downstream water rights?** ☐Yes ☒No |
| If Yes, Provide basis: (attach) |
| [4] **Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils?** ☐Yes ☒No |
| If Yes, Provide basis: (attach) |
| [5] **Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)?** ☐Yes ☒No |
| If Yes, Provide basis: (attach) |
| [6] **Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses?** ☐Yes ☒No<br>*See Section 3.5 of the TGD for WQMP and WAP* |
| If Yes, Provide basis: (attach) |
| [7] **Any answer from Item 1 through Item 3 is "Yes":** ☐Yes ☒No<br>*If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Harvest and Use BMP. If no, then proceed to Item 9 below.* |
| [8] **Any answer from Item 4 through Item 6 is "Yes":** ☐Yes ☒No<br>*If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.3-2, Hydrologic Source Control BMP.*<br>*If no, then proceed to Item 9, below.* |
| [9] **All answers to Item 1 through Item 6 are "No":** ☒Yes ☐No<br>*Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designed to infiltrate the full DCV to the MEP.*<br>*Proceed to Form 4.3-2, Hydrologic Source Control BMP.* |

This infiltration BMP feasibility form applies to every DMA on the project site.

### 4.3.1 Site Design Hydrologic Source Control BMP

Section XI.E. of the Permit emphasizes the use of LID preventative measures; and the use of LID HSC BMPs reduces the portion of the DCV that must be addressed in downstream BMPs. Therefore, all applicable HSC shall be provided except where they are mutually exclusive with each other, or with other BMPs. Mutual exclusivity may result from overlapping BMP footprints such that either would be potentially feasible by itself, but both could not be implemented. Please note that while there are no numeric standards regarding the use of HSC, if a project cannot feasibly meet BMP sizing requirements or cannot fully address HCOCs, feasibility of all applicable HSC must be part of demonstrating that the BMP system has been designed to retain the maximum feasible portion of the DCV. Complete Form 4.3-2 to identify and calculate estimated retention volume from implementing site design HSC BMP. Refer to Section 5.4.1 in the TGD for more detailed guidance.

## Form 4.3-2 Site Design Hydrologic Source Control BMPs

| | | | |
|---|---|---|---|
| [1] **Implementation of Impervious Area Dispersion BMP (i.e. routing runoff from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP):** ☐Yes ☒No<br>*If yes, complete Items 2-5; If no, proceed to Item 6* | | | |
| **Variables**<br>*Aggregate impervious area dispersion with equal ratios of pervious to impervious;* | **BMP Type and DA** | **BMP Type and DA** | **BMP Type and DA** |
| [2] **Total impervious area draining to pervious area** | | | |
| [3] **Ratio of pervious area receiving runoff to impervious area** | | | |
| [4] **Retention volume achieved from impervious area dispersion ($ft^3$)**<br>*V = Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of runoff* | | | |
| [5] **Sum of retention volume achieved from impervious area dispersion ($ft^3$): 0**<br>*$V_{retention}$ = Sum of Item 4 for all BMPs* | | | |
| [6] **Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens):** ☐Yes ☒No<br>*If yes, complete Items 7-13 for aggregate of all on-lot infiltration BMP in each DA; If no, proceed to Item 14* | **BMP Type and DA** | **BMP Type and DA** | **BMP Type and DA** |
| [7] **Ponding surface area ($ft^2$)** | | | |
| [8] **Ponding depth (ft)** | | | |
| [9] **Surface area of amended soil/gravel ($ft^2$)** | | | |
| [10] **Average depth of amended soil/gravel (ft)** | | | |
| [11] **Average porosity of amended soil/gravel** | | | |
| [12] **Retention volume achieved from on-lot infiltration ($ft^3$)**<br>*$V_{retention}$ = (Item 7 *Item 8) + (Item 9 * Item 10 * Item 11)* | | | |
| [13] **Runoff volume retention from on-lot infiltration ($ft^3$): 0**<br>*$V_{retention}$ = Sum of Item 12 for all BMPs* | | | |
| [14] **Implementation of evapotranspiration BMP (green, brown, or blue roofs):** ☐Yes ☒No<br>*If yes, complete Items 15-20. If no, proceed to Item 21* | **BMP Type and DA** | **BMP Type and DA** | **BMP Type and DA** |
| [15] **Rooftop area planned for ET BMP ($ft^2$)** | | | |
| [16] **Average wet season ET demand (in/day)**<br>*Use local values, typical ~ 0.1* | | | |
| [17] **Daily ET demand ($ft^3$/day)**<br>*Item 15 * (Item 16 / 12)* | | | |
| [18] **Drawdown time (hrs)**<br>*Copy Item 6 in Form 4.2-1* | | | |
| [19] **Retention Volume ($ft^3$)**<br>*$V_{retention}$ = Item 17 * (Item 18 / 24)* | | | |
| [20] **Runoff volume retention from evapotranspiration BMPs ($ft^3$): 0**<br>*V = Sum of Item 19 for all BMPs* | | | |
| [21] **Implementation of Street Trees:** ☐Yes ☒No<br>*If yes, complete Items 20-2. If no, proceed to Item 26* | **BMP Type and DA** | **BMP Type and DA** | **BMP Type and DA** |
| [22] **Number of Street Trees** | | | |
| [23] **Average canopy cover over impervious area ($ft^2$)** | | | |
| [24] **Runoff volume retention from street trees ($ft^3$)**<br>*$V_{retention}$ = Item 22 * Item 23 * (0.05/12) assume runoff retention of 0.05 inches* | | | |
| [25] **Runoff volume retention from street tree BMPs ($ft^3$): 0**<br>*$V_{retention}$ = Sum of Item 24 for all BMPs* | | | |
| [26] **Implementation of residential rain barrels/cisterns:** ☐Yes ☒No<br>*If yes, complete Items 27-28; If no, proceed to Item 30* | **BMP Type and DA** | **BMP Type and DA** | **BMP Type and DA** |
| [27] **Number of rain barrels/cisterns** | | | |
| [28] **Runoff volume retention from rain barrels/cisterns ($ft^3$)**<br>*$V_{retention}$ = Item 27 * 3* | | | |
| [29] **Runoff volume retention from residential rain barrels/Cisterns ($ft^3$): 0**<br>*$V_{retention}$ =Sum of Item 28 for all BMPs* | | | |
| [30] **Total Retention Volume from Site Design Hydrologic Source Control BMPs: 0**<br>*Sum of Items 5, 13, 20, 25 and 29* | | | |

### 4.3.2 Infiltration BMPs

Use Form 4.3-3 to compute on-site retention of runoff from proposed retention and infiltration BMPs. Volume retention estimates are sensitive to the percolation rate used, which determines the amount of runoff that can be infiltrated within the specified drawdown time. The infiltration safety factor reduces field measured percolation to account for potential inaccuracy associated with field measurements, declining BMP performance over time, and compaction during construction. Appendix D of the TGD for WQMP provides guidance on estimating an appropriate safety factor to use in Form 4.3-3.

If site constraints limit the use of BMPs to a single type and implementation of retention and infiltration BMPs mitigate no more than 40% of the DCV, then they are considered infeasible and the Project Proponent may evaluate the effectiveness of BMPs lower in the LID hierarchy of use (Section 5.5.1 of the TGD for WQMP)

If implementation of infiltrations BMPs is feasible as determined using Form 4.3-1, then LID infiltration BMPs shall be implemented to the MEP (section 4.1 of the TGD for WQMP).

# Form 4.3-3 Infiltration LID BMP (including underground BMPs)

| | | | |
|---|---|---|---|
| [1] **Remaining LID DCV not met by site design HSC BMP ($ft^3$):** 28,920<br>*V = Form 4.2-1 Item 7 - Form 4.3-2 Item 30* | | | |
| **BMP Type**<br>*Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP)* | **DA 1 DMA A** | **n/a** | **n/a** |
| [2] **Infiltration rate of underlying soils (in/hr)**<br>*See Section 5.4.2 and Appendix D of the TGD for WQMP for minimum requirements for assessment methods* | 13.0 | n/a | n/a |
| [3] **Infiltration safety factor**<br>*See TGD Section 5.4.2 and Appendix D* | 2.0 | n/a | n/a |
| [4] **Design percolation rate (in/hr)**<br>*$P_{design}$ = Item 2 / Item 3* | 6.5 | n/a | n/a |
| [5] **Ponded water drawdown time (hr)**<br>*Copy Item 6 in Form 4.2-1* | 24 | n/a | n/a |
| [6] **Maximum ponding depth (ft)**<br>*BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details* | 4.45' (53.4") | n/a | n/a |
| [7] **Ponding Depth (ft)**<br>*$d_{BMP}$ = Minimum of (1/12 * Item 4 * Item 5) or Item 6* | 4.45' (53.4") | n/a | n/a |
| [8] **Infiltrating surface area, SA ($ft^2$)**<br>*The lesser of the area needed for BMP infiltration of full DCV or minimum space requirements from Table 5-7 of the TGD for WQMP* | 8,682 | n/a | n/a |
| [9] **Amended soil depth, $d_{media}$ (ft)**<br>*Only included in certain BMP types, see Table 5-4 in the TGD for WQMP for reference to BMP design details* | n/a | n/a | n/a |
| [10] **Amended soil porosity** | n/a | n/a | n/a |
| [11] **Gravel depth, $d_{media}$ (ft)**<br>*Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details* | 0.75 | n/a | n/a |
| [12] **Gravel porosity** | 0.40 | n/a | n/a |
| [13] **Duration of storm as basin is filling (hrs)**<br>*Typical ~ 3hrs* | 3 | n/a | n/a |
| [14] **Above Ground Retention Volume ($ft^3$)**<br>*$V_{retention}$ = Item 8 * [Item7 + (Item 9 retention * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]* | n/a | n/a | n/a |
| [15] **Underground Retention Volume ($ft^3$)**<br>*Volume determined using manufacturer's specifications and calculations* | 29,093<br>(see Attach. B for volume calculations) | n/a | n/a |
| [16] **Total Retention Volume from LID Infiltration BMPs ($ft^3$):** 29,093<br>*(Sum of Items 14 and 15 for all infiltration BMP included in plan)* | | | |
| [17] **Fraction of DCV achieved with infiltration BMP:** 100%<br>*Retention% = Item 16 / Form 4.2-1 Item 7* | | | |
| [18] **Is full LID DCV retained on-site with combination of hydrologic source control and LID retention and infiltration BMPs?** ☒Yes ☐No<br>*If yes, demonstrate conformance using Form 4.3-10; If no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations.* | | | |

### 4.3.3 Harvest and Use BMP

Harvest and use BMP may be considered if the full LID DCV cannot be met by maximizing infiltration BMPs. Use Form 4.3-4 to compute on-site retention of runoff from proposed harvest and use BMPs.

Volume retention estimates for harvest and use BMPs are sensitive to the on-site demand for captured stormwater. Since irrigation water demand is low in the wet season, when most rainfall events occur in San Bernardino County, the volume of water that can be used within a specified drawdown period is relatively low. The bottom portion of Form 4.3-4 facilitates the necessary computations to show infeasibility if a minimum incremental benefit of 40 percent of the LID DCV would not be achievable with MEP implementation of on-site harvest and use of stormwater (Section 5.5.4 of the TGD for WQMP).

| Form 4.3-4 Harvest and Use BMPs | | | |
|---|---|---|---|
| [1] **Remaining LID DCV not met by site design HSC or infiltration BMP ($ft^3$):**<br>$V_{unmet}$ = Form 4.2-1 Item 7 - Form 4.3-2 Item 30 – Form 4.3-3 Item 16 | | | |
| **BMP Type(s)**<br>*Compute runoff volume retention from proposed harvest and use BMP (Select BMPs from Table 5-4 of the TGD for WQMP)* | **BMP Type and DA** | **BMP Type and DA** | **BMP Type and DA** |
| [2] **Describe cistern or runoff detention facility** | | | |
| [3] **Storage volume for proposed detention type ($ft^3$)**<br>*Volume of cistern* | | | |
| [4] **Landscaped area planned for use of harvested stormwater ($ft^2$)** | | | |
| [5] **Average wet season daily irrigation demand (in/day)**<br>*Use local values, typical ~ 0.1 in/day* | | | |
| [6] **Daily water demand ($ft^3$/day)**<br>*Item 4 * (Item 5 / 12)* | | | |
| [7] **Drawdown time (hrs)**<br>*Copy Item 6 from Form 4.2-1* | | | |
| [8] **Retention Volume ($ft^3$)**<br>*$V_{retention}$ = Minimum of (Item 3) or (Item 6 * (Item 7 / 24))* | | | |
| [9] **Total Retention Volume ($ft^3$) from Harvest and Use BMP:**<br>*Sum of Item 8 for all harvest and use BMP included in plan* | | | |
| [10] **Is the full DCV retained with a combination of LID HSC, retention and infiltration, and harvest and use BMPs?** ☐Yes ☐No<br>*If yes, demonstrate conformance using Form 4.3-10. If no, then re-evaluate combinations of all LID BMP and optimize their implementation such that the maximum portion of the DCV is retained on-site (using a single BMP type or combination of BMP types). If the full DCV cannot be mitigated after this optimization process, proceed to Section 4.3.4.* | | | |

### 4.3.4 Biotreatment BMP

Biotreatment BMPs may be considered if the full LID DCV cannot be met by maximizing retention and infiltration, and harvest and use BMPs. A key consideration when using biotreatment BMP is the effectiveness of the proposed BMP in addressing the pollutants of concern for the project (see Table 5-5 of the TGD for WQMP).

Use Form 4.3-5 to summarize the potential for volume based and/or flow based biotreatment options to biotreat the remaining unmet LID DCV. Biotreatment computations are included as follows:

- Use Form 4.3-6 to compute biotreatment in small volume based biotreatment BMP (e.g. bioretention w/underdrains);
- Use Form 4.3-7 to compute biotreatment in large volume based biotreatment BMP (e.g. constructed wetlands);
- Use Form 4.3-8 to compute sizing criteria for flow-based biotreatment BMP (e.g. bioswales)

| **Form 4.3-5 Selection and Evaluation of Biotreatment BMP** | | |
|---|---|---|
| [1] **Remaining LID DCV not met by site design HSC, infiltration, or harvest and use BMP for potential biotreatment ($ft^3$):**<br>*Form 4.2-1 Item 7 – Form 4.3-2 Item 30 – Form 4.3-3 Item 16- Form 4.3-4 Item 9* | **List pollutants of concern**<br>*Copy from Form 2.3-1* | |
| [2] **Biotreatment BMP Selected**<br>*(Select biotreatment BMP(s) necessary to ensure all pollutants of concern are addressed through Unit Operations and Processes, described in Table 5-5 of the TGD for WQMP)* | **Volume-based biotreatment**<br>*Use Forms 4.3-6 and 4.3-7 to compute treated volume* | **Flow-based biotreatment**<br>*Use Form 4.3-8 to compute treated volume* |
| | ☐ Bioretention with underdrain<br>☐ Planter box with underdrain<br>☐ Constructed wetlands<br>☐ Wet extended detention<br>☐ Dry extended detention | ☐ Vegetated swale<br>☐ Vegetated filter strip<br>☐ Proprietary biotreatment |
| [3] **Volume biotreated in volume based biotreatment BMP ($ft^3$):**<br>*Form 4.3-6 Item 15 + Form 4.3-7 Item 13* | [4] **Compute remaining LID DCV with implementation of volume based biotreatment BMP ($ft^3$):**<br>*Item 1 – Item 3* | [5] **Remaining fraction of LID DCV for sizing flow based biotreatment BMP: %** *Item 4 / Item 1* |
| [6] **Flow-based biotreatment BMP capacity provided (cfs):**<br>*Use Figure 5-2 of the TGD for WQMP to determine flow capacity required to provide biotreatment of remaining percentage of unmet LID DCV (Item 5), for the project's precipitation zone (Form 3-1 Item 1)* | | |
| [7] **Metrics for MEP determination:**<br>☐ **Provided a WQMP with the portion of site area used for suite of LID BMP equal to minimum thresholds in Table 5-7 of the TGD for WQMP for the proposed category of development:**<br>*If maximized on-site retention BMPs is feasible for partial capture, then LID BMP implementation must be optimized to retain and infiltrate the maximum portion of the DCV possible within the prescribed minimum effective area. The remaining portion of the DCV shall then be mitigated using biotreatment BMP.* | | |

| Form 4.3-6 Volume Based Biotreatment – Bioretention and Planter Boxes with Underdrains | | | |
|---|---|---|---|
| **BMP Type(s)**<br>*Compute runoff volume retention from proposed harvest and use BMP (Select BMPs from Table 5-4 of the TGD for WQMP)* | **BMP Type and DA** | **BMP Type and DA** | **BMP Type and DA** |
| [1] **Pollutants addressed with BMP**<br>*List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP* | | | |
| [2] **Amended soil infiltration rate**<br>*Typical ~ 5.0 in/hr* | | | |
| [3] **Amended soil infiltration safety factor**<br>*Typical ~ 2.0* | | | |
| [4] **Amended soil design percolation rate (in/hr)**<br>$P_{design}$ *= Item 2 / Item 3* | | | |
| [5] **Ponded water drawdown time (hr)**<br>*Copy Item 6 from Form 4.2-1* | | | |
| [6] **Maximum ponding depth (ft)**<br>*See Table 5-6 of the TGD for WQMP for reference to BMP design details* | | | |
| [7] **Ponding Depth (ft)**<br>$d_{BMP}$ *= Minimum of (1/12 * Item 4 * Item 5) or Item 6* | | | |
| [8] **Amended soil surface area ($ft^2$)** | | | |
| [9] **Amended soil depth (ft)**<br>*See Table 5-6 of the TGD for WQMP for reference to BMP design details* | | | |
| [10] **Amended soil porosity, *n*** | | | |
| [11] **Gravel depth (ft)**<br>*See Table 5-6 of the TGD for WQMP for reference to BMP design details* | | | |
| [12] **Gravel porosity, *n*** | | | |
| [13] **Duration of storm as basin is filling (hrs)**<br>*Typical ~ 3hrs* | | | |
| [14] **Biotreated Volume ($ft^3$)**<br>$V_{biotreated}$ *= Item 8 * [(Item 7/2) + (Item 9 * Item 10) +(Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]* | | | |
| [15] **Total biotreated volume from bioretention and/or planter box with underdrains BMP:**<br>*Sum of Item 14 for all volume-based BMPs included in this form* | | | |

## Form 4.3-7 Volume Based Biotreatment – Constructed Wetlands and Extended Detention

| **Biotreatment BMP Type**<br>*Constructed wetlands, extended wet detention, extended dry detention, or other comparable proprietary BMP. If BMP includes multiple modules (e.g. forebay and main basin), provide separate estimates for storage and pollutants treated in each module.* | **BMP Type and DA** | | **BMP Type and DA** | | **BMP Type and DA** | |
|---|---|---|---|---|---|---|
| | **Forebay** | **Basin** | **Forebay** | **Basin** | **Forebay** | **Basin** |
| [1] **Pollutants addressed with BMP forebay and basin**<br>*List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP* | | | | | | |
| [2] **Bottom width (ft)** | | | | | | |
| [3] **Bottom length (ft)** | | | | | | |
| [4] **Bottom area ($ft^2$)**<br>$A_{bottom}$ = *Item 2 * Item 3* | | | | | | |
| [5] **Side slope (ft/ft)** | | | | | | |
| [6] **Depth of storage (ft)** | | | | | | |
| [7] **Water surface area (ft2)**<br>$A_{surface}$ = *(Item 2 + (2 * Item 5 * Item 6)) * (Item 3 + (2 * Item 5 * Item 6))* | | | | | | |
| [8] **Storage volume (ft3)**<br>*For BMP with a forebay, ensure fraction of total storage is within ranges specified in BMP specific fact sheets, see Table 5-6 of the TGD for WQMP for reference to BMP design details V =Item 6 / 3 * [Item 4 + Item 7 + (Item 4 * Item 7)$^{0.5}$]* | | | | | | |
| [9] **Drawdown Time (hrs)**<br>*Copy Item 6 from Form 2.1* | | | | | | |
| [10] **Outflow rate (cfs)**<br>$Q_{BMP}$ = *(Item* $8_{forebay}$ *+ Item* $8_{basin}$*) / (Item 9 * 3600)* | | | | | | |
| [11] **Duration of design storm event (hrs)** | | | | | | |
| [12] **Biotreated Volume ($ft^3$)**<br>$V_{biotreated}$ = *(Item* $8_{forebay}$ *+ Item* $8_{basin}$*) +( Item 10 * Item 11 * 3600)* | | | | | | |
| [13] **Total biotreated volume from constructed wetlands, extended dry detention, or extended wet detention:**<br>*(Sum of Item 12 for all BMP included in plan)* | | | | | | |

| Form 4.3-8 Flow Based Biotreatment | | | |
|---|---|---|---|
| **Biotreatment BMP Type**<br>*Vegetated swale, vegetated filter strip, or other comparable proprietary BMP* | **BMP Type and DA** | **BMP Type and DA** | **BMP Type and DA** |
| [1] **Pollutants addressed with BMP**<br>*List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in TGD Table 5-5* | | | |
| [2] **Flow depth for water quality treatment (ft)**<br>*BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details* | | | |
| [3] **Bed slope (ft/ft)**<br>*BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details* | | | |
| [4] **Manning's roughness coefficient** | | | |
| [5] **Bottom width (ft)**<br>$b_w$ = (Form 4.3-5 Item 6 * Item 4) / (1.49 * Item $2^{1.67}$ * Item $3^{0.5}$) | | | |
| [6] **Side Slope (ft/ft)**<br>*BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details* | | | |
| [7] **Cross sectional area ($ft^2$)**<br>*A = (Item 5 * Item 2) + (Item 6 * Item 2^2)* | | | |
| [8] **Water quality flow velocity (ft/sec)**<br>*V = Form 4.3-5 Item 6 / Item 7* | | | |
| [9] **Hydraulic residence time (min)**<br>*Pollutant specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details* | | | |
| [10] **Length of flow based BMP (ft)**<br>*L = Item 8 * Item 9 * 60* | | | |
| [11] **Water surface area at water quality flow depth (ft2)**<br>$SA_{top}$ = (Item 5 + (2 * Item 2 * Item 6)) * Item 10 | | | |

### 4.3.5 Conformance Summary

Complete Form 4.3-9 to demonstrate how on-site LID DCV is met with proposed site design hydrologic source control, infiltration, harvest and use, and/or biotreatment BMP. The bottom line of the form is used to describe the basis for infeasibility determination for on-site LID BMP to achieve full LID DCV, and provides methods for computing remaining volume to be addressed in an alternative compliance plan. If the project has more than one outlet, then complete additional versions of this form for each outlet.

| **Form 4.3-9 Conformance Summary and Alternative Compliance Volume Estimate** |
|---|
| [1] **Total LID DCV for the Project ($ft^3$):** 28,920<br>*Copy Item 7 in Form 4.2-1* |
| [2] **On-site retention with site design hydrologic source control LID BMP ($ft^3$):** 0<br>*Copy Item 30 in Form 4.3-2* |
| [3] **On-site retention with LID infiltration BMP ($ft^3$):** 29,093<br>*Copy Item 16 in Form 4.3-3* |
| [4] **On-site retention with LID harvest and use BMP ($ft^3$):** 0<br>*Copy Item 9 in Form 4.3-4* |
| [5] **On-site biotreatment with volume based biotreatment BMP ($ft^3$):** 0<br>*Copy Item 3 in Form 4.3-5* |
| [6] **Flow capacity provided by flow based biotreatment BMP (cfs):** 0<br>*Copy Item 6 in Form 4.3-5* |
| [7] **LID BMP performance criteria are achieved if answer to any of the following is "Yes":**<br>• **Full retention of LID DCV with site design HSC, infiltration, or harvest and use BMP:** ☒Yes ☐No<br>*If yes, sum of Items 2, 3, and 4 is greater than Item 1*<br>• **Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV:** ☐Yes ☒No<br>*If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3--5 Item 6 and Items 2, 3 and 4 are maximized*<br>• **On-site retention and infiltration is determined to be infeasible and biotreatment BMP provide biotreatment for all pollutants of concern for full LID DCV:** ☐Yes ☒No<br>*If yes, Form 4.3-1 Items 7 and 8 were both checked yes* |
| [8] **If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which caused the need for alternative compliance:**<br>☐ **Combination of HSC, retention and infiltration, harvest and use, and biotreatment BMPs provide less than full LID DCV capture.**<br>*Checked yes for Form 4.3-5 Item 7, Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, $V_{alt}$ = (Item 1 – Item 2 – Item 3 – Item 4 – Item 5) * (100 - Form 2.4-1 Item 2)%*<br>☐ **An approved Watershed Action Plan (WAP) demonstrates that water quality and hydrologic impacts of urbanization are more effective when managed in at an off-site facility.**<br>*Attach appropriate WAP section, including technical documentation, showing effectiveness comparisons for the project site and regional watershed* |

### 4.3.6 Hydromodification Control BMP

Use Form 4.3-10 to compute the remaining runoff volume retention, after LID BMP are implemented, needed to address HCOC, and the increase in time of concentration and decrease in peak runoff necessary to meet targets for protection of waterbodies with a potential HCOC. Describe hydromodification control BMP that address HCOC, which may include off-site BMP and/or in-stream controls. Section 5.6 of the TGD for WQMP provides additional details on selection and evaluation of hydromodification control BMP.

| Form 4.3-10 Hydromodification Control BMPs | |
|---|---|
| [1] **Volume reduction needed for HCOC performance criteria ($ft^3$):**<br>*(Form 4.2-2 Item 4 * 0.95) – Form 4.2-2 Item 1* | [2] **On-site retention with site design hydrologic source control, infiltration, and harvest and use LID BMP ($ft^3$):**<br>*Sum of Form 4.3-9 Items 2, 3, and 4. Evaluate option to increase implementation of on-site retention in Forms 4.3-2, 4.3-3, and 4.3-4 in excess of LID DCV toward achieving HCOC volume reduction* |
| [3] **Remaining volume for HCOC volume capture ($ft^3$):**<br>*Item 1 – Item 2* | [4] **Volume capture provided by incorporating additional on-site or off-site retention BMPs ($ft^3$):**<br>*Existing downstream BMP may be used to demonstrate additional volume capture (if so, attach to this WQMP a hydrologic analysis showing how the additional volume would be retained during a 2-yr storm event for the regional watershed)* |
| [5] **If Item 4 is less than Item 3, incorporate in-stream controls on downstream waterbody segment to prevent impacts due to hydromodification** ☐<br>*Attach in-stream control BMP selection and evaluation to this WQMP* | |
| [6] **Is Form 4.2-2 Item 11 less than or equal to 5%:** ☐Yes ☐No<br>*If yes, HCOC performance criteria is achieved. If no, select one or more mitigation options below:*<br>☐ **Demonstrate increase in time of concentration achieved by proposed LID site design, LID BMP, and additional on-site or off-site retention BMP.**<br>*BMP upstream of a waterbody segment with a potential HCOC may be used to demonstrate increased time of concentration through hydrograph attenuation (if so, show that the hydraulic residence time provided in BMP for a 2-year storm event is equal or greater than the addition time of concentration requirement in Form 4.2-4 Item 15)*<br>☐ **Increase time of concentration by preserving pre-developed flow path and/or increase travel time by reducing slope and increasing cross-sectional area and roughness for proposed on-site conveyance facilities.**<br>☐ **Incorporate appropriate in-stream controls for downstream waterbody segment to prevent impacts due to hydromodification, in a plan approved and signed by a licensed engineer in the State of California.** | |
| [7] **Form 4.2-2 Item 12 less than or equal to 5%:** ☐Yes ☐No<br>*If yes, HCOC performance criteria are achieved. If no, select one or more mitigation options below:*<br>☐ **Demonstrate reduction in peak runoff achieved by proposed LID site design, LID BMPs, and additional on-site or off-site retention BMPs.**<br>*BMPs upstream of a waterbody segment with a potential HCOC may be used to demonstrate additional peak runoff reduction through hydrograph attenuation (if so, attach to this WQMP, a hydrograph analysis showing how the peak runoff would be reduced during a 2-yr storm event)*<br>☐ **Incorporate appropriate in-stream controls for downstream waterbody segment to prevent impacts due to hydromodification, in a plan approved and signed by a licensed engineer in the State of California.** | |

## 4.4 Alternative Compliance Plan (if applicable)

Describe an alternative compliance plan (if applicable) for projects not fully able to infiltrate, harvest and use, or biotreat the DCV via on-site LID practices. A project proponent must develop an alternative compliance plan to address the remainder of the LID DCV. Depending on project type some projects may qualify for water quality credits that can be applied to reduce the DCV that must be treated prior to development of an alternative compliance plan (see Form 2.4-1, Water Quality Credits). Form 4.3-9 Item 8 includes instructions on how to apply water quality credits when computing the DCV that must be met through alternative compliance. Alternative compliance plans may include one or more of the following elements:

- On-site structural treatment control BMP - All treatment control BMP should be located as close to possible to the pollutant sources and should not be located within receiving waters;
- Off-site structural treatment control BMP - Pollutant removal should occur prior to discharge of runoff to receiving waters;
- Urban runoff fund or In-lieu program, if available

Depending upon the proposed alternative compliance plan, approval by the executive officer may or may not be required (see Section 6 of the TGD for WQMP).

# Section 5 Inspection and Maintenance Responsibility for Post Construction BMP

All BMP included as part of the project WQMP are required to be maintained through regular scheduled inspection and maintenance (refer to Section 8, Post Construction BMP Requirements, in the TGD for WQMP). Fully complete Form 5-1 summarizing all BMP included in the WQMP. Attach additional forms as needed. The WQMP shall also include a detailed Operation and Maintenance Plan for all BMP and may require a Maintenance Agreement (consult the jurisdiction's LIP). If a Maintenance Agreement is required, it must also be attached to the WQMP.

**Form 5-1 BMP Inspection and Maintenance**

| BMP | Responsible Party(ies) | Inspection/Maintenance Activities Required | Minimum Frequency of Activities |
|---|---|---|---|
| Underground Infiltration Chambers | Owner | The isolator row shall be inspected for debris and sediment accumulations and maintained by a qualified technician and he/she will properly dispose of all wastes and inspect for standing water. A manhole is installed in order to inspect and maintain the inlet row. All entry into the chamber system must be done per OSHA codes to ensure operator and inspector safety. Inspection ports should be checked 48 hours after storm events to see that the water is draining down, at least once each rainy season, following a major storm event. Records shall be maintained by owner to document inspections. | The isolator row shall be inspected semi-annually (by October 1st and February 1st) and cleaned by water-flush and vacuum when solids accumulate to 3" depth. Maintenance to be conducted through service contract with the vendor or equally qualified contractor. |
| Hydrodynamic Separator | Owner | Visual inspection to quantify the accumulation of hydrocarbons, trash, and sediment in the system. Use vacuum truck to clean and remove pollutants from the system upon reaching 75% capacity. Clean area outside of the screen if pollutant build-up exists. | Visually inspect twice a year (spring and fall) or as frequently as needed. Vacuum frequency as determined by inspection. |
| N1: Education of Property Owners, Tenants and Occupants on Stormwater BMPs | Owner | Property owner will familiarize him/herself with the educational materials in Attachment "E" and the contents of the WQMP. | Annually for all employees and within 2 months for new hires. |
| N2: Activity Restrictions | Owner | No outdoor work areas, processing, storage or wash area. | Ongoing |
| N3: Landscape Management BMPs | Owner | Irrigation must be consistent with the local agency's Water Conservation Ordinance. Fertilizer and pesticide usage will be consistent with local agency's Management Guidelines for Use of Fertilizers and Pesticides. | Ongoing |
| N4: BMP Maintenance | Owner | BMP maintenance, implementation schedules, and responsible parties are included with each specific BMP narrative. | As described in each BMP. |
| N7: Spill Contingency Plan | Owner | Owner/tenant will have a spill contingency plan based on individual site needs. | Ongoing |
| N10: Uniform Fire Code Implementation | Owner | Owner will comply with Article 80 of the Uniform Fire Code enforced by the fire protection agency. | Ongoing |
| N11: Litter/Debris Control Program | Owner | Contract with their landscape maintenance firm to provide this service during regularly schedule maintenance. | Weekly |

# Form 5-1 BMP Inspection and Maintenance

| BMP | Responsible Party(ies) | Inspection/Maintenance Activities Required | Minimum Frequency of Activities |
|---|---|---|---|
| N12: Employee Training | Owner | The owner will ensure that tenants are also familiar with onsite BMPs and necessary maintenance required of the tenants. Employees shall be trained to clean up spills and participate in ongoing maintenance. Owner will check with City and County at least once a year to obtain new or updated educational materials and provide these materials to tenants. Employees shall be trained to clean up spills and participate in ongoing maintenance. The WQMP requires annual employee training and new hires within 2 months. | Annually for all employees and within 2 months for new hires. |
| N13: Housekeeping of Loading Docks | Owner | Keep all fluids indoors. Clean up spills immediately and keep spills from entering storm drain system. No direct discharges into the storm drain system. Area shall be inspected weekly for proper containment and practices with spills cleaned up immediately and disposed of properly. | Ongoing |
| N14: Catch Basin Inspection Program | Owner | Monthly inspection by property owner's designee. Vacuum basin when sediment or trash becomes 2-inches deep and dispose of properly. | Monthly inspection and maintain as necessary. |
| N15: Vacuum Sweeping of Private Streets and Parking Lots | Owner | All landscape maintenance contractors will be required to sweep up all landscape cuttings, mowings and fertilizer materials off paved areas weekly and dispose of properly. Parking areas and drive ways will be swept monthly by sweeping contractor. | Monthly |
| N17: Comply with all other applicable NPDES permits | Owner | Will comply with Construction General Permit and Industrial General (may apply for No Exposure Certifiction/NEC). | Ongoing |
| S1: Provide storm drain system stenciling and signage (CASQA New Development BMP Handbook SD-13) | Owner | "No Dumping – Drains to River" stencils will be applied. Legibility of stencil will be maintained on a yearly basis. | Annually |
| S3: Design and construct trash and waste storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-32) | Owner | Paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements diverted around the area, screened or walled to prevent off-site transport of trash. Provide solid roof or awning to prevent direct contact with rainfall. | Ongoing |
| S4: Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12) | Owner | Irrigation systems shall include reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines. Timers will be used to avoid over watering and watering cycles and duration shall be adjusted seasonally by the landscape maintenance contractor. The landscaping areas will be grouped with plants that have similar water requirements. Native or drought tolerant species shall also be used where appropriate to reduce excess irrigation runoff and promote surface filtration. | Adjust watering cycles and duration seasonally / quarterly. |
| S5: Finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement | Owner | Landscaped areas will be depressed in order to increase retention of stormwater/irrigation water and promote infiltration. | Ongoing |

# Section 6 WQMP Attachments

## 6.1 Site Plan and Drainage Plan

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural Source Control BMP locations
- Site Design Hydrologic Source Control BMP locations
- LID BMP details
- Drainage delineations and flow information
- Drainage connections

See Attachment C for WQMP Site Map.

## 6.2 Electronic Data Submittal

Minimum requirements include submittal of PDF exhibits in addition to hard copies. Format must not require specialized software to open. If the local jurisdiction requires specialized electronic document formats (consult the LIP), this section will describe the contents (e.g., layering, nomenclature, geo-referencing, etc.) of these documents so that they may be interpreted efficiently and accurately.

## 6.3 Post Construction

Attach all O&M Plans and Maintenance Agreements for BMP to the WQMP (Attachment D).

## 6.4 Other Supporting Documentation

- WQMP Certification (Section 6.5)
- BMP Design Calculations & Supporting Documentation (Attachment B)
- Memorandum of Agreement for Water Quality Management Plan and Storm Water BMP Transfer, Access and Maintenance (Attachment D)
- BMP Educational Materials (Attachment E)
- Infiltration Report (Attachment F)

# 6.5 WQMP Certification

**Certifications**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Developer's Project Engineer Signature**

| | |
|---|---|
| Signature | Date |

I/we certify that I/we am/are the legal owner of the project and hereby accept responsibility for the implementation of the provisions of this SWQMP as long as I/we retain ownership of this property and that upon the sale of this land, I/we will deliver this plan to the future owner and inform him of the requirement to implement the plan.

**Owner(s) Signature**

| | |
|---|---|
| Stephen Batcheller | Western Regional Partner |
| Name | Title |
| | |
| Signature | Date |

*for use by City of Fontana only*

**Environmental Section Approval of SWQMP**

I, and /or personnel acting under my direction and supervision, have reviewed this SWQMP and find that it meets the requirements set forth in the City of Fontana's Storm Water Ordinance. Acceptance or approval of this Storm Water Quality Management Plan in no way precludes the authority of this agency to require modification to the plan as conditions warrant nor does this agency take responsibility for performance of BMPs provided for in the Plan.

| | |
|---|---|
| Signature | Date of SWQMP Approval |

# Attachment A
# Existing Condition Site Photos

# Attachment B
# BMP Design Calculations & Supporting Documentation

www.nws.noaa.gov

NOAA's National Weather Service
Hydrometeorological Design Studies Center
Precipitation Frequency Data Server (PFDS)



General Information
Homepage
Progress Reports
FAQ
Glossary

Precipitation Frequency
Data Server
GIS Grids
Maps
Time Series
Temporals
Documents

Probable Maximum Precipitation
Documents

Miscellaneous
Publications
Storm Analysis
Record Precipitation

Contact Us
Inquiries

# NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA

## Data description

**Data type:** Precipitation depth **Units:** English **Time series type:** Partial duration

## Select location

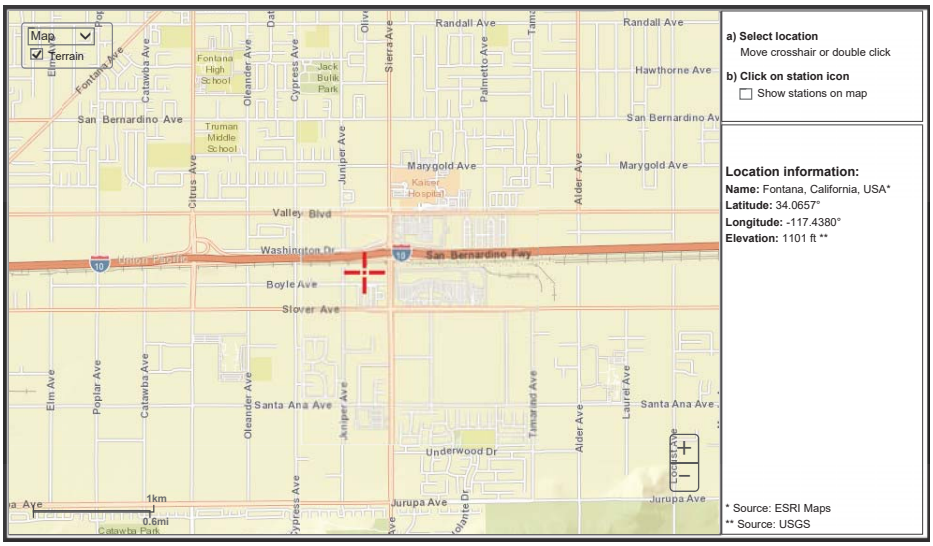
**1) Manually:**

**a) By location** (decimal degrees, use "-" for S and W): Latitude: 34.065745 Longitude: -117.43797 Submit

**b) By station** (list of CA stations): Select station

**c) By address** Search

**2) Use map** (if ESRI interactive map is not loading, try adding the host: **https://js.arcgis.com/** to the firewall, or contact us at hdsc.questions@noaa.gov):




**a) Select location**
Move crosshair or double click

**b) Click on station icon**
Show stations on map

**Location information:**
**Name:** Fontana, California, USA*
**Latitude:** 34.0657°
**Longitude:** -117.4380°
**Elevation:** 1101 ft **

* Source: ESRI Maps
** Source: USGS

## POINT PRECIPITATION FREQUENCY (PF) ESTIMATES

**WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION**
**NOAA Atlas 14, Volume 6, Version 2**

**PF tabular** PF graphical Supplementary information Print page

**PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)[1]**

| Duration | Average recurrence interval (years) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | 0.108 (0.090-0.131) | 0.141 (0.117-0.171) | 0.187 (0.155-0.227) | 0.225 (0.185-0.276) | 0.280 (0.223-0.356) | 0.324 (0.252-0.421) | 0.371 (0.281-0.494) | 0.421 (0.310-0.578) | 0.493 (0.348-0.705) | 0.551 (0.376-0.818) |
| 10-min | 0.154 (0.129-0.187) | 0.202 (0.168-0.245) | 0.268 (0.222-0.326) | 0.323 (0.266-0.396) | 0.401 (0.319-0.510) | 0.465 (0.362-0.604) | 0.532 (0.403-0.708) | 0.604 (0.445-0.828) | 0.706 (0.499-1.01) | 0.790 (0.538-1.17) |
| 15-min | 0.187 (0.156-0.226) | 0.245 (0.204-0.297) | 0.323 (0.269-0.394) | 0.390 (0.321-0.479) | 0.486 (0.386-0.617) | 0.562 (0.437-0.730) | 0.643 (0.488-0.856) | 0.730 (0.538-1.00) | 0.854 (0.603-1.22) | 0.956 (0.651-1.42) |
| 30-min | 0.280 (0.233-0.339) | 0.367 (0.305-0.445) | 0.485 (0.402-0.590) | 0.585 (0.481-0.718) | 0.727 (0.578-0.924) | 0.842 (0.655-1.09) | 0.964 (0.731-1.28) | 1.09 (0.806-1.50) | 1.28 (0.904-1.83) | 1.43 (0.976-2.12) |
| 60-min | 0.411 (0.342-0.498) | 0.538 (0.448-0.652) | 0.711 (0.590-0.865) | 0.858 (0.706-1.05) | 1.07 (0.848-1.36) | 1.24 (0.961-1.60) | 1.41 (1.07-1.88) | 1.61 (1.18-2.20) | 1.88 (1.33-2.69) | 2.10 (1.43-3.12) |
| 2-hr | 0.613 (0.511-0.743) | 0.793 (0.660-0.962) | 1.03 (0.857-1.26) | 1.23 (1.01-1.51) | 1.51 (1.20-1.92) | 1.73 (1.34-2.24) | 1.95 (1.48-2.60) | 2.19 (1.61-3.00) | 2.52 (1.78-3.60) | 2.78 (1.89-4.12) |
| 3-hr | 0.779 (0.649-0.944) | 1.00 (0.835-1.22) | 1.30 (1.08-1.58) | 1.54 (1.27-1.89) | 1.87 (1.49-2.38) | 2.13 (1.66-2.77) | 2.40 (1.82-3.19) | 2.67 (1.97-3.66) | 3.05 (2.15-4.36) | 3.35 (2.28-4.96) |
| 6-hr | 1.11 (0.926-1.35) | 1.43 (1.19-1.74) | 1.84 (1.53-2.24) | 2.18 (1.79-2.67) | 2.62 (2.09-3.33) | 2.96 (2.31-3.85) | 3.31 (2.51-4.41) | 3.66 (2.70-5.02) | 4.13 (2.92-5.92) | 4.50 (3.07-6.67) |
| 12-hr | 1.48 (1.23-1.79) | 1.91 (1.59-2.32) | 2.47 (2.05-3.00) | 2.91 (2.40-3.57) | 3.49 (2.78-4.44) | 3.93 (3.06-5.10) | 4.36 (3.31-5.81) | 4.80 (3.53-6.57) | 5.37 (3.79-7.69) | 5.81 (3.96-8.61) |
| 24-hr | 1.99 (1.76-2.29) | 2.61 (2.31-3.01) | 3.40 (3.00-3.93) | 4.02 (3.52-4.69) | 4.83 (4.09-5.82) | 5.43 (4.51-6.68) | 6.02 (4.88-7.58) | 6.61 (5.21-8.56) | 7.38 (5.58-9.95) | 7.95 (5.82-11.1) |
| 2-day | 2.39 (2.12-2.76) | 3.22 (2.85-3.72) | 4.27 (3.77-4.94) | 5.11 (4.47-5.96) | 6.21 (5.26-7.48) | 7.03 (5.83-8.65) | 7.84 (6.35-9.88) | 8.66 (6.83-11.2) | 9.74 (7.37-13.1) | 10.6 (7.72-14.7) |
| 3-day | 2.58 (2.28-2.97) | 3.53 (3.12-4.07) | 4.75 (4.19-5.50) | 5.74 (5.02-6.69) | 7.05 (5.97-8.49) | 8.04 (6.67-9.89) | 9.03 (7.32-11.4) | 10.0 (7.91-13.0) | 11.4 (8.61-15.4) | 12.4 (9.08-17.3) |
| 4-day | 2.77 (2.45-3.19) | 3.83 (3.39-4.42) | 5.22 (4.60-6.04) | 6.33 (5.54-7.39) | 7.83 (6.63-9.44) | 8.98 (7.45-11.0) | 10.1 (8.21-12.8) | 11.3 (8.91-14.6) | 12.9 (9.76-17.4) | 14.1 (10.3-19.7) |
| 7-day | 3.14 (2.78-3.62) | 4.43 (3.92-5.12) | 6.13 (5.40-7.09) | 7.51 (6.57-8.76) | 9.39 (7.95-11.3) | 10.8 (8.99-13.3) | 12.3 (9.97-15.5) | 13.8 (10.9-17.9) | 15.9 (12.0-21.4) | 17.5 (12.8-24.4) |
| 10-day | 3.40 (3.01-3.92) | 4.85 (4.28-5.59) | 6.76 (5.96-7.82) | 8.33 (7.29-9.72) | 10.5 (8.88-12.6) | 12.2 (10.1-15.0) | 13.9 (11.2-17.5) | 15.7 (12.3-20.3) | 18.1 (13.7-24.4) | 20.0 (14.6-27.9) |
| 20-day | 4.06 (3.60-4.68) | 5.87 (5.19-6.77) | 8.30 (7.32-9.60) | 10.3 (9.04-12.1) | 13.2 (11.2-15.9) | 15.4 (12.8-19.0) | 17.8 (14.4-22.4) | 20.3 (16.0-26.2) | 23.7 (18.0-32.0) | 26.5 (19.4-37.0) |
| 30-day | 4.79 (4.24-5.52) | 6.91 (6.11-7.97) | 9.80 (8.65-11.3) | 12.3 (10.7-14.3) | 15.7 (13.3-19.0) | 18.5 (15.4-22.8) | 21.5 (17.4-27.0) | 24.6 (19.4-31.9) | 29.0 (22.0-39.2) | 32.6 (23.9-45.5) |
| 45-day | 5.70 (5.04-6.56) | 8.11 (7.17-9.35) | 11.4 (10.1-13.2) | 14.3 (12.5-16.7) | 18.4 (15.6-22.2) | 21.8 (18.1-26.8) | 25.4 (20.6-32.0) | 29.3 (23.1-37.9) | 34.9 (26.4-47.0) | 39.4 (28.9-55.0) |
| 60-day | 6.72 (5.95-7.75) | 9.40 (8.31-10.8) | 13.2 (11.6-15.2) | 16.4 (14.4-19.2) | 21.2 (17.9-25.5) | 25.1 (20.8-30.9) | 29.3 (23.7-36.9) | 33.9 (26.7-43.9) | 40.6 (30.7-54.7) | 46.2 (33.8-64.4) |

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format: Precipitation frequency estimates Submit

**Worksheet H: Factor of Safety and Design Infiltration Rate Worksheet**
**(DA 1 DMA A)**

| Factor Category | | Factor Description | Assigned Weight (w) | Factor Value (v) | Product (p) p = w x v |
|---|---|---|---|---|---|
| A | Suitability Assessment | Soil assessment methods | 0.25 | 1 | 0.25 |
| | | Predominant soil texture | 0.25 | 1 | 0.25 |
| | | Site soil variability | 0.25 | 1 | 0.25 |
| | | Depth to groundwater / impervious layer | 0.25 | 1 | 0.25 |
| | | Suitability Assessment Safety Factor, $S_A = \Sigma p$ | | | 1.00 |
| B | Design | Tributary area size | 0.25 | 2 | 0.50 |
| | | Level of pretreatment/expected sediment loads | 0.25 | 1 | 0.25 |
| | | Redundancy | 0.25 | 3 | 0.75 |
| | | Compaction during construction | 0.25 | 1 | 0.25 |
| | | Design Safety Factor, $S_B = \Sigma p$ | | | 1.75 |

| | |
|---|---|
| Combined Safety Factor, $S_{TOT} = S_A \times S_B$ | 1.75; use 2.0 |
| Measured Infiltration Rate, inch/hr, $K_M$ (corrected for test-specific bias) | 13.0 |
| Design Infiltration Rate, in/hr, $K_{DESIGN} = K_M / S_{TOT}$ | 6.5 |

**Supporting Data**

Briefly describe infiltration test and provide reference to test forms:

A site-specific infiltration test was conducted at the project site to support a measured rate of 13.0 in/hr. The design rate is 6.5 in/hr after applying the appropriate safety factor. This design rate is suitable for infiltration facilities.

**Note:** The minimum combined adjustment factor shall not be less than 2.0 and the maximum combined adjustment factor shall not exceed 9.0.

# Attachment C
# WQMP Site Map

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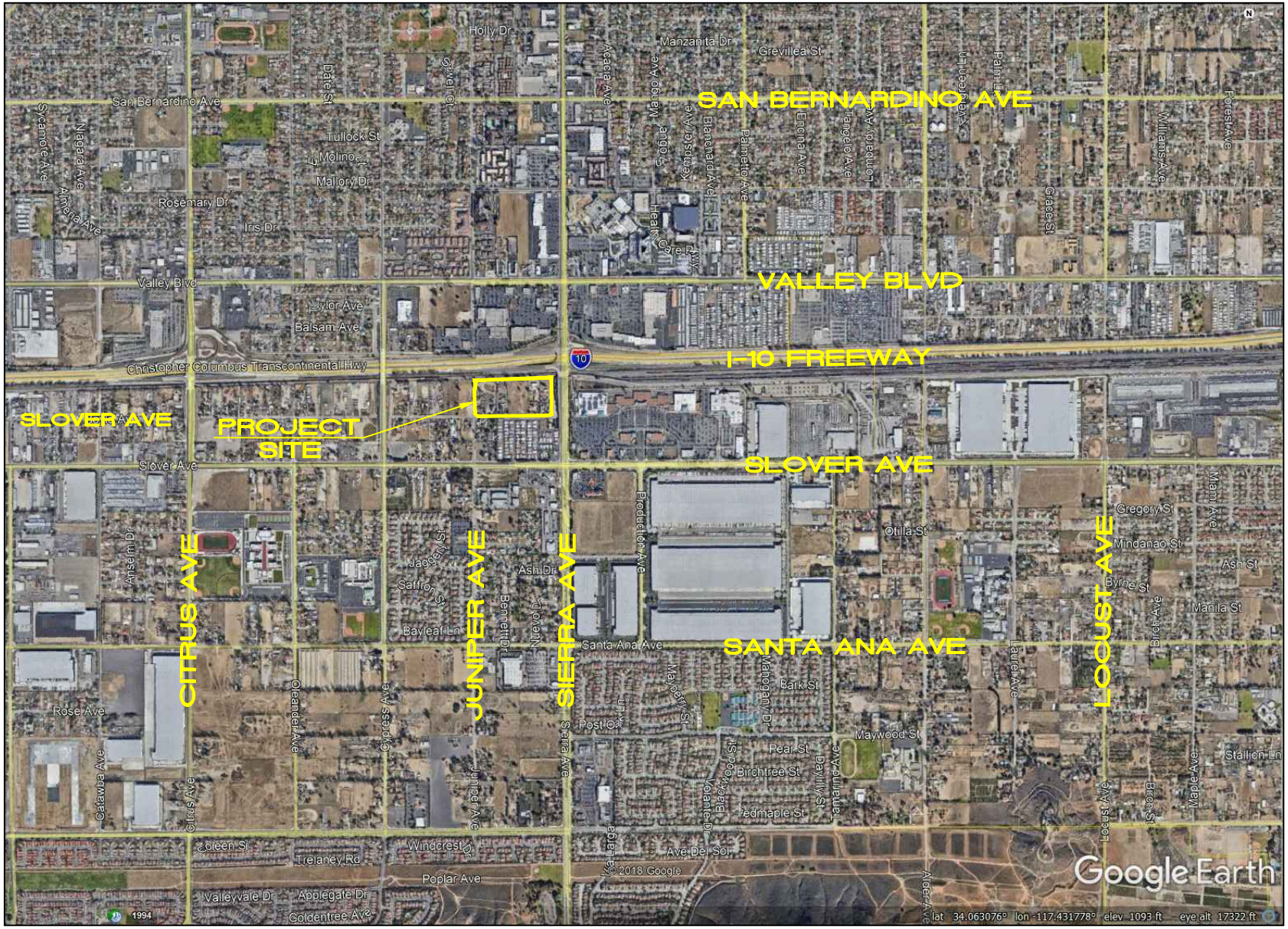


# "VICINITY MAP"

FOR

# BOYLE AVENUE AND JUNIPER AVENUE
# FONTANA, CA

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173

Last Update: 6/27/19
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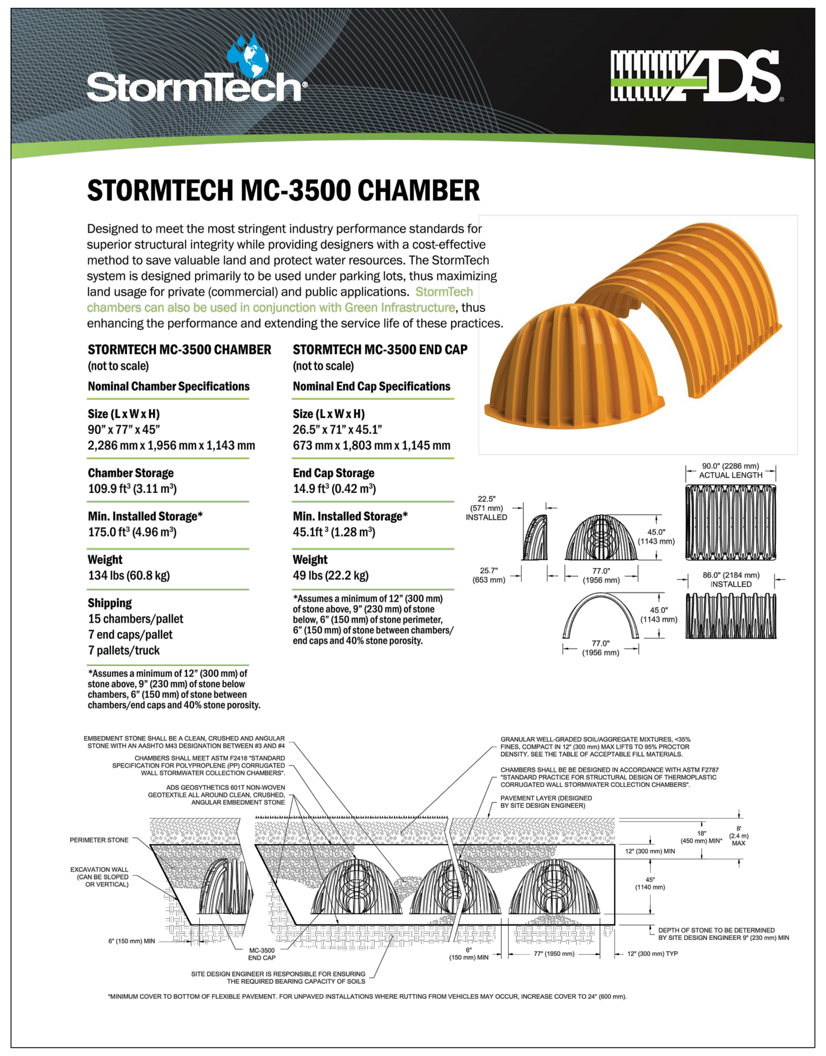
# "RECEIVING WATERS MAP"

FOR

# BOYLE AVENUE AND JUNIPER AVENUE
# FONTANA, CA

FLOW

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173




## STORMTECH MC-3500 CHAMBER

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

**STORMTECH MC-3500 CHAMBER**
(not to scale)

**Nominal Chamber Specifications**

**Size (L x W x H)**
90" x 77" x 45"
2,286 mm x 1,956 mm x 1,143 mm

**Chamber Storage**
109.9 ft³ (3.11 m³)

**Min. Installed Storage***
175.0 ft³ (4.96 m³)

**Weight**
134 lbs (60.8 kg)

**Shipping**
15 chambers/pallet
7 end caps/pallet
7 pallets/truck

*Assumes a minimum of 12" (300 mm) of stone above, 9" (230 mm) of stone below chambers, 6" (150 mm) of stone between chambers/end caps and 40% stone porosity.

**STORMTECH MC-3500 END CAP**
(not to scale)

**Nominal End Cap Specifications**

**Size (L x W x H)**
26.5" x 71" x 45.1"
673 mm x 1,803 mm x 1,145 mm

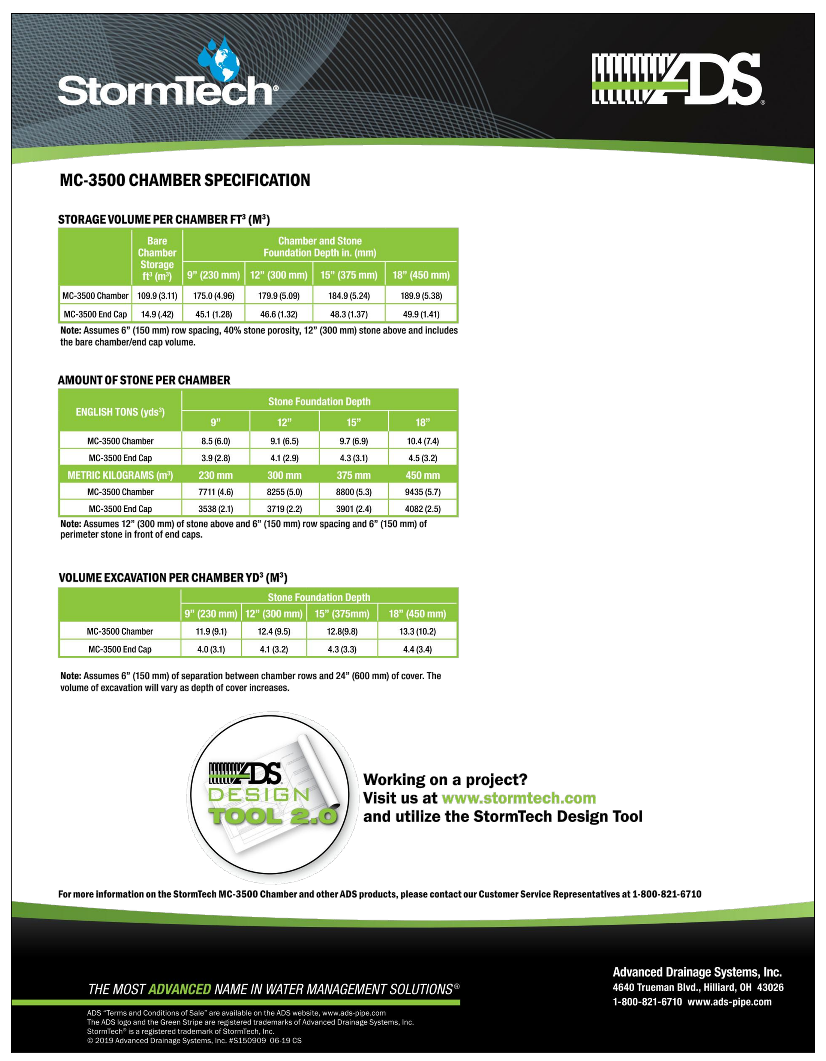
**End Cap Storage**
14.9 ft³ (0.42 m³)

**Min. Installed Storage***
45.1ft³ (1.28 m³)

**Weight**
49 lbs (22.2 kg)

*Assumes a minimum of 12" (300 mm) of stone above, 9" (230 mm) of stone below, 6" (150 mm) of stone perimeter, 6" (150 mm) of stone between chambers/end caps and 40% stone porosity.






## MC-3500 CHAMBER SPECIFICATION

**STORAGE VOLUME PER CHAMBER FT³ (M³)**

| | Bare Chamber Storage ft³ (m³) | Chamber and Stone Foundation Depth in. (mm) | | | |
|---|---|---|---|---|---|
| | | 9" (230 mm) | 12" (300 mm) | 15" (375 mm) | 18" (450 mm) |
| MC-3500 Chamber | 109.9 (3.11) | 175.0 (4.96) | 179.9 (5.09) | 184.9 (5.24) | 189.9 (5.38) |
| MC-3500 End Cap | 14.9 (.42) | 45.1 (1.28) | 46.6 (1.32) | 48.3 (1.37) | 49.9 (1.41) |

Note: Assumes 6" (150 mm) row spacing, 40% stone porosity, 12" (300 mm) stone above and includes the bare chamber/end cap volume.

**AMOUNT OF STONE PER CHAMBER**

| ENGLISH TONS (yds³) | Stone Foundation Depth | | | |
|---|---|---|---|---|
| | 9" | 12" | 15" | 18" |
| MC-3500 Chamber | 8.5 (6.0) | 9.1 (6.5) | 9.7 (6.9) | 10.4 (7.4) |
| MC-3500 End Cap | 3.9 (2.8) | 4.1 (2.9) | 4.3 (3.1) | 4.5 (3.2) |
| METRIC KILOGRAMS (m³) | 230 mm | 300 mm | 375 mm | 450 mm |
| MC-3500 Chamber | 7711 (4.6) | 8255 (5.0) | 8800 (5.3) | 9435 (5.7) |
| MC-3500 End Cap | 3538 (2.1) | 3719 (2.2) | 3901 (2.4) | 4082 (2.5) |

Note: Assumes 12" (300 mm) of stone above and 6" (150 mm) row spacing and 6" (150 mm) of perimeter stone in front of end caps.

**VOLUME EXCAVATION PER CHAMBER YD³ (M³)**

| | Stone Foundation Depth | | | |
|---|---|---|---|---|
| | 9" (230 mm) | 12" (300 mm) | 15" (375mm) | 18" (450 mm) |
| MC-3500 Chamber | 11.9 (9.1) | 12.4 (9.5) | 12.8(9.8) | 13.3 (10.2) |
| MC-3500 End Cap | 4.0 (3.1) | 4.1 (3.2) | 4.3 (3.3) | 4.4 (3.4) |

Note: Assumes 6" (150 mm) of separation between chamber rows and 24" (600 mm) of cover. The volume of excavation will vary as depth of cover increases.



**Working on a project?**
**Visit us at www.stormtech.com**
**and utilize the StormTech Design Tool**

For more information on the StormTech MC-3500 Chamber and other ADS products, please contact our Customer Service Representatives at 1-800-821-6710

*THE MOST ADVANCED NAME IN WATER MANAGEMENT SOLUTIONS®*

Advanced Drainage Systems, Inc.
4640 Trueman Blvd., Hilliard, OH 43026
1-800-821-6710 www.ads-pipe.com

ADS "Terms and Conditions of Sale" are available on the ADS website, www.ads-pipe.com
The ADS logo and the Green Stripe are registered trademarks of Advanced Drainage Systems, Inc.
StormTech® is a registered trademark of StormTech, Inc.
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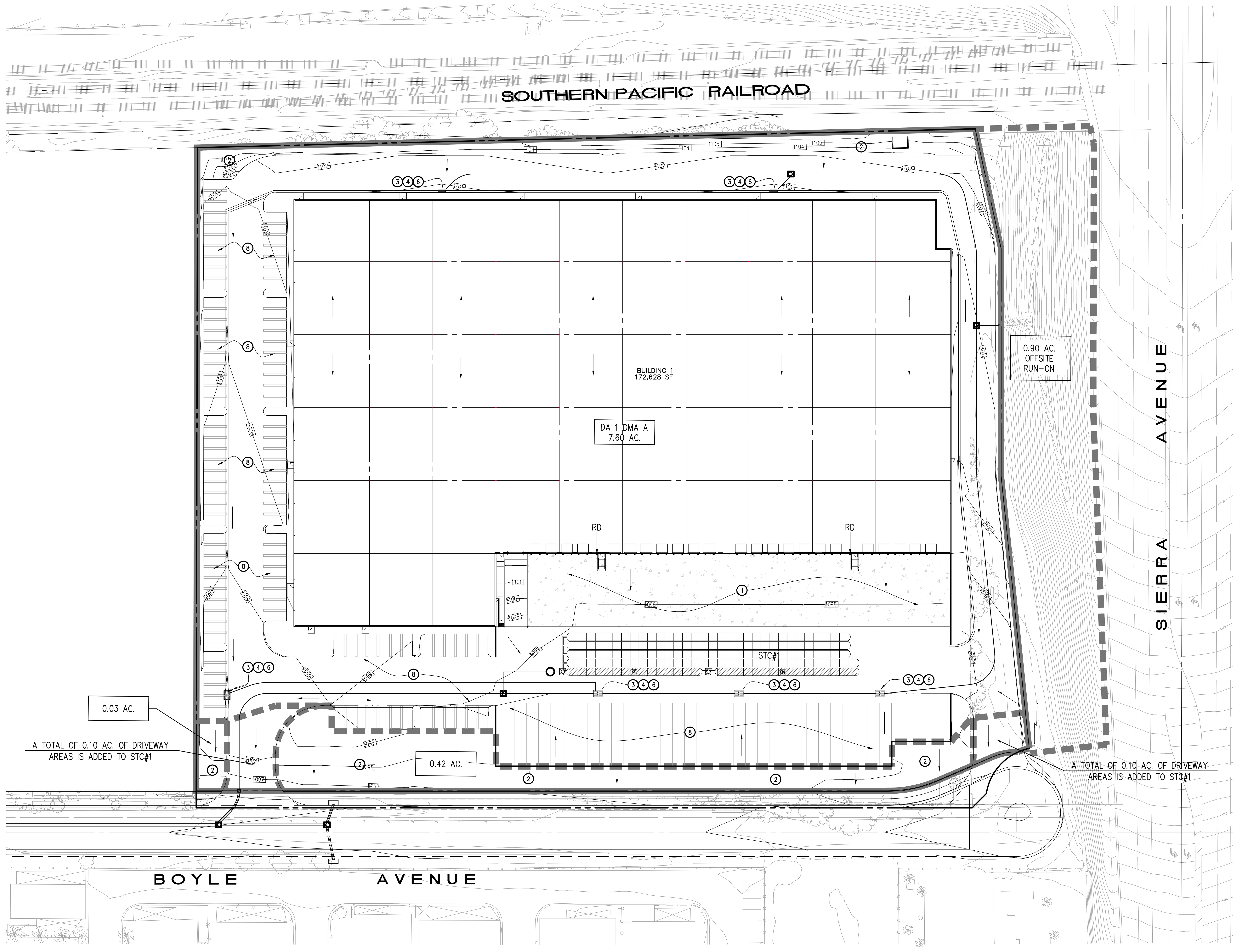
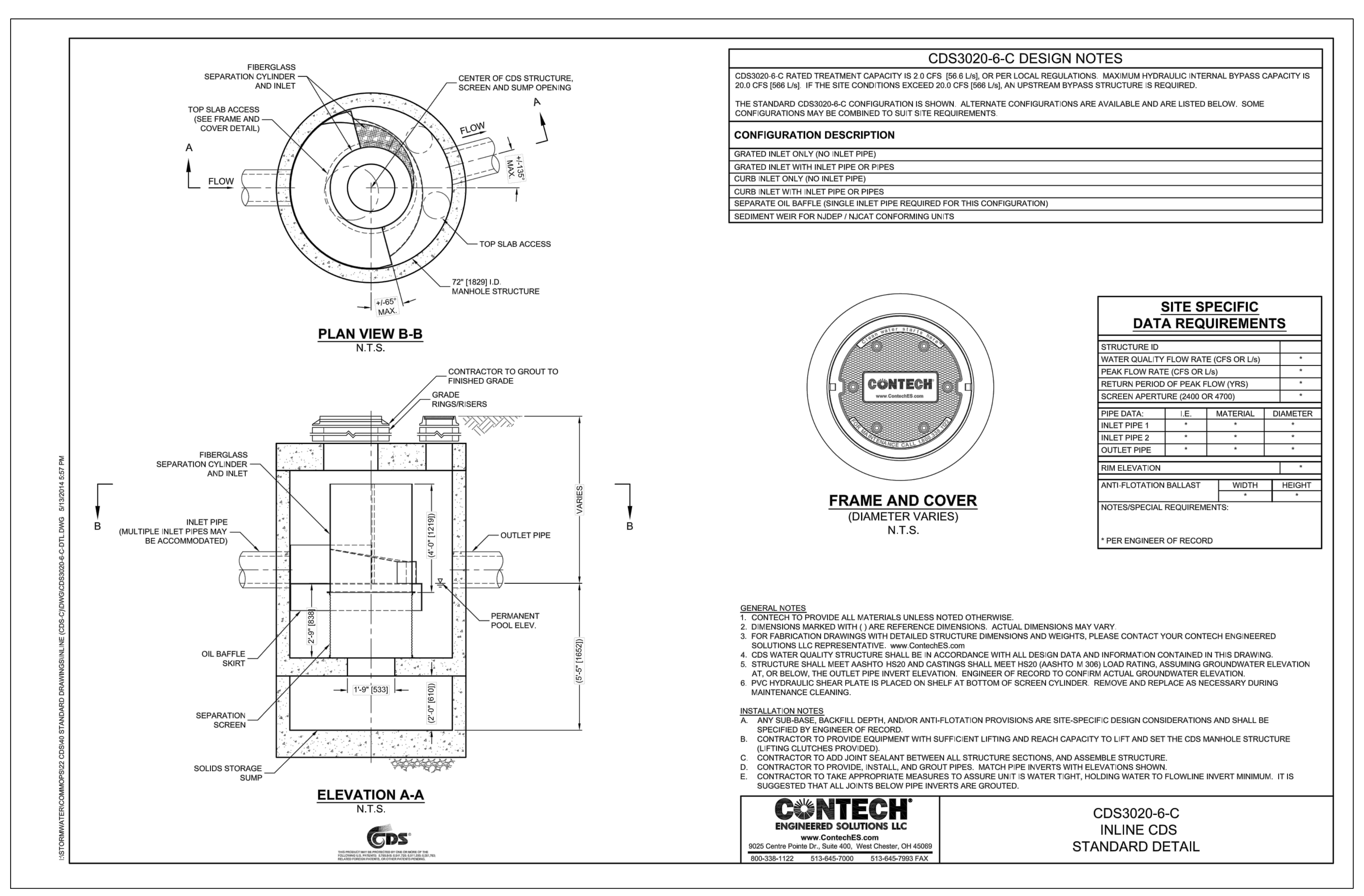


*VICINITY MAP*
N.T.S.




**CDS3020-6-C DESIGN NOTES**

CDS3020-6-C RATED TREATMENT CAPACITY IS 2.0 CFS [56.6 L/s], OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 20.0 CFS [566 L/s]. IF THE SITE CONDITIONS EXCEED 20.0 CFS [566 L/s], AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS3020-6-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

**CONFIGURATION DESCRIPTION**

- GRATED INLET ONLY (NO INLET PIPE)
- GRATED INLET WITH INLET PIPE OR PIPES
- CURB INLET ONLY (NO INLET PIPE)
- CURB INLET WITH INLET PIPE OR PIPES
- SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
- SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS

**SITE SPECIFIC DATA REQUIREMENTS**

| | | | |
|---|---|---|---|
| STRUCTURE ID | | | |
| WATER QUALITY FLOW RATE (CFS OR L/s) | | | * |
| PEAK FLOW RATE (CFS OR L/s) | | | * |
| RETURN PERIOD OF PEAK FLOW (YRS) | | | * |
| SCREEN APERTURE (2400 OR 4700) | | | * |
| PIPE DATA: | I.E. | MATERIAL | DIAMETER |
| INLET PIPE 1 | * | * | * |
| INLET PIPE 2 | * | * | * |
| OUTLET PIPE | * | * | * |
| RIM ELEVATION | | | * |
| ANTI-FLOTATION BALLAST | | WIDTH | HEIGHT |
| | | * | * |
| NOTES/SPECIAL REQUIREMENTS: | | | |

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

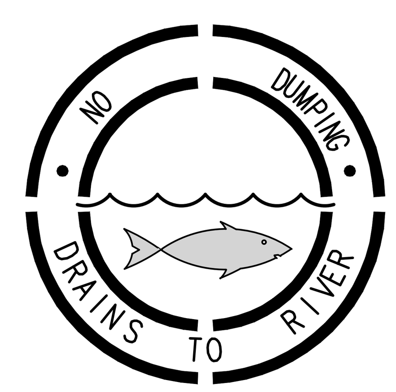
CDS3020-6-C
INLINE CDS
STANDARD DETAIL

| DMA # | DCV REQ'D | DCV PROVIDED |
|---|---|---|
| A | 28,920 | 29,093 |

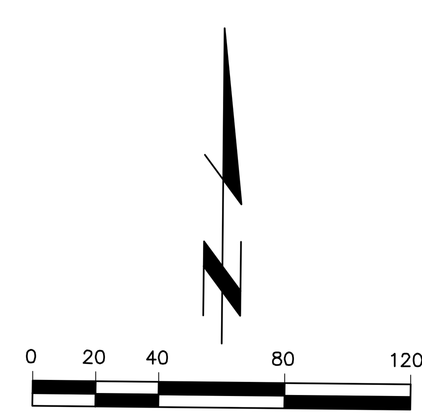
## LEGEND

1. ABOVEGROUND LOADING DOCK
2. LANDSCAPE/IRRIGATION
3. DRAIN INSERTS
4. STORM DRAIN SYSTEM SIGNS "NO DUMPING–DRAINS TO RIVER"
5. STORMTECH MC-3500 RETENTION SYSTEM
6. CATCH BASIN INSPECTION
7. TRASH ENCLOSURE
8. VACUUM SWEEPING OF PARKING LOTS AND DRIVE AISLES

RD — ROOF DRAIN
BOUNDARY
DRAINAGE AREAS
FLOW LINE




**SD STENCIL** (4)
N.T.S.




SCALE: 1"=40'

Last Update: 12/18/19
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# CITY OF FONTANA
PUBLIC WORKS DEPARTMENT

## WQMP SITE MAP

## BOYLE AVE. AND JUNIPER AVE. BUILDING 1

**PREPARED FOR:**
TRANSWESTERN DEVELOPMENT COMPANY
20250 ACACIA STREET, SUITE 260
NEWPORT BEACH, CA 92660
PHONE: (949) 351-5186

**PREPARED BY:**
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173

Designed by ______
Date ______
Checked by ______
Date ______
Designed by ______
Date ______
Checked by ______
Date ______

Approved by ______ Date ______
Public Works Director R.C.E. ______
Sheet 1 of 1 Sheets

3778/1 OF 1 SHEET

# Attachment D
# WQMP and Stormwater BMP Transfer, Access and Maintenance Agreement

RECORDING REQUESTED BY:

CITY OF FONTANA
ENGINEERING DEPARTMENT
8353 SIERRA AVENUE,
FONTANA CA 92335

SPACE ABOVE FOR RECORDER'S USE ONLY

# Memorandum of Agreement for Water Quality Management Plan and Storm Water BMP Transfer, Access and Maintenance

**OWNER/APPLICANT NAME:** Transwestern Development Company
**PROPERTY ADDRESS:** N side of Boyle Ave. between Juniper Ave. & Sierra Ave. – Building 1
Fontana, CA 92337

**APN:** 0251-202-05, -06, -07, -16, -17 & 0193-381-01, -04

**THIS Memorandum of Agreement** hereinafter referred to as "Agreement" is made and entered on this _____ day of _____, **2020** by the undersigned herein after referred to as "Owner" and the City of Fontana, a municipal corporation, located in the County of San Bernardino, State of California hereinafter referred to as "CITY";

**WHEREAS,** the Owner owns real property ("Property") in the City of Fontana, County of San Bernardino, State of California, more specifically described in Exhibit "A" and depicted in Exhibit "B", each of which exhibits is attached hereto and incorporated herein by this reference;

**WHEREAS,** at the time of initial approval of development project within the Property described above, the City required the project to employ Best Management Practices, hereinafter referred to as "BMPs," to minimize pollutants in urban runoff;

**WHEREAS,** the Owner has chosen to install and/or implement BMPs as described in the Water Quality Management Plan as described in Exhibit "C" and on file with the City, hereinafter referred to as "WQMP", to minimize pollutants in urban runoff and to minimize other adverse impacts of urban runoff;

**WHEREAS,** said WQMP has been certified by the Owner and reviewed and approved by the City;

**WHEREAS,** said BMPs, with installation and/or implementation on private property and draining only private property, are part of a private facility with all maintenance or replacement, therefore, the sole responsibility of the Owner;

**WHEREAS,** the Owner is aware that periodic and continuous maintenance, including, but not necessarily limited to, filter material replacement and sediment removal, is required to assure peak performance of all BMPs in the WQMP and that, furthermore, such maintenance activity will require compliance with all Local, State, or Federal laws and regulations, including those pertaining to confined space and waste disposal methods, in effect at the time such maintenance occurs;

**NOW THEREFORE,** it is hereby agreed by the Owner as follows:

1. Owner hereby provides the City of City's designee complete access, of any duration, to the BMPs and their immediate vicinity at any time, upon reasonable notice, or in the event of emergency, as determined by City's Director of Public Works no advance notice, for the purpose of inspection, sampling, testing of the Device, and in case of emergency, to undertake all necessary repairs or other preventative measures at owner's expense as provided in paragraph 3 below. City shall make every effort at all times to minimize or avoid interference with Owner's use of the Property.

2. Owner shall use its best efforts diligently to maintain all BMPs in a manner assuring peak performance at all times. All reasonable precautions shall be exercised by Owner and Owner's representative or contractor in the removal and extraction of any material(s) from the BMPs and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. As may be requested from time to time by the City, the Owner shall provide the City with documentation identifying the material(s) removed, the quantity, and disposal destination.

3. In the event Owner, or its successors or assigns, fails to accomplish the necessary maintenance contemplated by this Agreement, within five (5) days of being given written notice by the City, the City is hereby authorized to cause any maintenance necessary to be done and charge the entire cost and expense to the Owner or Owner's successors or assigns, including administrative costs, attorneys fees and interest thereon at the maximum rate authorized by the Civil Code from the date of the notice of expense until paid in full.

4. The Owner agrees to hold the City, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage, or injury, in law or equity, to property or persons, arising from the imposition of the plan by the City;

5. The City may require the owner to post security in form and for a time period satisfactory to the city to guarantee the performance of the obligations state herein. Should the Owner fail to perform the obligations under the Agreement, the City may, in the case of a cash bond, act for the Owner using the proceeds from it, or in the case of a surety bond, require the sureties to perform the obligations of the Agreement. As an additional remedy, the Director may withdraw any previous storm water-related approval with respect to the property on which BMPs have been installed and/or implemented until such time as Owner repays to City its reasonable costs incurred in accordance with paragraph 3 above.

6. This agreement shall be recorded in the Office of the Recorder of San Bernardino County, California, at the expense of the Owner and shall constitute notice to all successors and assigns of the title to said Property of the obligation herein set forth, and also a lien in such amount as will fully reimburse the City, including interest as herein above set forth, subject to foreclosure in event of default in payment.

7. In event of legal action occasioned by any default or action of the Owner, or its successors or assigns, then the Owner and its successors or assigns agree(s) to pay all costs incurred by the City in enforcing the terms of this Agreement, including reasonable attorney's fees and costs, and that the same shall become a part of the lien against said Property.

8. It is the intent of the parties hereto that burdens and benefits herein undertaken shall constitute covenants that run with said Property and constitute a lien there against.

9. The obligations herein undertaken shall be binding upon the heirs, successors, executors, administrators and assigns of the parties hereto. The term "Owner" shall include not only the present Owner, but also its heirs, successors, executors, administrators, and assigns. Owner shall notify any successor to title of all or part of the Property about the existence of this Agreement. Owner shall provide such notice prior to such successor obtaining an interest in all or part of the Property. Owner shall provide a copy of such notice to the City at the same time such notice is provided to the successor.

10. This Agreement shall not be amended, modified or terminated without the prior written consent of the City, which consent to be effective, shall be contained in a document executed by the City and recorded against the Real Property.

**OWNER:**

Owner/Applicant Name: Transwestern Development Company

Owner/Applicant Signature: _____
Stephen Batcheller, Western Regional Partner

Date: _____

**NOTARY**

Notary acknowledgement is required for recordation (attach appropriate acknowledgement).

**(INSERT OWNER NOTARY ACKNOWLEDGEMENT PAGE HERE)**

**(INSERT CITY NOTARY ACKNOWLEDGEMENT PAGE HERE)**

**EXHIBIT A**
***(Legal Description)***

**EXHIBIT B**
***(Map/illustration)***

**EXHIBIT C**
***(WQMP Exhibit)***

# Attachment E
# Educational Materials

# STORMWATER Pollution Prevention

## FRESH CONCRETE & MORTAR APPLICATION

Cement wash, sediment, vehicle fluids, dust and hazardous debris from construction sites often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these best management practices to prevent pollution and protect public health.

### Storing Materials

Keep construction materials and debris away from the street, gutter and storm drains. Secure open bags of cement and cover exposed stockpiles of soil, sand or gravel and excavated material with plastic sheeting, protected from rain, wind and runoff.

### Ordering Materials & Recycling Waste

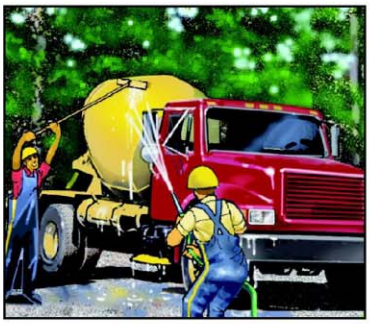
Reduce waste by ordering only the amounts of materials needed for the job. Use recycled or recyclable materials whenever possible. When breaking up paving, recycle the pieces at a crushing company. You can also recycle broken asphalt, concrete, wood, and cleared vegetation. Non-recyclable materials should be taken to a landfill or disposed of as hazardous waste. Call (909) 386-8401 for recycling and disposal information.

### During Construction

Schedule excavation and grading during dry weather. Prevent mortar and cement from entering the street and storm drains by placing erosion controls. Setup small mixers on tarps or drop cloths, for easy cleanup of debris. Never bury waste material. Recycle or dispose of it as hazardous waste.

### Cleaning Up

Wash concrete dust onto designated dirt areas, not down driveways or into the street or storm drains. Wash out concrete mixers and equipment in specified washout areas, where water can flow into a containment pond. Cement washwater can be recycled by pumping it back into cement mixers for reuse. Never dispose of cement washout into driveways, streets, gutters, storm drains or drainage ditches.



To report illegal dumping or for more information on stormwater pollution prevention, call:

**1 (800) CLEANUP**

**www.1800cleanup.org**

PUBLIC SERVICES
CITY OF FONTANA

San Bernardino County STORMWATER PROGRAM

# Fertilizer Tips to Prevent Pollution

Water that runs off your lawn and garden can carry excess fertilizer into the San Bernardino County storm drain system, and it does not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these simple tips to prevent pollution and protect your health:

PUBLIC SERVICES
CITY OF FONTANA

- Read the product label and follow the directions carefully, using only as directed.
- Avoid applying near driveways or gutters.
- Never apply fertilizer before a rain.
- Store fertilizers and chemicals in a covered area and in sealed, waterproof containers.
- Take unwanted lawn or garden chemicals to a household hazardous waste collection facility. Call (800) 253-2687.
- Use non-toxic products for your garden and lawn whenever possible.

San Bernardino County STORMWATER PROGRAM

To report illegal dumping or for more information on Stormwater pollution prevention, call:

**1 (800) CLEANUP**

www.1800cleanup.org

# STORMWATER Pollution Prevention

## HOME & GARDEN

Yard waste and household toxics like paints and pesticides often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these simple tips to prevent pollution and protect your health.

### Recycle Household Hazardous Waste

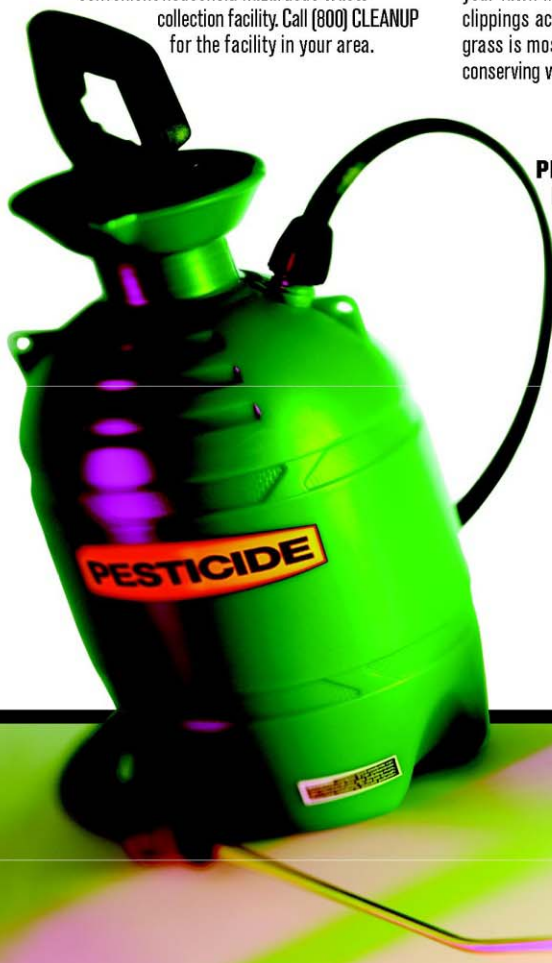
Household products like paint, pesticides, solvents and cleaners are too dangerous to dump and too toxic to trash. Take them to be recycled at a convenient household hazardous waste collection facility. Call (800) CLEANUP for the facility in your area.

### Disposing of Yard Waste

Recycle leaves, grass clippings and other yard waste, instead of blowing, sweeping or hosing into the street. Try grasscycling, leaving grass clippings on your lawn instead of using a grass catcher. The clippings act as a natural fertilizer, and because grass is mostly water, it also irrigates your lawn, conserving water.

### Use Fertilizers & Pesticides Safely

Fertilizers and pesticides are often carried into the storm drain system by sprinkler runoff. Try using organic or non-toxic alternatives. If you use chemical fertilizers or pesticides, avoid applying near curbs and driveways and never apply before a rain.




### Planting in the Yard

Produce less yard waste and save water by planting low maintenance, drought-tolerant trees and shrubs. Using drip irrigation, soaker hoses or micro-spray systems for flower beds and vegetation can also help reduce your water bill and prevent runoff.

### Use Water Wisely

Cut your water costs and prevent runoff by controlling the amount of water and direction of sprinklers. The average lawn needs about an inch of water a week, including rainfall, or 10 to 20 minutes of watering. A half-inch per week is enough for fall and spring. Sprinklers should be on long enough to allow water to soak into the ground but not so long as to cause runoff.

PUBLIC SERVICES
CITY OF FONTANA

To report illegal dumping or for more information on stormwater pollution prevention, call:

**1 (800) CLEANUP**

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San Bernardino County STORMWATER PROGRAM

# STORMWATER Pollution Prevention

## PAINTING

Paints, solvents, adhesives and other toxic chemicals used in painting often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these simple tips to prevent pollution and protect our health.

**Water-Based Paints**
Use water-based paints whenever possible. They are less toxic than oil-based paints and easier to clean up. Look for products labeled "latex" or "cleans with water."

**Paint Removal**
Sweep up paint stripping residue, chips and dust instead of hosing into the street and dispose of them safely at a household hazardous waste collection facility. Call (800) CLEANUP for the facility in your area.

**Painting Cleanup**
Never clean brushes or rinse paint containers in the street, gutter or near a storm drain. Clean water-based paints in the sink. Clean oil-based paints with thinner, which can be reused by putting it in a jar to settle out the paint particles and then pouring off the clear liquid for future use. Wrap dried paint residue in newspaper and dispose of it in the trash.

**Exterior Paint Removal**
When stripping or cleaning building exteriors with high-pressure water, block nearby storm drains and divert washwater onto a designated dirt area. Ask your local wastewater treatment authority if you can collect building cleaning water and discharge it to the sewer.

**Recycling Paint**
Recycle leftover paint at a household hazardous waste collection facility, save it for touch ups or give it to someone who can use it, like a theatre group, school, city or community organization.

PUBLIC SERVICES
CITY OF FONTANA

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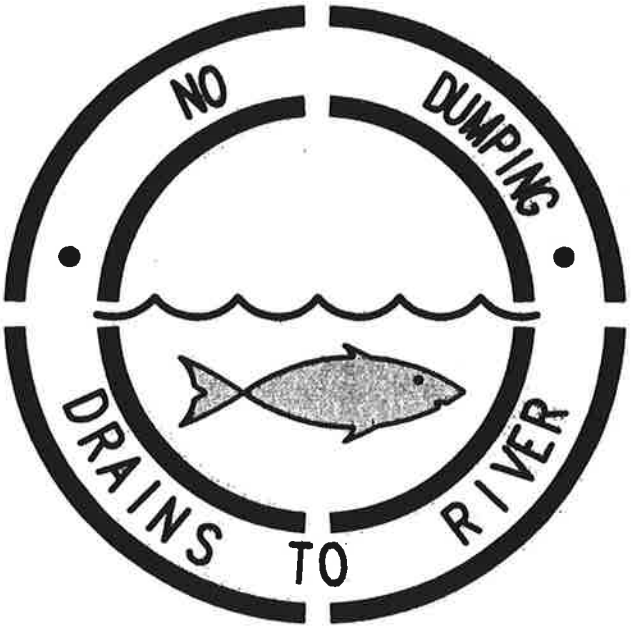
**1 (800) CLEANUP**

**www.1800cleanup.org**

San Bernardino County STORMWATER PROGRAM




SAMPLE STENCIL TO BE USED NEAR
GRATE AND CURB OPENING INLETS
SYMBOL TO BE 24" IN DIAMETER

Thienes Engineering
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173

SAMPLE CATCH BASIN STENCIL
PER BMP SD-13

# STORMTECH MC-3500 CHAMBER

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

## STORMTECH MC-3500 CHAMBER
(not to scale)

### Nominal Chamber Specifications

**Size (L x W x H)**
90" x 77" x 45"
2,286 mm x 1,956 mm x 1,143 mm

**Chamber Storage**
109.9 $ft^3$ (3.11 $m^3$)

**Min. Installed Storage***
175.0 $ft^3$ (4.96 $m^3$)

**Weight**
134 lbs (60.8 kg)

**Shipping**
15 chambers/pallet
7 end caps/pallet
7 pallets/truck

*Assumes a minimum of 12" (300 mm) of stone above, 9" (230 mm) of stone below chambers, 6" (150 mm) of stone between chambers/end caps and 40% stone porosity.

## STORMTECH MC-3500 END CAP
(not to scale)

### Nominal End Cap Specifications

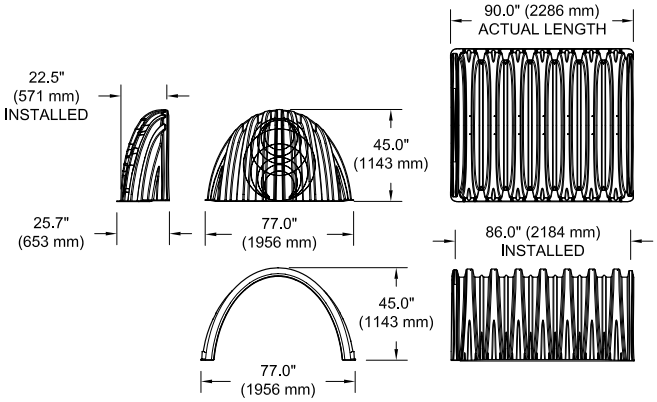
**Size (L x W x H)**
26.5" x 71" x 45.1"
673 mm x 1,803 mm x 1,145 mm

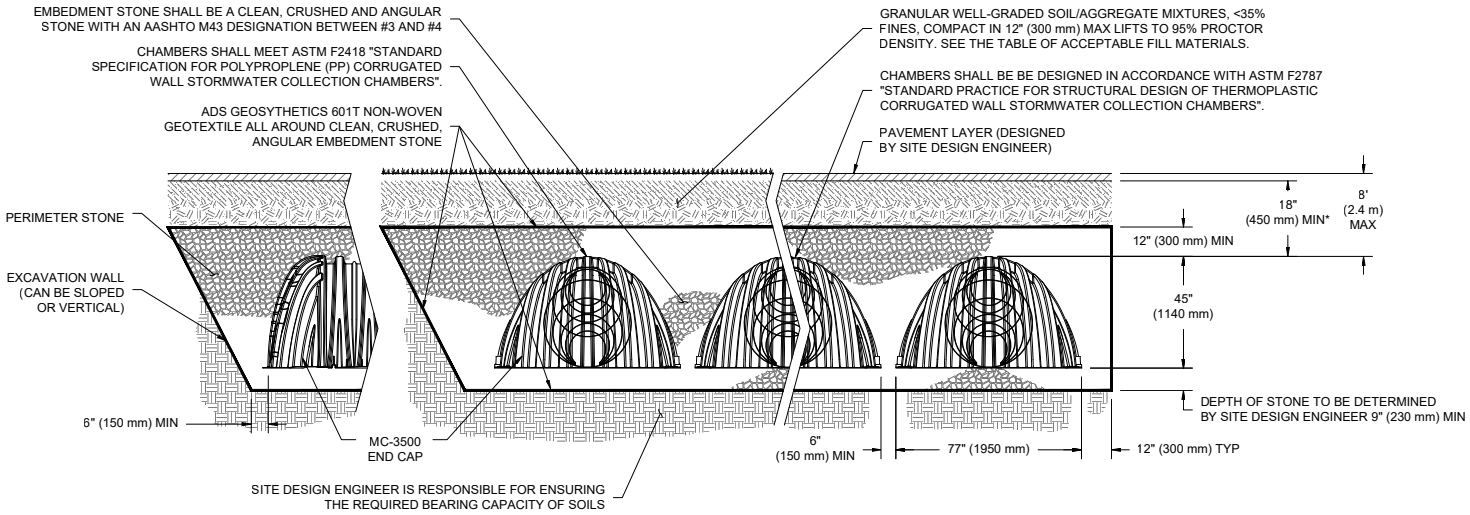
**End Cap Storage**
14.9 $ft^3$ (0.42 $m^3$)

**Min. Installed Storage***
45.1$ft^3$ (1.28 $m^3$)

**Weight**
49 lbs (22.2 kg)

*Assumes a minimum of 12" (300 mm) of stone above, 9" (230 mm) of stone below, 6" (150 mm) of stone perimeter, 6" (150 mm) of stone between chambers/end caps and 40% stone porosity.




*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).

# MC-3500 CHAMBER SPECIFICATION

## STORAGE VOLUME PER CHAMBER FT³ (M³)

| | Bare Chamber Storage ft³ (m³) | Chamber and Stone Foundation Depth in. (mm) | | | |
|---|---|---|---|---|---|
| | | 9" (230 mm) | 12" (300 mm) | 15" (375 mm) | 18" (450 mm) |
| MC-3500 Chamber | 109.9 (3.11) | 175.0 (4.96) | 179.9 (5.09) | 184.9 (5.24) | 189.9 (5.38) |
| MC-3500 End Cap | 14.9 (.42) | 45.1 (1.28) | 46.6 (1.32) | 48.3 (1.37) | 49.9 (1.41) |

**Note:** Assumes 6" (150 mm) row spacing, 40% stone porosity, 12" (300 mm) stone above and includes the bare chamber/end cap volume.

## AMOUNT OF STONE PER CHAMBER

| ENGLISH TONS (yds³) | Stone Foundation Depth | | | |
|---|---|---|---|---|
| | 9" | 12" | 15" | 18" |
| MC-3500 Chamber | 8.5 (6.0) | 9.1 (6.5) | 9.7 (6.9) | 10.4 (7.4) |
| MC-3500 End Cap | 3.9 (2.8) | 4.1 (2.9) | 4.3 (3.1) | 4.5 (3.2) |
| **METRIC KILOGRAMS (m³)** | **230 mm** | **300 mm** | **375 mm** | **450 mm** |
| MC-3500 Chamber | 7711 (4.6) | 8255 (5.0) | 8800 (5.3) | 9435 (5.7) |
| MC-3500 End Cap | 3538 (2.1) | 3719 (2.2) | 3901 (2.4) | 4082 (2.5) |

**Note:** Assumes 12" (300 mm) of stone above and 6" (150 mm) row spacing and 6" (150 mm) of perimeter stone in front of end caps.

## VOLUME EXCAVATION PER CHAMBER YD³ (M³)

| | Stone Foundation Depth | | | |
|---|---|---|---|---|
| | 9" (230 mm) | 12" (300 mm) | 15" (375mm) | 18" (450 mm) |
| MC-3500 Chamber | 11.9 (9.1) | 12.4 (9.5) | 12.8(9.8) | 13.3 (10.2) |
| MC-3500 End Cap | 4.0 (3.1) | 4.1 (3.2) | 4.3 (3.3) | 4.4 (3.4) |

**Note:** Assumes 6" (150 mm) of separation between chamber rows and 24" (600 mm) of cover. The volume of excavation will vary as depth of cover increases.

**Working on a project?**
**Visit us at www.stormtech.com**
**and utilize the StormTech Design Tool**

**For more information on the StormTech MC-3500 Chamber and other ADS products, please contact our Customer Service Representatives at 1-800-821-6710**

*THE MOST **ADVANCED** NAME IN WATER MANAGEMENT SOLUTIONS®*

**Advanced Drainage Systems, Inc.**
**4640 Trueman Blvd., Hilliard, OH 43026**
**1-800-821-6710 www.ads-pipe.com**

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StormTech®
Detention • Retention • Water Quality
An ADS company

# Isolator® Row O&M Manual

SC-740

MC-3500

MC-4500

THE MOST **ADVANCED** NAME IN WATER MANAGEMENT SOLUTIONS™

ADS®

# THE ISOLATOR® ROW

## INTRODUCTION

An important component of any Stormwater Pollution Prevention Plan is inspection and maintenance. The StormTech Isolator Row is a technique to inexpensively enhance Total Suspended Solids (TSS) removal and provide easy access for inspection and maintenance.

## THE ISOLATOR ROW

The Isolator Row is a row of StormTech chambers, either SC-160LP, SC-310, SC-310-3, SC-740, DC-780, MC-3500 or MC-4500 models, that is surrounded with filter fabric and connected to a closely located manhole for easy access. The fabric-wrapped chambers provide for settling and filtration of sediment as storm water rises in the Isolator Row and ultimately passes through the filter fabric. The open bottom chambers and perforated sidewalls (SC-310, SC- 310-3 and SC-740 models) allow storm water to flow both vertically and horizontally out of the chambers. Sediments are captured in the Isolator Row protecting the storage areas of the adjacent stone and chambers from sediment accumulation.

Two different fabrics are used for the Isolator Row. A woven geotextile fabric is placed between the stone and the Isolator Row chambers. The tough geotextile provides a media for storm water filtration and provides a durable surface for maintenance operations. It is also designed to prevent scour of the underlying stone and remain intact during high pressure jetting. A non-woven fabric is placed over the chambers to provide a filter media for flows passing through the perforations in the sidewall of the chamber. The non-woven fabric is not required over the SC-160LP, DC-780, MC-3500 or MC-4500 models as these chambers do not have perforated side walls.

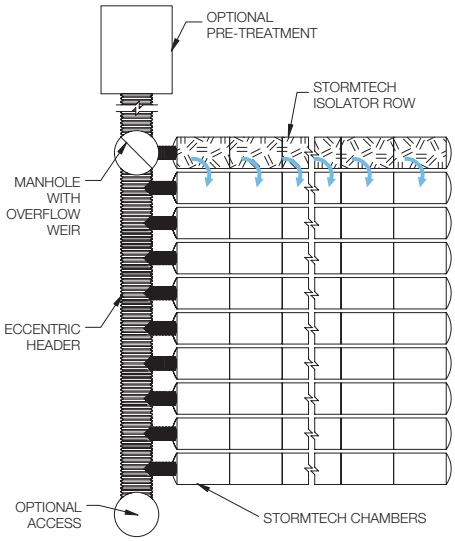
The Isolator Row is typically designed to capture the "first flush" and offers the versatility to be sized on a volume basis or flow rate basis. An upstream manhole not only provides access to the Isolator Row but typically includes a high flow weir such that storm water flowrates or volumes that exceed the capacity of the Isolator Row overtop the over flow weir and discharge through a manifold to the other chambers.

The Isolator Row may also be part of a treatment train. By treating storm water prior to entry into the chamber system, the service life can be extended and pollutants such as hydrocarbons can be captured. Pre-treatment best management practices can be as simple as deep sump catch basins, oil-water separators or can be innovative storm water treatment devices. The design of the treatment train and selection of pretreatment devices by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, the Isolator Row is recommended by StormTech as an effective means to minimize maintenance requirements and maintenance costs.

*Note: See the StormTech Design Manual for detailed information on designing inlets for a StormTech system, including the Isolator Row.*

**Looking down the Isolator Row from the manhole opening, woven geotextile is shown between the chamber and stone base.**

**StormTech Isolator Row with Overflow Spillway** (not to scale)



# ISOLATOR ROW INSPECTION/MAINTENANCE

## INSPECTION

The frequency of inspection and maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

The Isolator Row incorporates a combination of standard manhole(s) and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

If upon visual inspection it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3 inches throughout the length of the Isolator Row, clean-out should be performed.

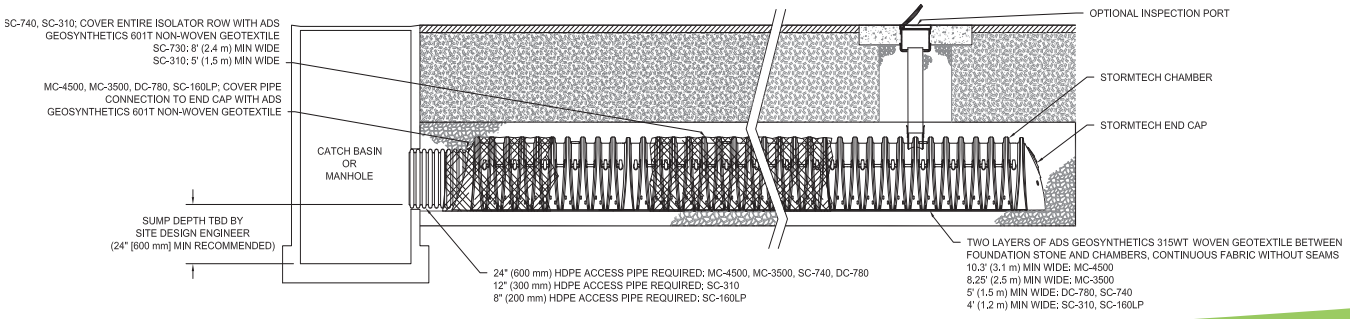
## MAINTENANCE

The Isolator Row was designed to reduce the cost of periodic maintenance. By "isolating" sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entries.

Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45" are best. Most JetVac reels have 400 feet of hose allowing maintenance of an Isolator Row up to 50 chambers long. **The JetVac process shall only be performed on StormTech Isolator Rows that have AASHTO class 1 woven geotextile (as specified by StormTech) over their angular base stone.**

**StormTech Isolator Row** (not to scale)

*Note: Non-woven fabric is only required over the inlet pipe connection into the end cap for SC-160LP, DC-780, MC-3500 and MC-4500 chamber models and is not required over the entire Isolator Row.*



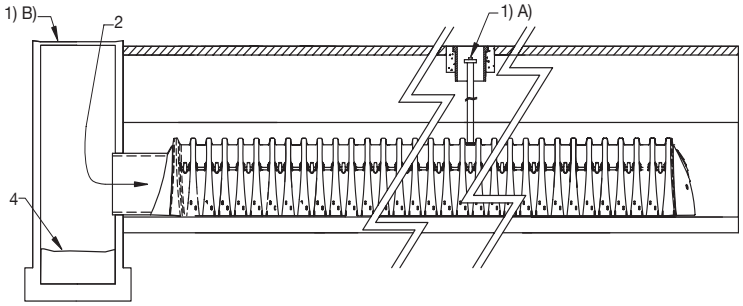
# ISOLATOR ROW STEP BY STEP MAINTENANCE PROCEDURES

**STEP 1**
Inspect Isolator Row for sediment.
- A) Inspection ports (if present)
  - i. Remove lid from floor box frame
  - ii. Remove cap from inspection riser
  - iii. Using a flashlight and stadia rod,measure depth of sediment and record results on maintenance log.
  - iv. If sediment is at or above 3 inch depth, proceed to Step 2. If not, proceed to Step 3.
- B) All Isolator Rows
  - i. Remove cover from manhole at upstream end of Isolator Row
  - ii. Using a flashlight, inspect down Isolator Row through outlet pipe
    1. Mirrors on poles or cameras may be used to avoid a confined space entry
    2. Follow OSHA regulations for confined space entry if entering manhole
  - iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches), proceed to Step 2. If not, proceed to Step 3.

**STEP 2**
Clean out Isolator Row using the JetVac process.
- A) A fixed floor cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
- B) Apply multiple passes of JetVac until backflush water is clean
- C) Vacuum manhole sump as required

**STEP 3**
Replace all caps, lids and covers, record observations and actions.

**STEP 4**
Inspect & clean catch basins and manholes upstream of the StormTech system.




**SAMPLE MAINTENANCE LOG**

| Date | Stadia Rod Readings | | Sediment Depth (1)–(2) | Observations/Actions | Inspector |
|---|---|---|---|---|---|
| | Fixed point to chamber bottom (1) | Fixed point to top of sediment (2) | | | |
| 3/15/11 | 6.3 ft | none | | New installation. Fixed point is CI frame at grade | DJM |
| 9/24/11 | | 6.2 | 0.1 ft | Some grit felt | SM |
| 6/20/13 | | 5.8 | 0.5 ft | Mucky feel, debris visible in manhole and in Isolator Row, maintenance due | NV |
| 7/7/13 | 6.3 ft | | 0 | System jetted and vacuumed | DJM |

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CONTECH®
CONSTRUCTION PRODUCTS INC.

# CDS® Inspection and Maintenance Guide

CDS TECHNOLOGIES

## Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

## Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

## Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes.

| CDS Model | Diameter | | Distance from Water Surface to Top of Sediment Pile | | Sediment Storage Capacity | |
|---|---|---|---|---|---|---|
| | ft | m | ft | m | yd3 | m3 |
| CDS2015-4 | 4 | 1.2 | 3.0 | 0.9 | 0.5 | 0.4 |
| CDS2015 | 5 | 1.5 | 3.0 | 0.9 | 1.3 | 1.0 |
| CDS2020 | 5 | 1.5 | 3.5 | 1.1 | 1.3 | 1.0 |
| CDS2025 | 5 | 1.5 | 4.0 | 1.2 | 1.3 | 1.0 |
| CDS3020 | 6 | 1.8 | 4.0 | 1.2 | 2.1 | 1.6 |
| CDS3030 | 6 | 1.8 | 4.6 | 1.4 | 2.1 | 1.6 |
| CDS3035 | 6 | 1.8 | 5.0 | 1.5 | 2.1 | 1.6 |
| CDS4030 | 8 | 2.4 | 4.6 | 1.4 | 5.6 | 4.3 |
| CDS4040 | 8 | 2.4 | 5.7 | 1.7 | 5.6 | 4.3 |
| CDS4045 | 8 | 2.4 | 6.2 | 1.9 | 5.6 | 4.3 |

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities

**Support**

- Drawings and specifications are available at www.contechstormwater.com.
- Site-specific design support is available from our engineers.

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The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; 7,296,692; 7,297,266; 7,517,450 related foreign patents or other patents pending.



CONTECH CONSTRUCTION PRODUCTS INC.
800.925.5240
contechstormwater.com

# CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

| Date | Water depth to sediment[1] | Floatable Layer Thickness[2] | Describe Maintenance Performed | Maintenance Personnel | Comments |
|---|---|---|---|---|---|
| | | | | | |
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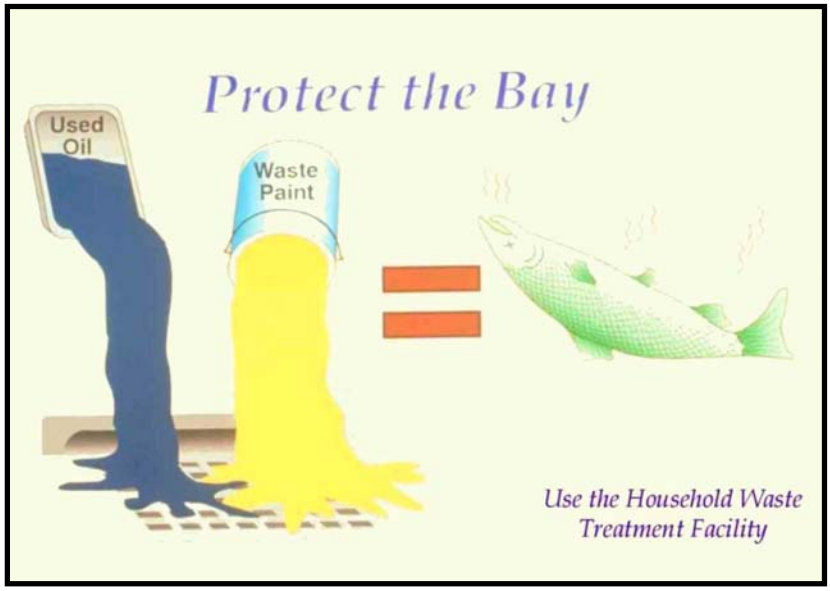
1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than eighteen inches the system should be cleaned out. **Note: To avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.**

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

# Non-Stormwater Discharges SC-10




Art Credit: Margie Winter

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

| | |
|---|---|
| Sediment | |
| Nutrients | ✓ |
| Trash | |
| Metals | ✓ |
| Bacteria | ✓ |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Description

Non-stormwater discharges are those flows that do not consist entirely of stormwater. Some non-stormwater discharges do not include pollutants and may be discharged to the storm drain. These include uncontaminated groundwater and natural springs. There are also some non-stormwater discharges that typically do not contain pollutants and may be discharged to the storm drain with conditions. These include car washing, air conditioner condensate, etc. However there are certain non-stormwater discharges that pose environmental concern. These discharges may originate from illegal dumping or from internal floor drains, appliances, industrial processes, sinks, and toilets that are connected to the nearby storm drainage system. These discharges (which may include: process waste waters, cooling waters, wash waters, and sanitary wastewater) can carry substances such as paint, oil, fuel and other automotive fluids, chemicals and other pollutants into storm drains. They can generally be detected through a combination of detection and elimination. The ultimate goal is to effectively eliminate non-stormwater discharges to the stormwater drainage system through implementation of measures to detect, correct, and enforce against illicit connections and illegal discharges of pollutants on streets and into the storm drain system and creeks.

## Approach

Initially the industry must make an assessment of non-stormwater discharges to determine which types must be eliminated or addressed through BMPs. The focus of the following approach is in the elimination of non-stormwater discharges.

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### *Pollution Prevention*

- Ensure that used oil, used antifreeze, and hazardous chemical recycling programs are being implemented. Encourage litter control.

### *Suggested Protocols*

*Recommended Complaint Investigation Equipment*

- Field Screening Analysis
  - pH paper or meter
  - Commercial stormwater pollutant screening kit that can detect for reactive phosphorus, nitrate nitrogen, ammonium nitrogen, specific conductance, and turbidity
  - Sample jars
  - Sample collection pole
  - A tool to remove access hole covers
- Laboratory Analysis
  - Sample cooler
  - Ice
  - Sample jars and labels
  - Chain of custody forms
- Documentation
  - Camera
  - Notebook
  - Pens
  - Notice of Violation forms
  - Educational materials

*General*

- Develop clear protocols and lines of communication for effectively prohibiting non-stormwater discharges, especially those that are not classified as hazardous. These are often not responded to as effectively as they need to be.
- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as “Dump No Waste Drains to Stream” stenciled or demarcated next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.

- See SC44 Stormwater Drainage System Maintenance for additional information.

*Illicit Connections*

- Locate discharges from the industrial storm drainage system to the municipal storm drain system through review of "as-built" piping schematics.
- Isolate problem areas and plug illicit discharge points.
- Locate and evaluate all discharges to the industrial storm drain system.

*Visual Inspection and Inventory*

- Inventory and inspect each discharge point during dry weather.
- Keep in mind that drainage from a storm event can continue for a day or two following the end of a storm and groundwater may infiltrate the underground stormwater collection system. Also, non-stormwater discharges are often intermittent and may require periodic inspections.

*Review Infield Piping*

- A review of the "as-built" piping schematic is a way to determine if there are any connections to the stormwater collection system.
- Inspect the path of floor drains in older buildings.

*Smoke Testing*

- Smoke testing of wastewater and stormwater collection systems is used to detect connections between the two systems.
- During dry weather the stormwater collection system is filled with smoke and then traced to sources. The appearance of smoke at the base of a toilet indicates that there may be a connection between the sanitary and the stormwater system.

*Dye Testing*

- A dye test can be performed by simply releasing a dye into either your sanitary or process wastewater system and examining the discharge points from the stormwater collection system for discoloration.

*TV Inspection of Drainage System*

- TV Cameras can be employed to visually identify illicit connections to the industrial storm drainage system.

*Illegal Dumping*

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.

- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.

Once a site has been cleaned:

- Post "No Dumping" signs with a phone number for reporting dumping and disposal.
- Landscaping and beautification efforts of hot spots may also discourage future dumping, as well as provide open space and increase property values.
- Lighting or barriers may also be needed to discourage future dumping.
- See fact sheet SC11 Spill Prevention, Control, and Cleanup.

*Inspection*

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- Conduct field investigations of the industrial storm drain system for potential sources of non-stormwater discharges.
- Pro-actively conduct investigations of high priority areas. Based on historical data, prioritize specific geographic areas and/or incident type for pro-active investigations.

*Reporting*

- A database is useful for defining and tracking the magnitude and location of the problem.
- Report prohibited non-stormwater discharges observed during the course of normal daily activities so they can be investigated, contained, and cleaned up or eliminated.
- Document that non-stormwater discharges have been eliminated by recording tests performed, methods used, dates of testing, and any on-site drainage points observed.
- Document and report annually the results of the program.
- Maintain documentation of illicit connection and illegal dumping incidents, including significant conditionally exempt discharges that are not properly managed.

***Training***

- Training of technical staff in identifying and documenting illegal dumping incidents is required.
- Consider posting the quick reference table near storm drains to reinforce training.
- Train employees to identify non-stormwater discharges and report discharges to the appropriate departments.

- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur. Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.
- Determine and implement appropriate outreach efforts to reduce non-permissible non-stormwater discharges.
- Conduct spill response drills annually (if no events occurred to evaluate your plan) in cooperation with other industries.
- When a responsible party is identified, educate the party on the impacts of his or her actions.

***Spill Response and Prevention***

- See SC11 Spill Prevention Control and Cleanup.

***Other Considerations***

- Many facilities do not have accurate, up-to-date schematic drawings.

## Requirements

***Costs (including capital and operation & maintenance)***

- The primary cost is for staff time and depends on how aggressively a program is implemented.
- Cost for containment and disposal is borne by the discharger.
- Illicit connections can be difficult to locate especially if there is groundwater infiltration.
- Indoor floor drains may require re-plumbing if cross-connections to storm drains are detected.

***Maintenance (including administrative and staffing)***

- Illegal dumping and illicit connection violations requires technical staff to detect and investigate them.

## Supplemental Information

***Further Detail of the BMP***

*Illegal Dumping*

- Substances illegally dumped on streets and into the storm drain systems and creeks include paints, used oil and other automotive fluids, construction debris, chemicals, fresh concrete, leaves, grass clippings, and pet wastes. All of these wastes cause stormwater and receiving water quality problems as well as clog the storm drain system itself.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots

- Types and quantities (in some cases) of wastes
- Patterns in time of occurrence (time of day/night, month, or year)
- Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
- Responsible parties

One of the keys to success of reducing or eliminating illegal dumping is increasing the number of people at the facility who are aware of the problem and who have the tools to at least identify the incident, if not correct it. Therefore, train field staff to recognize and report the incidents.

What constitutes a "non-stormwater" discharge?

- Non-stormwater discharges to the stormwater collection system may include any water used directly in the manufacturing process (process wastewater), air conditioning condensate and coolant, non-contact cooling water, cooling equipment condensate, outdoor secondary containment water, vehicle and equipment wash water, sink and drinking fountain wastewater, sanitary wastes, or other wastewaters.

*Permit Requirements*

- Facilities subject to stormwater permit requirements must include a certification that the stormwater collection system has been tested or evaluated for the presence of non-stormwater discharges. The State's General Industrial Stormwater Permit requires that non-stormwater discharges be eliminated prior to implementation of the facility's SWPPP.

*Performance Evaluation*

- Review annually internal investigation results; assess whether goals were met and what changes or improvements are necessary.
- Obtain feedback from personnel assigned to respond to, or inspect for, illicit connections and illegal dumping incidents.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Spill Prevention, Control & Cleanup SC-11

Photo Credit: Geoff Brosseau

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

| | |
|---|---|
| Sediment | |
| Nutrients | |
| Trash | |
| Metals | ✓ |
| Bacteria | |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Description

Many activities that occur at an industrial or commercial site have the potential to cause accidental or illegal spills. Preparation for accidental or illegal spills, with proper training and reporting systems implemented, can minimize the discharge of pollutants to the environment.

Spills and leaks are one of the largest contributors of stormwater pollutants. Spill prevention and control plans are applicable to any site at which hazardous materials are stored or used. An effective plan should have spill prevention and response procedures that identify potential spill areas, specify material handling procedures, describe spill response procedures, and provide spill clean-up equipment. The plan should take steps to identify and characterize potential spills, eliminate and reduce spill potential, respond to spills when they occur in an effort to prevent pollutants from entering the stormwater drainage system, and train personnel to prevent and control future spills.

## Approach

### *Pollution Prevention*

- Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.

- Develop a Spill Prevention Control and Countermeasure (SPCC) Plan. The plan should include:

- Description of the facility, owner and address, activities and chemicals present
- Facility map
- Notification and evacuation procedures
- Cleanup instructions
- Identification of responsible departments
- Identify key spill response personnel

- Recycle, reclaim, or reuse materials whenever possible. This will reduce the amount of process materials that are brought into the facility.

***Suggested Protocols (including equipment needs)***

*Spill Prevention*

- Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.

- If consistent illegal dumping is observed at the facility:
  - Post "No Dumping" signs with a phone number for reporting illegal dumping and disposal. Signs should also indicate fines and penalties applicable for illegal dumping.
  - Landscaping and beautification efforts may also discourage illegal dumping.
  - Bright lighting and/or entrance barriers may also be needed to discourage illegal dumping.

- Store and contain liquid materials in such a manner that if the tank is ruptured, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters, or groundwater.

- If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collects runoff from the storage tank area.

- Routine maintenance:
  - Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Any collected liquids or soiled absorbent materials must be reused/recycled or properly disposed.
  - Store and maintain appropriate spill cleanup materials in a location known to all near the tank storage area; and ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - Sweep and clean the storage area monthly if it is paved, *do not hose down the area to a storm drain*.

- Check tanks (and any containment sumps) daily for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.

- Label all containers according to their contents (e.g., solvent, gasoline).
- Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).
- Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).
- Identify key spill response personnel.

*Spill Control and Cleanup Activities*

- Follow the Spill Prevention Control and Countermeasure Plan.
- Clean up leaks and spills immediately.
- Place a stockpile of spill cleanup materials where it will be readily accessible (e.g., near storage and maintenance areas).
- On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste. Physical methods for the cleanup of dry chemicals include the use of brooms, shovels, sweepers, or plows.
- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Chemical cleanups of material can be achieved with the use of adsorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.

*Reporting*

- Report spills that pose an immediate threat to human health or the environment to the Regional Water Quality Control Board.
- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).
- Report spills to local agencies, such as the fire department; they can assist in cleanup.
- Establish a system for tracking incidents. The system should be designed to identify the following:

  - Types and quantities (in some cases) of wastes

  - Patterns in time of occurrence (time of day/night, month, or year)

- Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
- Responsible parties

***Training***

- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills:
  - The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur.
  - Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.
- Employees should be educated about aboveground storage tank requirements. Employees responsible for aboveground storage tanks and liquid transfers should be thoroughly familiar with the Spill Prevention Control and Countermeasure Plan and the plan should be readily available.
- Train employees to recognize and report illegal dumping incidents.

***Other Considerations (Limitations and Regulations)***

- State regulations exist for facilities with a storage capacity of 10,000 gallons or more of petroleum to prepare a Spill Prevention Control and Countermeasure (SPCC) Plan (Health & Safety Code Chapter 6.67).
- State regulations also exist for storage of hazardous materials (Health & Safety Code Chapter 6.95), including the preparation of area and business plans for emergency response to the releases or threatened releases.
- Consider requiring smaller secondary containment areas (less than 200 sq. ft.) to be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

## Requirements

***Costs (including capital and operation & maintenance)***

- Will vary depending on the size of the facility and the necessary controls.
- Prevention of leaks and spills is inexpensive. Treatment and/or disposal of contaminated soil or water can be quite expensive.

***Maintenance (including administrative and staffing)***

- This BMP has no major administrative or staffing requirements. However, extra time is needed to properly handle and dispose of spills, which results in increased labor costs.

## Supplemental Information

### *Further Detail of the BMP*

*Reporting*

Record keeping and internal reporting represent good operating practices because they can increase the efficiency of the facility and the effectiveness of BMPs. A good record keeping system helps the facility minimize incident recurrence, correctly respond with appropriate cleanup activities, and comply with legal requirements. A record keeping and reporting system should be set up for documenting spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Incident records describe the quality and quantity of non-stormwater discharges to the storm sewer. These records should contain the following information:

- Date and time of the incident
- Weather conditions
- Duration of the spill/leak/discharge
- Cause of the spill/leak/discharge
- Response procedures implemented
- Persons notified
- Environmental problems associated with the spill/leak/discharge

Separate record keeping systems should be established to document housekeeping and preventive maintenance inspections, and training activities. All housekeeping and preventive maintenance inspections should be documented. Inspection documentation should contain the following information:

- The date and time the inspection was performed
- Name of the inspector
- Items inspected
- Problems noted
- Corrective action required
- Date corrective action was taken

Other means to document and record inspection results are field notes, timed and dated photographs, videotapes, and drawings and maps.

*Aboveground Tank Leak and Spill Control*

Accidental releases of materials from aboveground liquid storage tanks present the potential for contaminating stormwater with many different pollutants. Materials spilled, leaked, or lost from

tanks may accumulate in soils or on impervious surfaces and be carried away by stormwater runoff.

The most common causes of unintentional releases are:

- Installation problems
- Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves)
- External corrosion and structural failure
- Spills and overfills due to operator error
- Leaks during pumping of liquids or gases from truck or rail car to a storage tank or vice versa

Storage of reactive, ignitable, or flammable liquids should comply with the Uniform Fire Code and the National Electric Code. Practices listed below should be employed to enhance the code requirements:

- Tanks should be placed in a designated area.
- Tanks located in areas where firearms are discharged should be encapsulated in concrete or the equivalent.
- Designated areas should be impervious and paved with Portland cement concrete, free of cracks and gaps, in order to contain leaks and spills.
- Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all of the containers or 110 percent of the volume of the largest container, whichever is greater. The area inside the curb should slope to a drain.
- For used oil or dangerous waste, a dead-end sump should be installed in the drain.
- All other liquids should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.
- Accumulated stormwater in petroleum storage areas should be passed through an oil/water separator.

Maintenance is critical to preventing leaks and spills. Conduct routine inspections and:

- Check for external corrosion and structural failure.
- Check for spills and overfills due to operator error.
- Check for failure of piping system (pipes, pumps, flanger, coupling, hoses, and valves).
- Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.

- Visually inspect new tank or container installation for loose fittings, poor welding, and improper or poorly fitted gaskets.
- Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Frequently relocate accumulated stormwater during the wet season.
- Periodically conduct integrity testing by a qualified professional.

*Vehicle Leak and Spill Control*

Major spills on roadways and other public areas are generally handled by highly trained Hazmat teams from local fire departments or environmental health departments. The measures listed below pertain to leaks and smaller spills at vehicle maintenance shops.

In addition to implementing the spill prevention, control, and clean up practices above, use the following measures related to specific activities:

*Vehicle and Equipment Maintenance*

- Perform all vehicle fluid removal or changing inside or under cover to prevent the run-on of stormwater and the runoff of spills.
- Regularly inspect vehicles and equipment for leaks, and repair immediately.
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Immediately drain all fluids from wrecked vehicles.
- Store wrecked vehicles or damaged equipment under cover.
- Place drip pans or absorbent materials under heavy equipment when not in use.
- Use adsorbent materials on small spills rather than hosing down the spill.
- Remove the adsorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- Oil filters disposed of in trashcans or dumpsters can leak oil and contaminate stormwater. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.

- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

*Vehicle and Equipment Fueling*

- Design the fueling area to prevent the run-on of stormwater and the runoff of spills:
  - Cover fueling area if possible.
  - Use a perimeter drain or slope pavement inward with drainage to a sump.
  - Pave fueling area with concrete rather than asphalt.
- If dead-end sump is not used to collect spills, install an oil/water separator.
- Install vapor recovery nozzles to help control drips as well as air pollution.
- Discourage "topping-off' of fuel tanks.
- Use secondary containment when transferring fuel from the tank truck to the fuel tank.
- Use adsorbent materials on small spills and general cleaning rather than hosing down the area. Remove the adsorbent materials promptly.
- Carry out all Federal and State requirements regarding underground storage tanks, or install above ground tanks.
- Do not use mobile fueling of mobile industrial equipment around the facility; rather, transport the equipment to designated fueling areas.
- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Train employees in proper fueling and cleanup procedures.

*Industrial Spill Prevention Response*

For the purposes of developing a spill prevention and response program to meet the stormwater regulations, facility managers should use information provided in this fact sheet and the spill prevention/response portions of the fact sheets in this handbook, for specific activities. The program should:

- Integrate with existing emergency response/hazardous materials programs (e.g., Fire Department)
- Develop procedures to prevent/mitigate spills to storm drain systems
- Identify responsible departments
- Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures
- Address spills at municipal facilities, as well as public areas

- Provide training concerning spill prevention, response and cleanup to all appropriate personnel

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Stormwater Managers Resource Center http://www.stormwatercenter.net/

# Outdoor Loading/Unloading SC-30

Photo Credit: Geoff Brosseau

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | ✓ |
| Trash | |
| Metals | ✓ |
| Bacteria | |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Description

The loading/unloading of materials usually takes place outside on docks or terminals; therefore, materials spilled, leaked, or lost during loading/unloading may collect in the soil or on other surfaces and have the potential to be carried away by stormwater runoff or when the area is cleaned. Additionally, rainfall may wash pollutants from machinery used to unload or move materials. Implementation of the following protocols will prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

### *Pollution Prevention*

- Keep accurate maintenance logs to evaluate materials removed and improvements made.
- Park tank trucks or delivery vehicles in designated areas so that spills or leaks can be contained.
- Limit exposure of material to rainfall whenever possible.
- Prevent stormwater run-on.
- Check equipment regularly for leaks.

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### *Suggested Protocols*

*Loading and Unloading – General Guidelines*

- Develop an operations plan that describes procedures for loading and/or unloading.
- Conduct loading and unloading in dry weather if possible.
- Cover designated loading/unloading areas to reduce exposure of materials to rain.
- Consider placing a seal or door skirt between delivery vehicles and building to prevent exposure to rain.
- Design loading/unloading area to prevent stormwater run-on, which would include grading or berming the area, and position roof downspouts so they direct stormwater away from the loading/unloading areas.
- Have employees load and unload all materials and equipment in covered areas such as building overhangs at loading docks if feasible.
- Load/unload only at designated loading areas.
- Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections. Several drip pans should be stored in a covered location near the liquid transfer area so that they are always available, yet protected from precipitation when not in use. Drip pans can be made specifically for railroad tracks. Drip pans must be cleaned periodically, and drip collected materials must be disposed of properly.
- Pave loading areas with concrete instead of asphalt.
- Avoid placing storm drains in the area.
- Grade and/or berm the loading/unloading area to a drain that is connected to a deadend.

*Inspection*

- Check loading and unloading equipment regularly for leaks, including valves, pumps, flanges and connections.
- Look for dust or fumes during loading or unloading operations.

### *Training*

- Train employees (e.g., fork lift operators) and contractors on proper spill containment and cleanup.
- Have employees trained in spill containment and cleanup present during loading/unloading.
- Train employees in proper handling techniques during liquid transfers to avoid spills.
- Make sure forklift operators are properly trained on loading and unloading procedures.

***Spill Response and Prevention***

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Contain leaks during transfer.
- Store and maintain appropriate spill cleanup materials in a location that is readily accessible and known to all and ensure that employees are familiar with the site's spill control plan and proper spill cleanup procedures.
- Have an emergency spill cleanup plan readily available.
- Use drip pans or comparable devices when transferring oils, solvents, and paints.

***Other Considerations (Limitations and Regulations)***

- Space and time limitations may preclude all transfers from being performed indoors or under cover.
- It may not be possible to conduct transfers only during dry weather.

## Requirements

***Costs***

Costs should be low except when covering a large loading/unloading area.

***Maintenance***

- Conduct regular inspections and make repairs as necessary. The frequency of repairs will depend on the age of the facility.
- Check loading and unloading equipment regularly for leaks.
- Conduct regular broom dry-sweeping of area.

## Supplemental Information

***Further Detail of the BMP***

*Special Circumstances for Indoor Loading/Unloading of Materials*

Loading or unloading of liquids should occur in the manufacturing building so that any spills that are not completely retained can be discharged to the sanitary sewer, treatment plant, or treated in a manner consistent with local sewer authorities and permit requirements.

- For loading and unloading tank trucks to above and below ground storage tanks, the following procedures should be used:
  - The area where the transfer takes place should be paved. If the liquid is reactive with the asphalt, Portland cement should be used to pave the area.
  - The transfer area should be designed to prevent run-on of stormwater from adjacent areas. Sloping the pad and using a curb, like a speed bump, around the uphill side of the transfer area should reduce run-on.

- The transfer area should be designed to prevent runoff of spilled liquids from the area. Sloping the area to a drain should prevent runoff. The drain should be connected to a dead-end sump or to the sanitary sewer. A positive control valve should be installed on the drain.

- For transfer from rail cars to storage tanks that must occur outside, use the following procedures:

  - Drip pans should be placed at locations where spillage may occur, such as hose connections, hose reels, and filler nozzles. Use drip pans when making and breaking connections.

  - Drip pan systems should be installed between the rails to collect spillage from tank cars.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Outdoor Equipment Operations SC-32

## Description

Outside process equipment operations and maintenance can contaminate stormwater runoff. Activities, such as grinding, painting, coating, sanding, degreasing or parts cleaning, landfills and waste piles, solid waste treatment and disposal, are examples of process operations that can lead to contamination of stormwater runoff. Source controls for outdoor process equipment operations and maintenance include reducing the amount of waste created, enclosing or covering all or some of the equipment, installing secondary containment, and training employees.

## Approach

### *Pollution Prevention*

- Perform the activity during dry periods.
- Use non-toxic chemicals for maintenance and minimize or eliminate the use of solvents.

### *Suggested Protocols*

- Consider enclosing the activity in a building and connecting the floor drains to the sanitary sewer.
- Cover the work area with a permanent roof if possible.
- Minimize contact of stormwater with outside process equipment operations through berming and drainage routing (run-on prevention). If possible, connect process equipment area to public sewer or facility wastewater treatment system. Some municipalities require that secondary containment areas be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.
- Dry clean the work area regularly.

### *Training*

- Train employees to perform the activity during dry periods only or substituting benign materials for more toxic ones.
- Train employee and contractors in proper techniques for spill containment and cleanup. Employees should have the tools and knowledge to immediately begin cleaning up a spill should one occur.

### *Spill Response and Prevention*

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.

**Objectives**

- Cover
- Contain
- Educate
- Reduce/Minimize

**Targeted Constituents**

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | |
| Trash | |
| Metals | ✓ |
| Bacteria | |
| Oil and Grease | ✓ |
| Organics | ✓ |

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- Have employees trained in emergency spill cleanup procedures present when dangerous waste, liquid chemicals, or other wastes are delivered.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Prevent operator errors by using engineering safe guards and thus reducing accidental releases of pollutant.
- Inspect storage areas regularly for leaks or spills. Also check for structural failure, spills and overfills due to operator error, and/or failure of piping system.

***Other Considerations***

- Providing cover may be expensive.
- Space limitations may preclude enclosing some equipment.
- Storage sheds often must meet building and fire code requirements.

## Requirements

***Costs***

Costs vary depending on the complexity of the operation and the amount of control necessary for stormwater pollution control.

***Maintenance***

- Conduct routine preventive maintenance, including checking process equipment for leaks.
- Clean the storm drain system regularly.

## Supplemental Information

***Further Detail of the BMP***

*Hydraulic/Treatment Modifications*

If stormwater becomes polluted, it should be captured and treated. If you do not have your own process wastewater treatment system, consider discharging to the public sewer system. Use of the public sewer might be allowed under the following conditions:

- If the activity area is very small (less than a few hundred square feet), the local sewer authority may be willing to allow the area to remain uncovered with the drain connected to the public sewer.
- It may be possible under unusual circumstances to connect a much larger area to the public sewer, as long as the rate of stormwater discharges does not exceed the capacity of the wastewater treatment plant. The stormwater could be stored during the storm and then transferred to the public sewer when the normal flow is low, such as at night.

Industries that generate large volumes of process wastewater typically have their own treatment system and corresponding permit. These industries have the discretion to use their wastewater treatment system to treat stormwater within the constraints of their permit requirements for process treatment. It may also be possible for the industry to discharge the stormwater directly to an effluent outfall without treatment as long as the total loading of the discharged process

water and stormwater does not exceed the loading had a stormwater treatment device been used. This could be achieved by reducing the loading from the process wastewater treatment system. Check with your Regional Water Quality Control Board or local sewering agency, as this option would be subject to permit constraints and potentially regular monitoring.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Stormwater Managers Resource Center http://www.stormwatercenter.net

# Waste Handling & Disposal SC-34

Photo Credit: Geoff Brosseau

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, reuse, and recycling; and preventing run-on and runoff.

## Targeted Constituents

| | |
|---|---|
| Sediment | |
| Nutrients | |
| Trash | |
| Metals | ✓ |
| Bacteria | ✓ |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Approach

### *Pollution Prevention*

- Accomplish reduction in the amount of waste generated using the following source controls:
  - Production planning and sequencing
  - Process or equipment modification
  - Raw material substitution or elimination
  - Loss prevention and housekeeping
  - Waste segregation and separation
  - Close loop recycling
- Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- Recycle materials whenever possible.

***Suggested Protocols***

*General*

- Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater run-on and runoff with a berm. The waste containers or piles must be covered except when in use.
- Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- Check storage containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the storage area regularly. If it is paved, do not hose down the area to a storm drain.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain.
- Transfer waste from damaged containers into safe containers.
- Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.

*Controlling Litter*

- Post "No Littering" signs and enforce anti-litter laws.
- Provide a sufficient number of litter receptacles for the facility.
- Clean out and cover litter receptacles frequently to prevent spillage.

*Waste Collection*

- Keep waste collection areas clean.
- Inspect solid waste containers for structural damage regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).

- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

*Good Housekeeping*

- Use all of the product before disposing of the container.
- Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.

*Chemical/Hazardous Wastes*

- Select designated hazardous waste collection areas on-site.
- Store hazardous materials and wastes in covered containers and protect them from vandalism.
- Place hazardous waste containers in secondary containment.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- Stencil or demarcate storm drains on the facility's property with prohibitive message regarding waste disposal.

*Run-on/Runoff Prevention*

- Prevent stormwater run-on from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent waste materials from directly contacting rain.
- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropyleneor hypalon.
- Cover the area with a permanent roof if feasible.
- Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- Move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.

*Inspection*

- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Check waste management areas for leaking containers or spills.

- Repair leaking equipment including valves, lines, seals, or pumps promptly.

***Training***

- Train staff in pollution prevention measures and proper disposal methods.
- Train employees and contractors in proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur.
- Train employees and subcontractors in proper hazardous waste management.

***Spill Response and Prevention***

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Have an emergency plan, equipment and trained personnel ready at all times to deal immediately with major spills
- Collect all spilled liquids and properly dispose of them.
- Store and maintain appropriate spill cleanup materials in a location known to all near the designated wash area.
- Ensure that vehicles transporting waste have spill prevention equipment that can prevent spills during transport. Spill prevention equipment includes:
  - Vehicles equipped with baffles for liquid waste
  - Trucks with sealed gates and spill guards for solid waste

***Other Considerations (Limitations and Regulations)***

Hazardous waste cannot be reused or recycled; it must be disposed of by a licensed hazardous waste hauler.

## Requirements

***Costs***

Capital and O&M costs for these programs will vary substantially depending on the size of the facility and the types of waste handled. Costs should be low if there is an inventory program in place.

***Maintenance***

- None except for maintaining equipment for material tracking program.

## Supplemental Information

***Further Detail of the BMP***

*Land Treatment System*

Minimize runoff of polluted stormwater from land application by:

- Choosing a site where slopes are under 6%, the soil is permeable, there is a low water table, it is located away from wetlands or marshes, and there is a closed drainage system

- Avoiding application of waste to the site when it is raining or when the ground is saturated with water
- Growing vegetation on land disposal areas to stabilize soils and reduce the volume of surface water runoff from the site
- Maintaining adequate barriers between the land application site and the receiving waters (planted strips are particularly good)
- Using erosion control techniques such as mulching and matting, filter fences, straw bales, diversion terracing, and sediment basins
- Performing routine maintenance to ensure the erosion control or site stabilization measures are working

***Examples***

The port of Long Beach has a state-of-the-art database for identifying potential pollutant sources, documenting facility management practices, and tracking pollutants.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

Solid Waste Container Best Management Practices – Fact Sheet On-Line Resources – Environmental Health and Safety. Harvard University. 2002.

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Safer Alternative Products SC-35

## Description

Promote the use of less harmful products and products that contain little or no TMDL pollutants. Alternatives exist for most product classes including chemical fertilizers, pesticides, cleaning solutions, janitorial chemicals, automotive and paint products, and consumables (batteries, fluorescent lamps).

## Approach

Pattern a new program after the many established programs around the state and country. Integrate this best management practice as much as possible with existing programs at your facility.

Develop a comprehensive program based on:

- The "Precautionary Principle," which is an alternative to the "Risk Assessment" model that says it's acceptable to use a potentially harmful product until physical evidence of its harmful effects are established and deemed too costly from an environmental or public health perspective. For instance, a risk assessment approach might say it's acceptable to use a pesticide until there is direct proof of an environmental impact. The Precautionary Principle approach is used to evaluate whether a given product is safe, whether it is really necessary, and whether alternative products would perform just as well.
- Environmentally Preferable Purchasing Program to minimize the purchase of products containing hazardous ingredients used in the facility's custodial services, fleet maintenance, and facility maintenance in favor of using alternate products that pose less risk to employees and to the environment.
- Integrated Pest Management (IPM) or Less-Toxic Pesticide Program, which uses a pest management approach that minimizes the use of toxic chemicals and gets rid of pests by methods that pose a lower risk to employees, the public, and the environment.
- Energy Efficiency Program including no-cost and low-cost energy conservation and efficiency actions that can reduce both energy consumption and electricity bills, along with long-term energy efficiency investments.

Consider the following mechanisms for developing and implementing a comprehensive program:

- Policies

### Objectives

- Educate
- Reduce/Minimize
- Product Substitution

### Targeted Constituents

| | |
|---|---|
| Sediment | |
| Nutrients | ✓ |
| Trash | |
| Metals | ✓ |
| Bacteria | |
| Oil and Grease | ✓ |
| Organics | ✓ |

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- Procedures
  - Standard operating procedures (SOPs)
  - Purchasing guidelines and procedures
  - Bid packages (services and supplies)
- Materials
  - Preferred or approved product and supplier lists
  - Product and supplier evaluation criteria
  - Training sessions and manuals
  - Fact sheets for employees

Implement this BMP in conjunction with the Vehicle and Equipment Management fact sheets (SC20 – SC22) and SC41, Building and Grounds Maintenance.

***Training***

- Employees who handle potentially harmful materials in the use of safer alternatives.
- Purchasing departments should be encouraged to procure less hazardous materials and products that contain little or no harmful substances or TMDL pollutants.

***Regulations***

This BMP has no regulatory requirements. Existing regulations already encourage facilities to reduce the use of hazardous materials through incentives such as reduced:

- Specialized equipment storage and handling requirements,
- Storm water runoff sampling requirements,
- Training and licensing requirements, and
- Record keeping and reporting requirements.

***Equipment***

- There are no major equipment requirements to this BMP.

***Limitations***

- Alternative products may not be available, suitable, or effective in every case.

**Requirements**

***Cost Considerations***

- The primary cost is for staff time to: 1) develop new policies and procedures and 2) educate purchasing departments and employees who handle potentially harmful materials about the availability, procurement, and use of safer alternatives.

- Some alternative products may be slightly more expensive than conventional products.

### Supplemental Information

Employees and contractors / service providers can both be educated about safer alternatives by using information developed by a number of organizations including the references and resources listed below.

The following discussion provides some general information on safer alternatives. More specific information on particular hazardous materials and the available alternatives may be found in the references and resources listed below.

- Automotive products – Less toxic alternatives are not available for many automotive products, especially engine fluids. But there are alternatives to grease lubricants, car polishes, degreasers, and windshield washer solution. Rerefined motor oil is also available.
- Vehicle/Trailer lubrication – Fifth wheel bearings on trucks require routine lubrication. Adhesive lubricants are available to replace typical chassis grease.
- Cleaners – Vegetables-based or citrus-based soaps are available to replace petroleum-based soaps/detergents.
- Paint products – Water-based paints, wood preservatives, stains, and finishes are available.
- Pesticides – Specific alternative products or methods exist to control most insects, fungi, and weeds.
- Chemical Fertilizers – Compost and soil amendments are natural alternatives.
- Consumables – Manufacturers have either reduced or are in the process of reducing the amount of heavy metals in consumables such as batteries and fluorescent lamps. All fluorescent lamps contain mercury, however low-mercury containing lamps are now available from most hardware and lighting stores. Fluorescent lamps are also more energy efficient than the average incandescent lamp.
- Janitorial chemicals – Even biodegradable soap can harm fish and wildlife before it biodegrades. Biodegradable does not mean non-toxic. Safer products and procedures are available for floor stripping and cleaning, as well as carpet, glass, metal, and restroom cleaning and disinfecting.

### *Examples*

There are a number of business and trade associations, and communities with effective programs. Some of the more prominent are listed below in the references and resources section.

### References and Resources

Note: Many of these references provide alternative products for materials that typically are used inside and disposed to the sanitary sewer as well as alternatives to products that usually end up in the storm drain.

***General Sustainable Practices and Pollution Prevention Including Pollutant-Specific Information***

California Department of Toxic Substances Control (www.dtsc.ca.gov)

California Integrated Waste Management Board (www.ciwmb.ca.gov)

City of Santa Monica (www.santa-monica.org/environment)

City of Palo Alto (www.city.palo-alto.ca.us/cleanbay)

City and County of San Francisco, Department of the Environment (www.ci.sf.ca.us/sfenvironment)

Earth 911 (www.earth911.org/master.asp)

Environmental Finance Center Region IX (www.greenstart.org/efc9)

Flex Your Power (www.flexyourpower.ca.gov)

GreenBiz.com (www.greenbiz.com)

Green Business Program (www.abag.org/bayarea/enviro/gbus/gb.html)

Pacific Industrial and Business Association (www.piba.org)

Sacramento Clean Water Business Partners (www.sacstormwater.org)

USEPA BMP fact sheet – Alternative products (http://cfpub.epa.gov/npdes/stormwater/menuofbmps/poll_2.cfm)

USEPA Region IX Pollution Prevention Program (www.epa.gov/region09/p2)

Western Regional Pollution Prevention Network (www.westp2net.org)

***Metals (mercury, copper)***

National Electrical Manufacturers Association - Environment, Health and Safety (www.nema.org)

Sustainable Conservation (www.suscon.org)

- Auto Recycling Project
- Brake Pad Partnership

***Pesticides and Chemical Fertilizers***

Bio-Integral Resource Center (www.birc.org)

California Department of Pesticide Regulation (www.cdpr.ca.gov)

University of California Statewide IPM Program (www.ipm.ucdavis.edu/default.html)

***Dioxins***

Bay Area Dioxins Project (http://dioxin.abag.ca.gov/)

# Building & Grounds Maintenance SC-41

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | ✓ |
| Trash | |
| Metals | ✓ |
| Bacteria | ✓ |
| Oil and Grease | |
| Organics | |

## Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, abnormal pH, and oils and greases. Utilizing the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

### *Pollution Prevention*

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.

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- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

***Suggested Protocols***

*Pressure Washing of Buildings, Rooftops, and Other Large Objects*

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

*Landscaping Activities*

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.

*Building Repair, Remodeling, and Construction*

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. If directed off-site, you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

*Mowing, Trimming, and Planting*

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water: do not put it in the storm drain; pour over landscaped areas.
- Use hand weeding where practical.

*Fertilizer and Pesticide Management*

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.

- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

*Inspection*

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.

***Training***

- Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

***Spill Response and Prevention***

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- Familiarize employees with the Spill Prevention Control and Countermeasure Plan.
- Clean up spills immediately.

***Other Considerations***

Alternative pest/weed controls may not be available, suitable, or effective in many cases.

## Requirements

***Costs***

- Cost will vary depending on the type and size of facility.
- Overall costs should be low in comparison to other BMPs.

***Maintenance***

Sweep paved areas regularly to collect loose particles. Wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

## Supplemental Information

### *Further Detail of the BMP*

*Fire Sprinkler Line Flushing*

Building fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and between flushes may accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Mobile Cleaners Pilot Program: Final Report. 1997. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Building Repair and Construction SC-42

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Recycle

## Targeted Constituents

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | |
| Trash | ✓ |
| Metals | ✓ |
| Bacteria | |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Description

Modifications are common particularly at large industrial sites. The activity may vary from minor and normal building repair to major remodeling, or the construction of new facilities. These activities can generate pollutants including solvents, paints, paint and varnish removers, finishing residues, spent thinners, soap cleaners, kerosene, asphalt and concrete materials, adhesive residues, and old asbestos installation. Protocols in this fact sheet are intended to prevent or reduce the discharge of pollutants to stormwater from building repair, remodeling, and construction by using soil erosion controls, enclosing or covering building material storage areas, using good housekeeping practices, using safer alternative products, and training employees.

## Approach

### *Pollution Prevention*

- Recycle residual paints, solvents, lumber, and other materials to the maximum extent practical.
- Buy recycled products to the maximum extent practical.
- Inform on-site contractors of company policy on these matters and include appropriate provisions in their contract to ensure certain proper housekeeping and disposal practices are implemented.

- Make sure that nearby storm drains are well marked to minimize the chance of inadvertent disposal of residual paints and other liquids.

***Suggested Protocols***

*Repair & Remodeling*

- Follow BMPs identified in Construction BMP Handbook.
- Maintain good housekeeping practices while work is underway.
- Keep the work site clean and orderly. Remove debris in a timely fashion. Sweep the area.
- Cover materials of particular concern that must be left outside, particularly during the rainy season.
- Do not dump waste liquids down the storm drain.
- Dispose of wash water, sweepings, and sediments properly.
- Store materials properly that are normally used in repair and remodeling such as paints and solvents.
- Sweep out the gutter or wash the gutter and trap the particles at the outlet of the downspout if when repairing roofs, small particles have accumulated in the gutter. A sock or geofabric placed over the outlet may effectively trap the materials. If the downspout is tight lined, place a temporary plug at the first convenient point in the storm drain and pump out the water with a vactor truck, and clean the catch basin sump where you placed the plug.
- Properly store and dispose waste materials generated from construction activities. See Construction BMP Handbook.
- Clean the storm drain system in the immediate vicinity of the construction activity after it is completed.

*Painting*

- Enclose painting operations consistent with local air quality regulations and OSHA.
- Local air pollution regulations may, in many areas of the state, specify painting procedures which if properly carried out are usually sufficient to protect water quality.
- Develop paint handling procedures for proper use, storage, and disposal of paints.
- Transport paint and materials to and from job sites in containers with secure lids and tied down to the transport vehicle.
- Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint containers.
- Mix paint indoors before using so that any spill will not be exposed to rain. Do so even during dry weather because cleanup of a spill will never be 100% effective.
- Transfer and load paint and hot thermoplastic away from storm drain inlets.

- Do not transfer or load paint near storm drain inlets.
- Plug nearby storm drain inlets prior to starting painting and remove plugs when job is complete when there is significant risk of a spill reaching storm drains.
- Cover nearby storm drain inlets prior to starting work if sand blasting is used to remove paint.
- Use a ground cloth to collect the chips if painting requires scraping or sand blasting of the existing surface. Dispose the residue properly.
- Cover or enclose painting operations properly to avoid drift.
- Clean the application equipment in a sink that is connected to the sanitary sewer if using water based paints.
- Capture all cleanup-water and dispose of properly.
- Dispose of paints containing lead or tributyl tin and considered a hazardous waste properly.
- Store leftover paints if they are to be kept for the next job properly, or dispose properly.
- Recycle paint when possible. Dispose of paint at an appropriate household hazardous waste facility.

### *Training*

Proper education of off-site contractors is often overlooked. The conscientious efforts of well trained employees can be lost by unknowing off-site contractors, so make sure they are well informed about what they are expected to do.

### *Spill Response and Prevention*

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Clean up spills immediately.
- Excavate and remove the contaminated (stained) soil if a spill occurs on dirt.

### *Limitations*

- This BMP is for minor construction only. The State's General Construction Activity Stormwater Permit has more requirements for larger projects. The companion "Construction Best Management Practice Handbook" contains specific guidance and best management practices for larger-scale projects.
- Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.
- Be certain that actions to help stormwater quality are consistent with Cal- and Fed-OSHA and air quality regulations.

## Requirements

### *Costs*

These BMPs are generally low to modest in cost.

### *Maintenance*

N/A

## Supplemental Information

### *Further Detail of the BMP*

*Soil/Erosion Control*

If the work involves exposing large areas of soil, employ the appropriate soil erosion and control techniques. See the Construction Best Management Practice Handbook. If old buildings are being torn down and not replaced in the near future, stabilize the site using measures described in SC-40 Contaminated or Erodible Areas.

If a building is to be placed over an open area with a storm drainage system, make sure the storm inlets within the building are covered or removed, or the storm line is connected to the sanitary sewer. If because of the remodeling a new drainage system is to be installed or the existing system is to be modified, consider installing catch basins as they serve as effective "in-line" treatment devices. See Treatment Control Fact Sheet TC-20 Wet Pond/Basin in Section 5 of the New Development and Redevelopment Handbook regarding design criteria. Include in the catch basin a "turn-down" elbow or similar device to trap floatables.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Parking/Storage Area Maintenance SC-43

**Objectives**

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

**Targeted Constituents**

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | |
| Trash | ✓ |
| Metals | ✓ |
| Bacteria | |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Description

Parking lots and storage areas can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. The protocols in this fact sheet are intended to prevent or reduce the discharge of pollutants from parking/storage areas and include using good housekeeping practices, following appropriate cleaning BMPs, and training employees.

## Approach

The goal of this program is to ensure stormwater pollution prevention practices are considered when conducting activities on or around parking areas and storage areas to reduce potential for pollutant discharge to receiving waters. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

### *Pollution Prevention*

- Encourage alternative designs and maintenance strategies for impervious parking lots. (See New Development and Redevelopment BMP Handbook)
- Keep accurate maintenance logs to evaluate BMP implementation.

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# SC-43 Parking/Storage Area Maintenance

***Suggested Protocols***

*General*

- Keep the parking and storage areas clean and orderly. Remove debris in a timely fashion.
- Allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- Utilize sand filters or oleophilic collectors for oily waste in low quantities.
- Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- Design lot to include semi-permeable hardscape.
- Discharge soapy water remaining in mop or wash buckets to the sanitary sewer through a sink, toilet, clean-out, or wash area with drain.

*Controlling Litter*

- Post "No Littering" signs and enforce anti-litter laws.
- Provide an adequate number of litter receptacles.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Provide trash receptacles in parking lots to discourage litter.
- Routinely sweep, shovel, and dispose of litter in the trash.

*Surface Cleaning*

- Use dry cleaning methods (e.g., sweeping, vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system if possible.
- Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- Sweep all parking lots at least once before the onset of the wet season.
- Follow the procedures below if water is used to clean surfaces:
  - Block the storm drain or contain runoff.
  - Collect and pump wash water to the sanitary sewer or discharge to a pervious surface. Do not allow wash water to enter storm drains.
  - Dispose of parking lot sweeping debris and dirt at a landfill.
- Follow the procedures below when cleaning heavy oily deposits:
  - Clean oily spots with absorbent materials.
  - Use a screen or filter fabric over inlet, then wash surfaces.

- Do not allow discharges to the storm drain.
- Vacuum/pump discharges to a tank or discharge to sanitary sewer.
- Appropriately dispose of spilled materials and absorbents.

*Surface Repair*

- Preheat, transfer or load hot bituminous material away from storm drain inlets.
- Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff.
- Cover and seal nearby storm drain inlets where applicable (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal.
- Use only as much water as necessary for dust control, to avoid runoff.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

*Inspection*

- Have designated personnel conduct inspections of parking facilities and stormwater conveyance systems associated with parking facilities on a regular basis.
- Inspect cleaning equipment/sweepers for leaks on a regular basis.

***Training***

- Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- Train employees and contractors in proper techniques for spill containment and cleanup.

***Spill Response and Prevention***

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- Clean up fluid spills immediately with absorbent rags or material.
- Dispose of spilled material and absorbents properly.

***Other Considerations***

Limitations related to sweeping activities at large parking facilities may include high equipment costs, the need for sweeper operator training, and the inability of current sweeper technology to remove oil and grease.

# SC-43 Parking/Storage Area Maintenance

## Requirements

### *Costs*

Cleaning/sweeping costs can be quite large. Construction and maintenance of stormwater structural controls can be quite expensive as well.

### *Maintenance*

- Sweep parking lot regularly to minimize cleaning with water.
- Clean out oil/water/sand separators regularly, especially after heavy storms.
- Clean parking facilities regularly to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions.

## Supplemental Information

### *Further Detail of the BMP*

*Surface Repair*

Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff. Where applicable, cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal. Only use only as much water as is necessary for dust control to avoid runoff.

## References and Resources


California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Drainage System Maintenance SC-44

**Objectives**

- Cover
- Contain
- Educate
- Reduce/Minimize

**Targeted Constituents**

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | |
| Trash | ✓ |
| Metals | |
| Bacteria | ✓ |
| Oil and Grease | |
| Organics | |

## Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and stormwater that may contain certain pollutants. The protocols in this fact sheet are intended to reduce pollutants reaching receiving waters through proper conveyance system operation and maintenance.

## Approach

### *Pollution Prevention*

Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

### *Suggested Protocols*

*Catch Basins/Inlet Structures*

- Staff should regularly inspect facilities to ensure compliance with the following:
  - Immediate repair of any deterioration threatening structural integrity.
  - Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.
  - Stenciling of catch basins and inlets (see SC34 Waste Handling and Disposal).

- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

*Storm Drain Conveyance System*

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

*Pump Stations*

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

*Open Channel*

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural (emphasis added) state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Game. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Federal Corps of Engineers and USFWS.

*Illicit Connections and Discharges*

- Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:
  - Is there evidence of spills such as paints, discoloring, etc?

- Are there any odors associated with the drainage system?
- Record locations of apparent illegal discharges/illicit connections?
- Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- Eliminate the discharge once the origin of flow is established.

- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

*Illegal Dumping*

- Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties
- Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

***Training***

- Train crews in proper maintenance activities, including record keeping and disposal.
- Allow only properly trained individuals to handle hazardous materials/wastes.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).

- OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).
- Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

***Spill Response and Prevention***

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.
- Refer to fact sheet SC-11 Spill Prevention, Control, and Cleanup.

***Other Considerations (Limitations and Regulations)***

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.
- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, liquid/sediment disposal, and prohibition against disposal of flushed effluent to sanitary sewer in some areas.
- Regulations may include adoption of substantial penalties for illegal dumping and disposal.
- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the storm drain system.

## Requirements

***Costs***

- An aggressive catch basin cleaning program could require a significant capital and O&M budget.
- The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal. The primary cost is for staff time. Cost depends on how aggressively a program is implemented. Other cost considerations for an illegal dumping program include:
  - Purchase and installation of signs.
  - Rental of vehicle(s) to haul illegally-disposed items and material to landfills.
  - Rental of heavy equipment to remove larger items (e.g., car bodies) from channels.
  - Purchase of landfill space to dispose of illegally-dumped items and material.

- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

***Maintenance***

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.

## Supplemental Information

***Further Detail of the BMP***

*Storm Drain Flushing*

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing resuspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used or that fire hydrant line flushing coincide with storm sewer flushing.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

Ferguson, B.K. 1991. Urban Stream Reclamation, p. 324-322, Journal of Soil and Water Conservation.

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net

United States Environmental Protection Agency (USEPA). 2002. Pollution Prevention/Good Housekeeping for Municipal Operations Storm Drain System Cleaning. On line:
http://www.epa.gov/npdes/menuofbmps/poll_16.htm

# Efficient Irrigation SD-12

**Design Objectives**

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

## Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

## Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

## Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

## Design Considerations

### *Designing New Installations*

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

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- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

## Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Storm Drain Signage SD-13

**Design Objectives**

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

## Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

## Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

## Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

## Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

### *Designing New Installations*

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include “NO DUMPING

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– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

## Additional Information

### *Maintenance Considerations*

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

### *Placement*

- Signage on top of curbs tends to weather and fade.

- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

## Supplemental Information

### *Examples*

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

## Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Maintenance Bays & Docks SD-31

**Design Objectives**

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

## Description

Several measures can be taken to prevent operations at maintenance bays and loading docks from contributing a variety of toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to the stormwater conveyance system.

## Approach

In designs for maintenance bays and loading docks, containment is encouraged. Preventative measures include overflow containment structures and dead-end sumps. However, in the case of loading docks from grocery stores and warehouse/distribution centers, engineered infiltration systems may be considered.

## Suitable Applications

Appropriate applications include commercial and industrial areas planned for development or redevelopment.

## Design Considerations

Design requirements for vehicle maintenance and repair are governed by Building and Fire Codes, and by current local agency ordinances, and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code requirements.

### *Designing New Installations*

Designs of maintenance bays should consider the following:

- Repair/maintenance bays and vehicle parts with fluids should be indoors; or designed to preclude urban run-on and runoff.
- Repair/maintenance floor areas should be paved with Portland cement concrete (or equivalent smooth impervious surface).

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- Repair/maintenance bays should be designed to capture all wash water leaks and spills. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around repair bays to prevent spilled materials and wash-down waters form entering the storm drain system. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

- Other features may be comparable and equally effective.

The following designs of loading/unloading dock areas should be considered:

- Loading dock areas should be covered, or drainage should be designed to preclude urban run-on and runoff.

- Direct connections into storm drains from depressed loading docks (truck wells) are prohibited.

- Below-grade loading docks from grocery stores and warehouse/distribution centers of fresh food items should drain through water quality inlets, or to an engineered infiltration system, or an equally effective alternative. Pre-treatment may also be required.

- Other features may be comparable and equally effective.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

## Additional Information

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permit.

## Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Trash Storage Areas SD-32

**Design Objectives**

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

## Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

## Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

## Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

## Design Considerations

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

### *Designing New Installations*

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

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CALIFORNIA STORMWATER QUALITY ASSOCIATION

- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

## Additional Information

### *Maintenance Considerations*

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

## Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Attachment F
# Infiltration Report

November 18, 2019

Transwestern Development Company
20250 Acacia Street, Suite 260
Newport Beach, California 92660

Attention: Mr. Steven Batcheller

Project No.: **19G218-2**

Subject: **Results of Infiltration Testing**
Two Proposed Warehouses
NEC Juniper Avenue and Boyle Avenue
Fontana, California

Reference: Geotechnical Investigation, Two Proposed Warehouses, NEC Juniper Avenue and Boyle Avenue, Fontana, California, prepared for Transwestern Development Company, by Southern California Geotechnical, Inc. (SCG), SCG Project No. 19G218-1, dated November 5, 2019.

Mr. Batcheller:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

## Scope of Services

The scope of services performed for this project was in general accordance with our Proposal No. 19P239-2R, dated September 26, 2019, and Change Order No. 19G218-CO, dated November 7, 2019. The scope of services included site reconnaissance, subsurface exploration, field and laboratory testing, and engineering analysis to determine the infiltration rates of the onsite soils. The infiltration testing was performed using two different infiltration methods, which included infiltration test borings and a double ring infiltrometer. The infiltration testing was performed in general accordance with the Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, prepared for the Riverside County Department of Environmental Health (RCDEH), dated December, 2013 as well as in accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

## Site and Project Description

The subject site is located at the northeast corner of Boyle Avenue and Juniper Avenue in Fontana, California. The site is bounded to the north by a railroad easement, to the west by a Juniper Avenue easement, to the south by Boyle Avenue, and to the east by the Sierra Avenue. A rectangular-shaped parcel located in the eastern portion of the western half of the site, with dimensions of about 170 feet by 530 feet, was excluded from the subject area of this investigation. The general location of the site is illustrated on the Site Location Map, enclosed as Plate 1 of this report.

The site consists of several rectangular-shaped parcels, which total 12.26± acres in size. These parcels are separated by several parcels which were not included in this investigation. The southeastern and southwestern portions of the subject area are currently developed with single-family residences. These residences are single-story structures of wood-frame and stucco construction and assumed to be supported on conventional shallow foundations with concrete slab-on-grade floors. The single-family residences are surrounded by concrete flatwork, exposed soils with light to moderate native grass and weed growth, and numerous trees. The central and northern portions of the eastern- and western-most parcels contain several small metal shipping containers and trailers and areas of moderate native grass and weed growth. One of the parcels, located in the central portion of the site, is vacant and undeveloped with moderate to heavy native grass and weed growth. Trash debris is scattered throughout various areas throughout the site. Our review of historical aerial photographs, readily available on the internet, indicates that the site has been in the same relative state of development since 1994. Earlier aerial photographs, dated between 1938 and 1967, inclusive, indicate that the site was utilized as an orchard.

Detailed topographic information was not available at the time of this report. Based on visual observations made at the time of the subsurface investigation and from elevations obtained from Google Earth, the overall site topography generally slopes downward from the east and west toward the center of the site at a gradient of less than 1± percent and the central portion of the site gently slopes downward toward the south at a gradient of up to 1 percent.

## Proposed Development

SCG was provided a conceptual site plan for the proposed development. Based on Scheme 6 (dated September 18, 2019), the site will be developed with two (2) new warehouses identified as Building 1 and Building 2. Building 1 is located in the eastern area of the site and will be 164,546± ft² in size. Building 2 will be located in the western area of the site and will be 78,120± ft² in size. Building 1 will be constructed with dock-high doors along the central portion of the south building wall and Building 2 will be constructed with dock-high doors along the central portion of the east building wall. The buildings will be surrounded by asphaltic concrete pavements in the parking and drive lanes, Portland cement concrete pavements in the loading dock area, concrete flatwork and landscape planters throughout.

We understand that the proposed development will include on-site infiltration to dispose of storm water. Based on infiltration test locations depicted on the provided site plan, the infiltration systems for the proposed development are expected to consist of two (2) below-grade chamber systems located to the south of proposed Building 1 and to the east of proposed Building 2. The bottoms of the chamber systems will extend 13± feet below the existing site grades.

## Concurrent Study

SCG recently conducted a geotechnical investigation at the subject site, referenced above. As part of this study, seven (7) borings were advanced to depths of 15 to 30± feet below existing site grades. Native alluvium was encountered at the ground surface at all of the boring locations, extending to at least the maximum depth explored of 30± feet below existing site grades. The native alluvial soils generally consist of loose to medium dense fine sandy silts and silty fine sands with varying amounts of medium to coarse sands and fine gravel, underlain by medium dense to

very dense fine to coarse sands with variable silt, fine to coarse gravel, and cobble content. Occasional medium dense silt strata were also encountered at depths of 8 to 12± feet.

Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the lack of any water within the borings, and the moisture contents of the recovered soil samples, the static groundwater is considered to have existed at a depth in excess of 30± feet at the time of the subsurface exploration. As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the groundwater depths in this area is the California Department of Water Resources website, http://www.water.ca.gov/waterdatalibrary/. The nearest monitoring well in this database is located approximately 2,386 feet northeast from the site. Water level readings within this monitoring well indicates a high groundwater level of 260± feet below the ground surface in December of 2009.

## Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of two (2) infiltration test borings, each advanced to a depth of 13± feet below the existing site grades, and two (2) backhoe-excavated trenches, extending to depths of 11½ to 12± feet below existing site grades. All of the borings and trenches were logged during drilling and excavation by a member of our staff. The approximate locations of the infiltration borings and trenches (identified as I-1 through I-4) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Geotechnical Conditions

Artificial fill soil was encountered at the ground surface at Infiltration Trench No. I-4, extending to a depth of 2± feet below the existing site grades. The fill soil consists of loose to medium dense silty fine sand with little medium to coarse sands and trace to little fine gravel. The fill soil possesses a disturbed appearance and contains occasional debris including paper, plastic, glass, and metal fragments, resulting in its classification as artificial fill.

Native alluvium was encountered beneath the artificial fill soil at Trench No. I-4, and at the ground surface at Infiltration Trench No. I-3 and Infiltration Boring Nos. I-1 and I-2. The alluvial soils generally consist of loose to medium dense silty fine sands with varying amounts of medium to coarse sands and fine to coarse gravel, and medium dense to dense fine sand, fine to coarse sands, and gravelly fine to coarse sands with varying cobbles and silt content, extending to at least the maximum depth explored of 13± feet below the existing site grades. The Boring and Trench Logs, which illustrate the conditions encountered at the infiltration test locations, are included with this report.

## Infiltration Testing

We understand that the results of the testing will be used to prepare a preliminary design for the storm water infiltration systems that will be used at the subject site. As previously mentioned,

the infiltration testing was performed using two different infiltration methods. Infiltration Test Nos. I-1 and I-2 were conducted utilizing infiltration test borings, and Infiltration Test Nos. I-3 and I-4 were conducted using the double ring infiltrometer.

## Infiltration Testing Procedure (Infiltration Borings)

As previously stated, the infiltration testing for the infiltration borings was performed in general accordance with the Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, prepared for the Riverside County Department of Environmental Health (RCDEH), dated December, 2013. The San Bernardino County standards defer to guidelines published by RCDEH.

### Pre-soaking

In accordance with the county infiltration standards, both of the infiltration test borings were pre-soaked prior to the infiltration testing. The pre-soaking process consisted of filling the test borings by inverting a full 5-gallon bottle of clear water supported over each hole so that the water level reaches a level of at least 5 times the hole's radius above the gravel at the bottom of each hole. The pre-soaking was completed after all of the water had percolated through each test hole or after 15 hours since initiating the pre-soak.

### Infiltration Testing

Following the pre-soaking process of the infiltration test borings, SCG performed the infiltration testing. Each test hole was filled with water to a depth of at least 5 times the hole's radius above the gravel at the bottom of each test hole, and less than or equal to the water level used during the pre-soaking process. In accordance with the county guidelines, since "sandy soils" were encountered at the bottom of both infiltration borings (where 6 inches of water infiltrated into the surrounding soils for two-consecutive 25-minute readings), readings were taken at 10-minute intervals for a total of 1 hour at Infiltration Test Nos. I-1 and I-2. After each reading, the borings were refilled to the correct water level above the gravel at the bottom of each test hole. The water level readings are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on the spreadsheets.

## Double Ring Infiltration Testing Procedure

The infiltration testing for Infiltration Test Nos. I-3 and I-4 was performed in accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer. Two stainless steel infiltration rings were used for this method of infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At each test location, a trench was excavated to the proposed depth of the infiltration system and the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trench. The rings were driven into the soil using a ten-pound sledge hammer. The soil surrounding the wall of the infiltration rings was only slightly disturbed during the driving process.

Infiltration Testing

Infiltration testing was performed at both of the trench locations. The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained using constant-head float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular space during each time interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the tests. The schedule for readings was determined based on the observed soil type at the base of each backhoe-excavated trench. Based on the existing soils at the trench locations, the volumetric measurements were made at 1-minute increments. The water volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets.

The infiltration rates from all four (4) of the tests are tabulated in inches per hour. In accordance with the typically accepted practice, it is recommended that the most conservative reading from the latter part of the infiltration tests be used as the design infiltration rate. The rates are summarized below:

| **Infiltration Test No.** | **Depth (feet)** | **Soil Description** | **Infiltration Rate (inches/hour)** |
|---|---|---|---|
| I-1 | 13 | Gravelly fine to coarse Sand, trace Silt | 13.0 |
| I-2 | 13 | Fine to coarse Sand, little fine Gravel, trace coarse Gravel, trace Silt | 19.9 |
| I-3 | 11½ | Gravelly fine to coarse Sand, occasional Cobbles | 17.8 |
| I-4 | 12 | Gravelly fine to coarse Sand, trace Silt, occasional Cobbles | 15.4 |

## Laboratory Testing

Moisture Content

The moisture contents for selected soil samples within the borings and trenches were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Boring and Trench Logs.

Grain Size Analysis

The grain size distribution of selected soils collected from the bottom of each infiltration test boring and from the base of each infiltration test trench have been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of the grainsize

analysis are presented on Plates C-1 through C-4 of this report.

## Design Recommendations

Four (4) infiltration tests were performed at the subject site. As noted above, the calculated infiltration rates at the infiltration test locations range from 13.0 to 19.9 inches per hour. **Based on the results of Infiltration Test Nos. I-1 and I-2, we recommend an infiltration rate of 13 inches per hour be used for the design of the proposed below-grade chamber system located to the south of proposed Building 1. Based on the results of Infiltration Test Nos. I-3 and I-4, we recommend an infiltration rate of 15.4 inches per hour be used for the design of the proposed chamber system located to the east of proposed Building 2.** These design infiltration rates are recommended if the bottoms of the chamber systems extend to depths of 12 to 13± feet below the existing site grades.

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration systems to identify the soil classification at the base of each chamber system. It should be confirmed that the soils at the base of the proposed infiltration systems correspond with those presented in this report to ensure that the performance of the systems will be consistent with the rates reported herein.

The design of the proposed storm water infiltration systems should be performed by the project civil engineer, in accordance with the City of Fontana and/or County of San Bernardino guidelines. However, it is recommended that the systems be constructed so as to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the systems. The presence of such materials would decrease the effective infiltration rates. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rates recommended above are based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rates.** It should be noted that the recommended infiltration rates are based on infiltration testing at four (4) discrete locations and the overall infiltration rates of the storm water infiltration systems could vary considerably.

## Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

## Infiltration versus Permeability

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. The infiltration rates presented herein were determined in accordance with the

ASTM Test Method D-3385-03 standard and are considered valid for the time and place of the actual test. Changes in soil moisture content will affect these infiltration rates. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

## Location of Infiltration Systems

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration areas could potentially be damaged due to saturation of subgrade soils. **The proposed infiltration systems for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration systems at least 25 feet from the buildings, it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration systems.

## General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rates contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between trench locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of

the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

**Closure**

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

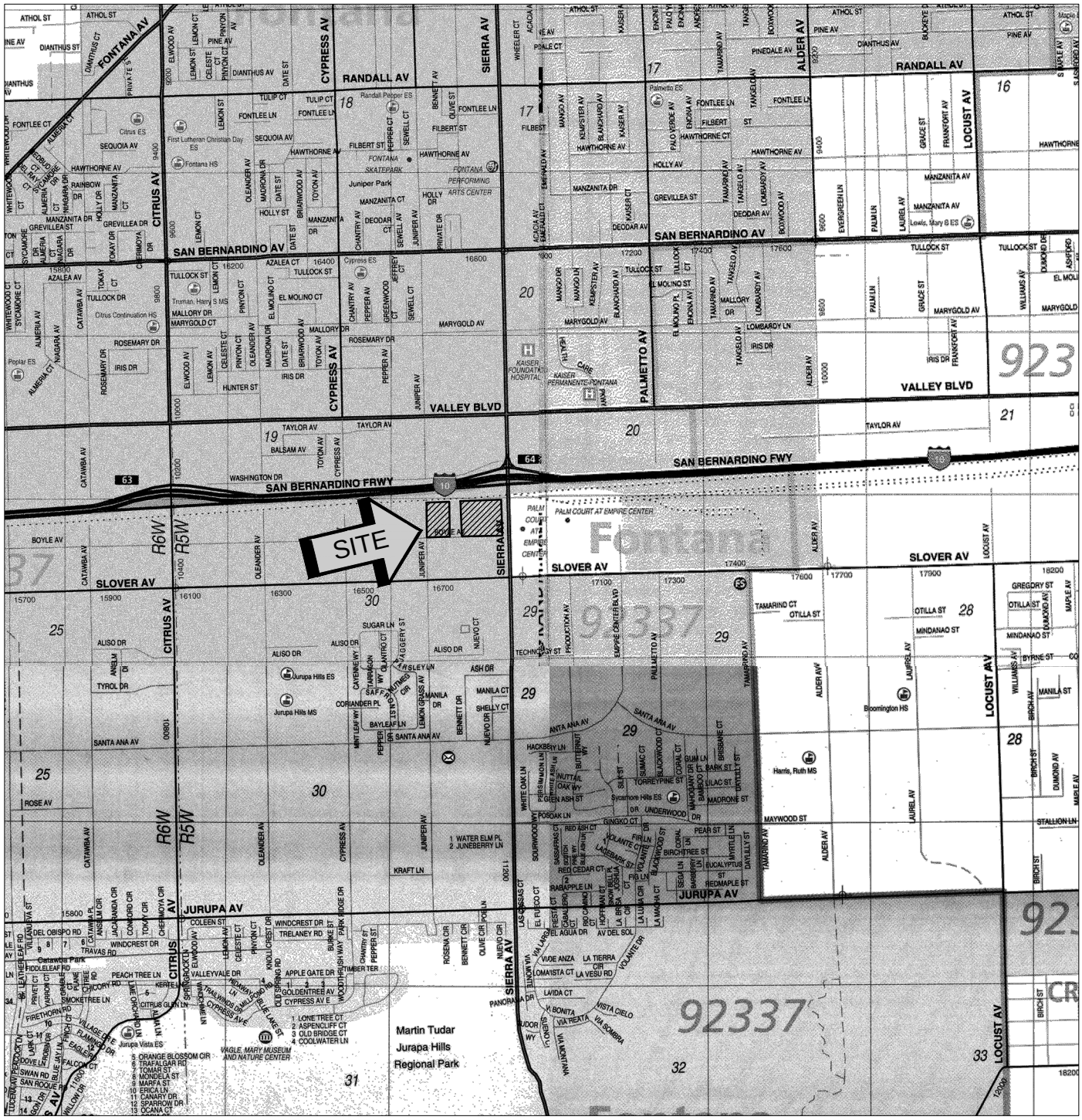
Scott McCann
Staff Scientist

Robert G. Trazo, GE 2655
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
ROBERT TRAZO
No. 2655
GEOTECHNICAL
STATE OF CALIFORNIA

Distribution: (1) Addressee

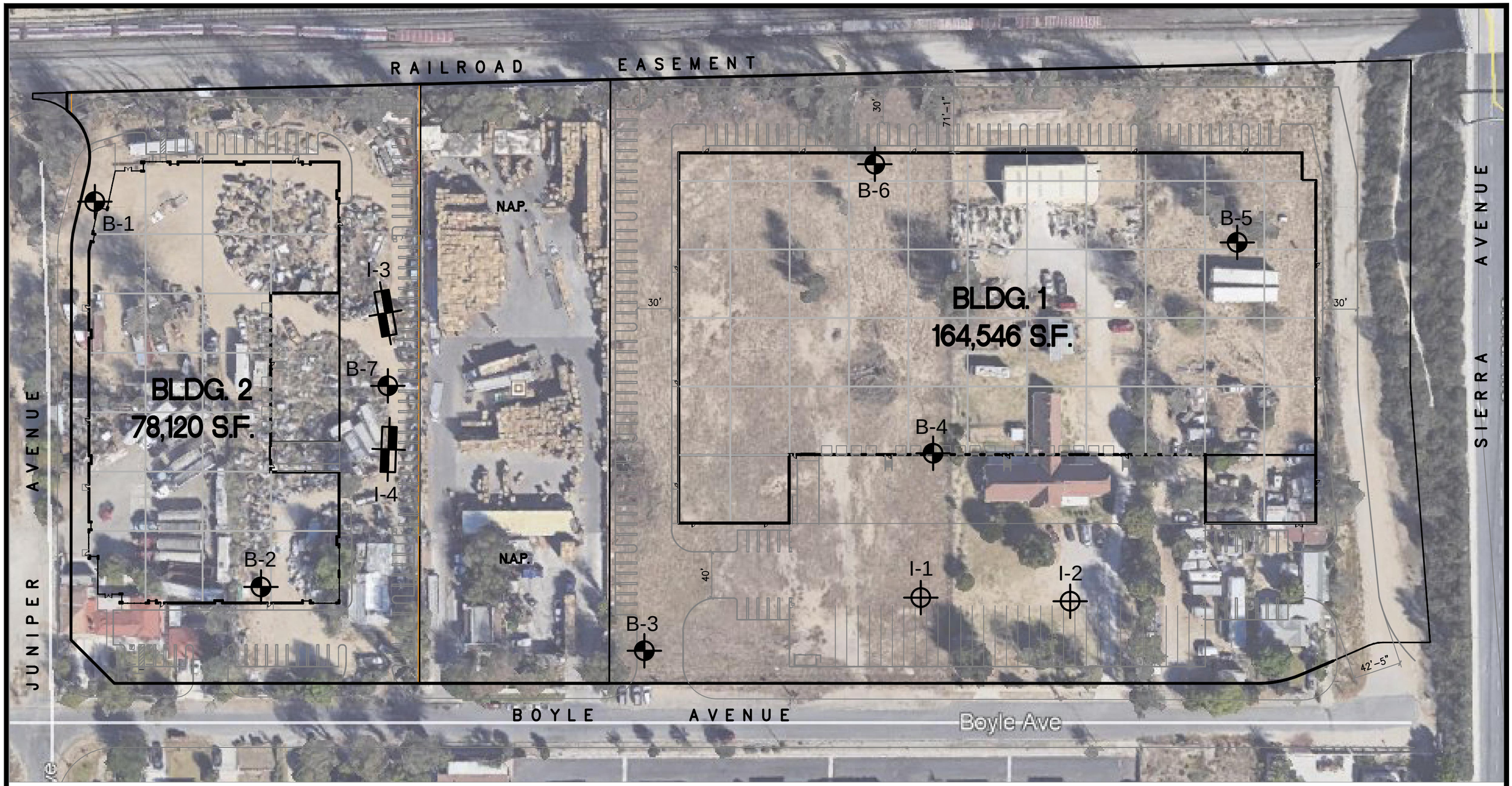
Enclosures: Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Boring Log Legend, Boring and Trench Logs (6 pages)
Infiltration Test Results Spreadsheets (4 pages)
Grain Size Distribution Graphs (4 pages)




SOURCE: SAN BERNARDINO COUNTY
THOMAS GUIDE, 2013

| SITE LOCATION MAP |
|---|
| TWO PROPOSED WAREHOUSES |
| FONTANA, CALIFORNIA |
| SCALE: 1" = 2400' |
| DRAWN: RNK<br>CHKD: RGT |
| SCG PROJECT<br>19G218-2 |
| **PLATE 1** |

SOUTHERN CALIFORNIA GEOTECHNICAL




GEOTECHNICAL LEGEND

- APPROXIMATE INFILTRATION BORING LOCATION
- APPROXIMATE INFILTRATION TRENCH LOCATION
- APPROXIMATE BORING LOCATION FROM CONCURRENT STUDY (SCG PROJECT NO. 19G218-1)

NORTH
SoCalGeo

NOTE: SITE PLAN PREPARED BY HPA, INC.

**INFILTRATION TEST LOCATION PLAN**
TWO PROPOSED WAREHOUSES
FONTANA, CALIFORNIA

SCALE: 1" = 80'
DRAWN: SAM
CHKD: RGT
SCG PROJECT 19G218-2
**PLATE 2**

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL

# BORING LOG LEGEND

| SAMPLE TYPE | GRAPHICAL SYMBOL | SAMPLE DESCRIPTION |
|---|---|---|
| **AUGER** | | SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED) |
| **CORE** | | ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK. |
| **GRAB** | | SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED) |
| **CS** | | CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED) |
| **NSR** | | NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL. |
| **SPT** | | STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED) |
| **SH** | | SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED) |
| **VANE** | | VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED. |

**COLUMN DESCRIPTIONS**

**DEPTH:** Distance in feet below the ground surface.

**SAMPLE**: Sample Type as depicted above.

**BLOW COUNT**: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

**POCKET PEN.**: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

**GRAPHIC LOG**: Graphic Soil Symbol as depicted on the following page.

**DRY DENSITY**: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft$^3$.

**MOISTURE CONTENT**: Moisture content of a soil sample, expressed as a percentage of the dry weight.

**LIQUID LIMIT**: The moisture content above which a soil behaves as a liquid.

**PLASTIC LIMIT**: The moisture content above which a soil behaves as a plastic.

**PASSING #200 SIEVE**: The percentage of the sample finer than the #200 standard sieve.

**UNCONFINED SHEAR**: The shear strength of a cohesive soil sample, as measured in the unconfined state.

# SOIL CLASSIFICATION CHART

| MAJOR DIVISIONS | | | SYMBOLS GRAPH | SYMBOLS LETTER | TYPICAL DESCRIPTIONS |
|---|---|---|---|---|---|
| COARSE GRAINED SOILS<br>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE | GRAVEL AND GRAVELLY SOILS<br>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE | CLEAN GRAVELS<br>(LITTLE OR NO FINES) | | GW | WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | | | GP | POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | GRAVELS WITH FINES<br>(APPRECIABLE AMOUNT OF FINES) | | GM | SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES |
| | | | | GC | CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES |
| | SAND AND SANDY SOILS<br>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE | CLEAN SANDS<br>(LITTLE OR NO FINES) | | SW | WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES |
| | | | | SP | POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES |
| | | SANDS WITH FINES<br>(APPRECIABLE AMOUNT OF FINES) | | SM | SILTY SANDS, SAND - SILT MIXTURES |
| | | | | SC | CLAYEY SANDS, SAND - CLAY MIXTURES |
| FINE GRAINED SOILS<br>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE | SILTS AND CLAYS | LIQUID LIMIT LESS THAN 50 | | ML | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY |
| | | | | CL | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS |
| | | | | OL | ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY |
| | SILTS AND CLAYS | LIQUID LIMIT GREATER THAN 50 | | MH | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS |
| | | | | CH | INORGANIC CLAYS OF HIGH PLASTICITY |
| | | | | OH | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS |
| HIGHLY ORGANIC SOILS | | | | PT | PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS |

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. I-1

JOB NO.: 19G218-2
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 11/14/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Scott McCann

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | ALLUVIUM: Light Brown Sity fine Sand, little medium to coarse Sand, trace fine Gravel, medium dense-dry | | | | | | | |
| | X | 12 | | | | | 2 | | | | | |
| 5 | | | | | | | | | | | | |
| | | | | | Light Gray Gravelly fine to coarse Sand, trace Silt, dense-dry to damp | | | | | | | |
| | X | 31 | | | | | 1 | | | | | |
| 10 | | | | | | | | | | | | |
| | X | 32 | | | | | 2 | | | 7 | | |
| | | | | | Boring Terminated at 13' | | | | | | | |

TBL 19G218-2.GPJ SOCALGEO.GDT 11/19/19

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. I-2

JOB NO.: 19G218-2
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 11/14/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Scott McCann

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | ALLUVIUM: Light Brown Sity fine Sand, little medium Sand, trace coarse Sand, trace fine Gravel, loose-dry | | | | | | | |
| | X | 8 | | | | | 2 | | | | | |
| 5 | | | | | | | | | | | | |
| | | | | | Light Gray Brown fine to medium Sand, little coarse Sand, little fine Gravel, little Silt, medium dense-dry to damp | | | | | | | |
| | X | 17 | | | | | 2 | | | | | |
| 10 | | | | | | | | | | | | |
| | X | 24 | | | Light Gray fine to coarse Sand, little fine Gravel, trace coarse Gravel, trace Silt, medium dense-dry | | 1 | | | 6 | | |
| | | | | | Boring Terminated at 13' | | | | | | | |

TBL 19G218-2.GPJ SOCALGEO.GDT 11/19/19

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO. I-3**

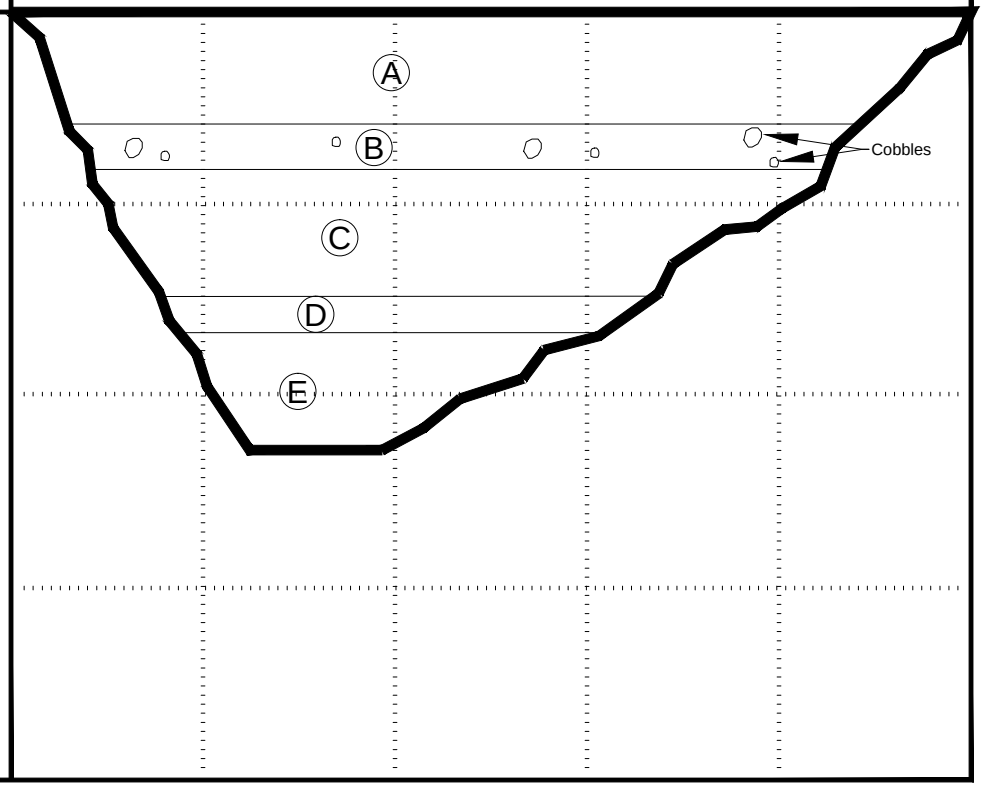
JOB NO.: 19G218-2
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, CA
DATE: 10-17-2019

EQUIPMENT USED: Backhoe
LOGGED BY: Scott McCann
ORIENTATION: S 10 E
ELEVATION:

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

| DEPTH | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION |
|---|---|---|---|---|
| | | | | A: ALLUVIUM: Light Brown Silty fine Sand, little medium to coarse Sand, trace to little fine Gravel, loose to medium dense-dry |
| | | | | B: ALLUVIUM: Light Gray Brown Gravelly fine to coarse Sand, occasional Cobbles, little Silt, medium dense to dense-dry to damp<br>C: ALLUVIUM: Light Gray fine to coarse Sand, little fine Gravel, trace coarse Gravel, medium dense-dry |
| 5 | | | | |
| | | | | D: ALLUVIUM: Gray Brown fine Sand, little medium Sand, little Silt, trace to little coarse Sand, medium dense-dry to damp |
| | | | | E: ALLUVIUM: Light Gray Gravelly fine to coarse Sand, occasional Cobbles, dense-dry |
| 10 | b | | 1 | |
| | | | | Trench Terminated @ 11.5 feet |
| 15 | | | | |

GRAPHIC REPRESENTATION




KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-3**

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO. I-4**

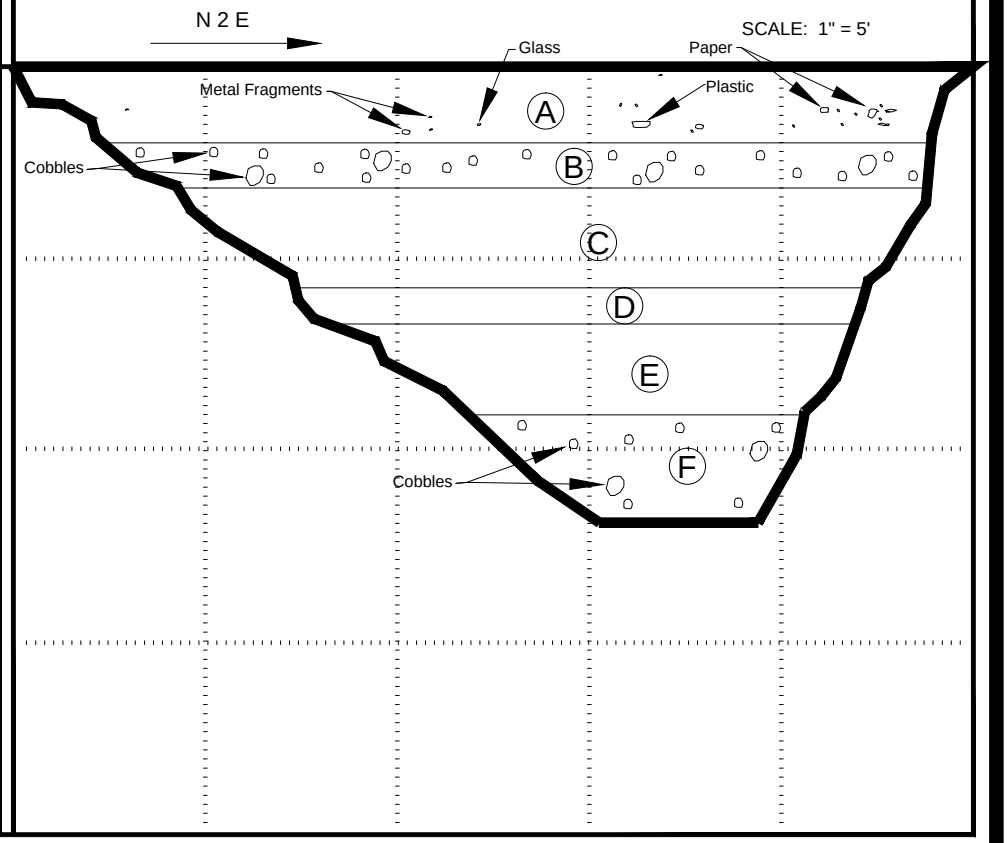
JOB NO.: 19G218-2
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, CA
DATE: 10-17-2019

EQUIPMENT USED: Backhoe
LOGGED BY: Scott McCann
ORIENTATION: N 2 E
ELEVATION:

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

| DEPTH | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION |
|---|---|---|---|---|
| | | | | A: FILL: Light Brown Silty fine Sand, little medium to coarse Sand, trace to little fine Gravel, little Debris (Paper, Plastic, Glass, and Metal fragments), loose to medium dense-dry<br>B: ALLUVIUM: Light Gray Brown Gravelly fine to coarse Sand, occasional to extensive Cobbles, little Silt, dense-dry to damp<br>C: ALLUVIUM: Light Gray fine to coarse Sand, little fine Gravel, trace coarse Gravel, loose to medium dense-dry |
| 5 | | | | D: ALLUVIUM: Gray Brown fine Sand, little Silt, trace to little medium Sand, trace coarse Sand, medium dense-damp<br>E: ALLUVIUM: Light Gray fine to coarse Sand, little fine to coarse Gravel, medium dense-dry to damp |
| 10 | b | | 2 | F: ALLUVIUM: Light Gray Gravelly fine to coarse Sand, trace Silt, occasional Cobbles, dense-dry |
| | | | | Trench Terminated @ 12 feet |
| 15 | | | | |

GRAPHIC REPRESENTATION




KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-4**

**INFILTRATION CALCULATIONS**

| | |
|---|---|
| Project Name | Two Proposed Warehouses |
| Project Location | Fontana, CA |
| Project Number | 19G218-2 |
| Engineer | Scott McCann |

| | | |
|---|---|---|
| Test Hole Radius | 4 | (in) |
| Test Depth | 12.9 | (ft) |

| | |
|---|---|
| Infiltration Test Hole | I-1 |

| Interval Number | | Time | Time Interval (min) | Water Depth (ft) | Change in Water Level (ft) | Average Head Height (ft) | Infiltration Rate Q (in/hr) | |
|---|---|---|---|---|---|---|---|---|
| P1 | Initial | 9:30 AM | 25.0 | 11.20 | 1.70 | 0.85 | 8.03 | Pre-Sat |
| | Final | 9:55 AM | | 12.90 | | | | |
| P2 | Initial | 9:56 AM | 25.0 | 11.20 | 1.70 | 0.85 | 8.03 | |
| | Final | 10:21 AM | | 12.90 | | | | |
| 1 | Initial | 10:22 AM | 10.0 | 11.20 | 1.37 | 1.02 | 13.91 | Infiltration Testing |
| | Final | 10:32 AM | | 12.57 | | | | |
| 2 | Initial | 10:33 AM | 10.0 | 11.20 | 1.33 | 1.04 | 13.28 | |
| | Final | 10:43 AM | | 12.53 | | | | |
| 3 | Initial | 10:44 AM | 10.0 | 11.20 | 1.32 | 1.04 | 13.13 | |
| | Final | 10:54 AM | | 12.52 | | | | |
| 4 | Initial | 10:55 AM | 10.0 | 11.20 | 1.31 | 1.05 | 12.97 | |
| | Final | 11:05 AM | | 12.51 | | | | |
| 5 | Initial | 11:06 AM | 10.0 | 11.20 | 1.31 | 1.05 | 12.97 | |
| | Final | 11:16 AM | | 12.51 | | | | |
| 6 | Initial | 11:17 AM | 10.0 | 11.20 | 1.31 | 1.05 | 12.97 | |
| | Final | 11:27 AM | | 12.51 | | | | |

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where:
- $Q$ = Infiltration Rate (in inches per hour)
- $\Delta H$ = Change in Height (Water Level) over the time interval
- $r$ = Test Hole (Borehole) Radius
- $\Delta t$ = Time Interval
- $H_{avg}$ = Average Head Height over the time interval

**INFILTRATION CALCULATIONS**

| | |
|---|---|
| Project Name | Two Proposed Warehouses |
| Project Location | Fontana, CA |
| Project Number | 19G218-2 |
| Engineer | Scott McCann |

| | | |
|---|---|---|
| Test Hole Radius | 4 | (in) |
| Test Depth | 12.9 | (ft) |

| | |
|---|---|
| Infiltration Test Hole | I-2 |

| Interval Number | | Time | Time Interval (min) | Water Depth (ft) | Change in Water Level (ft) | Average Head Height (ft) | Infiltration Rate Q (in/hr) | |
|---|---|---|---|---|---|---|---|---|
| P1 | Initial | 8:00 AM | 25.0 | 11.20 | 1.70 | 0.85 | 8.03 | Pre-Sat |
| | Final | 8:25 AM | | 12.90 | | | | |
| P2 | Initial | 8:26 AM | 25.0 | 11.20 | 1.70 | 0.85 | 8.03 | |
| | Final | 8:51 AM | | 12.90 | | | | |
| 1 | Initial | 8:52 AM | 10.0 | 11.20 | 1.70 | 0.85 | 20.07 | Infiltration Testing |
| | Final | 9:02 AM | | 12.90 | | | | |
| 2 | Initial | 9:03 AM | 10.0 | 11.20 | 1.70 | 0.85 | 20.07 | |
| | Final | 9:13 AM | | 12.90 | | | | |
| 3 | Initial | 9:14 AM | 10.0 | 11.20 | 1.70 | 0.85 | 20.07 | |
| | Final | 9:24 AM | | 12.90 | | | | |
| 4 | Initial | 9:25 AM | 10.0 | 11.20 | 1.69 | 0.86 | 19.85 | |
| | Final | 9:35 AM | | 12.89 | | | | |
| 5 | Initial | 9:36 AM | 10.0 | 11.20 | 1.70 | 0.85 | 20.07 | |
| | Final | 9:46 AM | | 12.90 | | | | |
| 6 | Initial | 9:47 AM | 10.0 | 11.20 | 1.69 | 0.86 | 19.85 | |
| | Final | 9:57 AM | | 12.89 | | | | |

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where:
- $Q$ = Infiltration Rate (in inches per hour)
- $\Delta H$ = Change in Height (Water Level) over the time interval
- $r$ = Test Hole (Borehole) Radius
- $\Delta t$ = Time Interval
- $H_{avg}$ = Average Head Height over the time interval

**INFILTRATION CALCULATIONS**

| | |
|---|---|
| Project Name | Two Proposed Warehouses |
| Project Location | Fontana, CA |
| Project Number | 19G218-2 |
| Engineer | Scott McCann |

Infiltration Test No: I-3

| Constants | Diameter (ft) | Area ($ft^2$) | Area ($cm^2$) |
|---|---|---|---|
| Inner | 1 | 0.79 | 730 |
| Anlr. Spac | 2 | 2.36 | 2189 |

*Note: The infiltration rate was calculated based on current time interval

| Test Interval | | Time (hr) | Interval **Elapsed** (min) | Flow Readings: Inner Ring (ml) | Ring Flow ($cm^3$) | Annular Ring (ml) | Space Flow ($cm^3$) | Infiltration Rates: Inner Ring* (cm/hr) | Annular Space* (cm/hr) | Inner Ring* (in/hr) | Annular Space* (in/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Initial | 11:00 AM | 1 | 550 | 875 | 500 | 4550 | 71.95 | 124.72 | 28.33 | 49.10 |
| | Final | 11:01 AM | **1** | 1425 | | 5050 | | | | | |
| 2 | Initial | 11:03 AM | 1 | 200 | 750 | 350 | 4200 | 61.67 | 115.13 | 24.28 | 45.33 |
| | Final | 11:04 AM | **4** | 950 | | 4550 | | | | | |
| 3 | Initial | 11:05 AM | 1 | 50 | 700 | 200 | 3900 | 57.56 | 106.90 | 22.66 | 42.09 |
| | Final | 11:06 AM | **6** | 750 | | 4100 | | | | | |
| 4 | Initial | 11:07 AM | 1 | 0 | 625 | 900 | 4150 | 51.40 | 113.76 | 20.23 | 44.79 |
| | Final | 11:08 AM | **8** | 625 | | 5050 | | | | | |
| 5 | Initial | 11:09 AM | 1 | 50 | 650 | 750 | 3600 | 53.45 | 98.68 | 21.04 | 38.85 |
| | Final | 11:10 AM | **10** | 700 | | 4350 | | | | | |
| 6 | Initial | 11:11 AM | 1 | 300 | 650 | 200 | 3400 | 53.45 | 93.20 | 21.04 | 36.69 |
| | Final | 11:12 AM | **12** | 950 | | 3600 | | | | | |
| 7 | Initial | 11:13 AM | 1 | 250 | 575 | 1050 | 3450 | 47.28 | 94.57 | 18.62 | 37.23 |
| | Final | 11:14 AM | **14** | 825 | | 4500 | | | | | |
| 8 | Initial | 11:15 AM | 1 | 250 | 550 | 850 | 3450 | 45.23 | 94.57 | 17.81 | 37.23 |
| | Final | 11:16 AM | **16** | 800 | | 4300 | | | | | |
| 9 | Initial | 11:17 AM | 1 | 150 | 550 | 500 | 3350 | 45.23 | 91.83 | 17.81 | 36.15 |
| | Final | 11:18 AM | **18** | 700 | | 3850 | | | | | |
| 10 | Initial | 11:19 AM | 1 | 100 | 550 | 400 | 3300 | 45.23 | 90.46 | 17.81 | 35.61 |
| | Final | 11:20 AM | **20** | 650 | | 3700 | | | | | |

**INFILTRATION CALCULATIONS**

| | |
|---|---|
| Project Name | Two Proposed Warehouses |
| Project Location | Fontana, CA |
| Project Number | 19G218-2 |
| Engineer | Scott McCann |

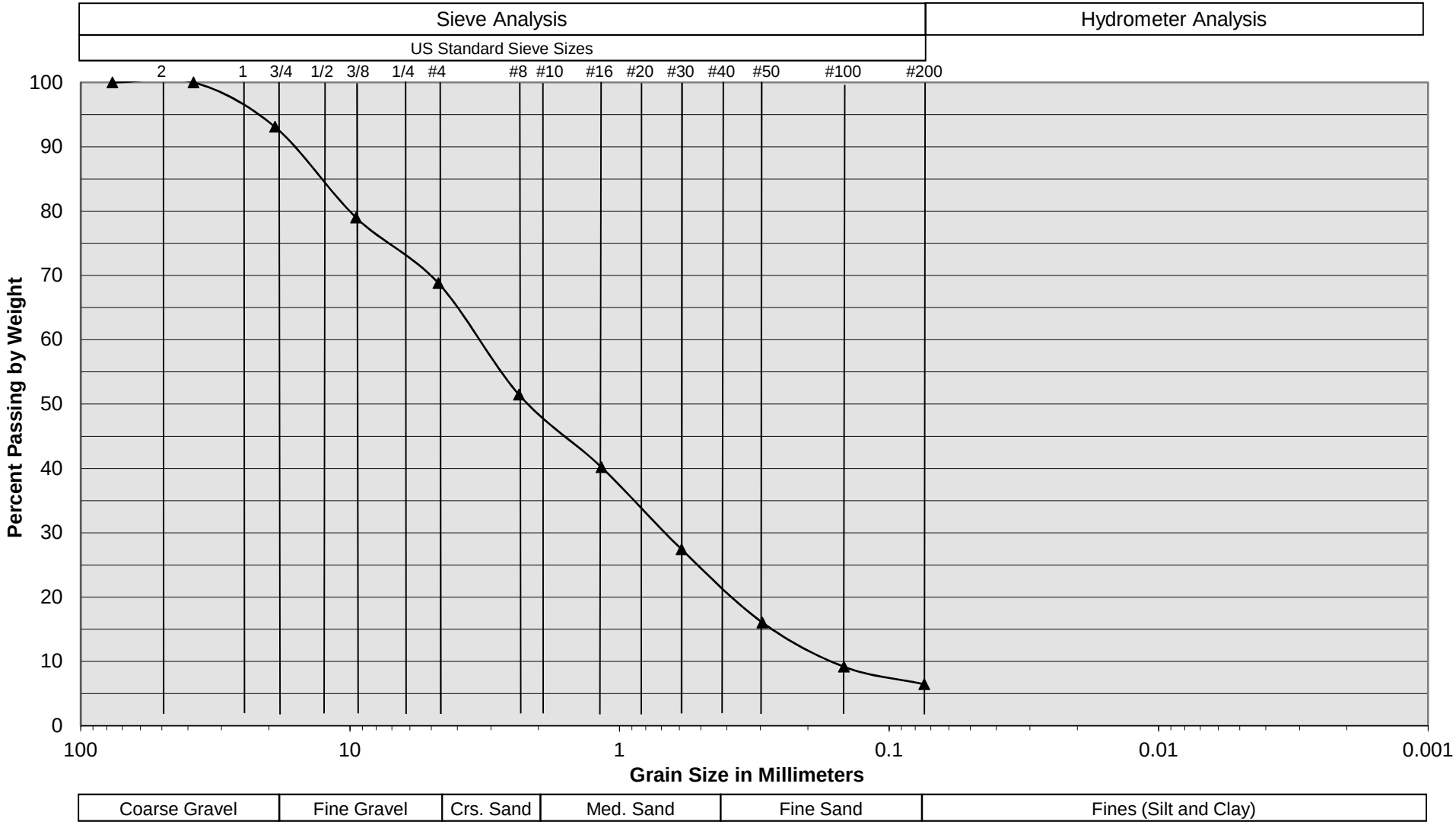
Infiltration Test No: I-4

| Constants | Diameter (ft) | Area ($ft^2$) | Area ($cm^2$) |
|---|---|---|---|
| Inner | 1 | 0.79 | 730 |
| Anlr. Spac | 2 | 2.36 | 2189 |

*Note: The infiltration rate was calculated based on current time interval

| Test Interval | | Time (hr) | Interval **Elapsed** (min) | Flow Readings: Inner Ring (ml) | Ring Flow ($cm^3$) | Annular Ring (ml) | Space Flow ($cm^3$) | Infiltration Rates: Inner Ring* (cm/hr) | Annular Space* (cm/hr) | Inner Ring* (in/hr) | Annular Space* (in/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Initial | 9:45 AM | 1 | 150 | 975 | 900 | 4100 | 80.18 | 112.38 | 31.57 | 44.25 |
| | Final | 9:46 AM | **1** | 1125 | | 5000 | | | | | |
| 2 | Initial | 9:47 AM | 1 | 200 | 700 | 550 | 3900 | 57.56 | 106.90 | 22.66 | 42.09 |
| | Final | 9:48 AM | **3** | 900 | | 4450 | | | | | |
| 3 | Initial | 9:49 AM | 1 | 50 | 650 | 1100 | 3400 | 53.45 | 93.20 | 21.04 | 36.69 |
| | Final | 9:50 AM | **5** | 700 | | 4500 | | | | | |
| 4 | Initial | 9:51 AM | 1 | 100 | 625 | 700 | 3250 | 51.40 | 89.09 | 20.23 | 35.07 |
| | Final | 9:52 AM | **7** | 725 | | 3950 | | | | | |
| 5 | Initial | 9:53 AM | 1 | 150 | 550 | 650 | 3150 | 45.23 | 86.34 | 17.81 | 33.99 |
| | Final | 9:54 AM | **9** | 700 | | 3800 | | | | | |
| 6 | Initial | 9:55 AM | 1 | 150 | 500 | 1000 | 2950 | 41.12 | 80.86 | 16.19 | 31.84 |
| | Final | 9:56 AM | **11** | 650 | | 3950 | | | | | |
| 7 | Initial | 9:57 AM | 1 | 100 | 525 | 450 | 2900 | 43.17 | 79.49 | 17.00 | 31.30 |
| | Final | 9:58 AM | **13** | 625 | | 3350 | | | | | |
| 8 | Initial | 9:59 AM | 1 | 250 | 475 | 600 | 2900 | 39.06 | 79.49 | 15.38 | 31.30 |
| | Final | 10:00 AM | **15** | 725 | | 3500 | | | | | |
| 9 | Initial | 10:01 AM | 1 | 450 | 475 | 550 | 2900 | 39.06 | 79.49 | 15.38 | 31.30 |
| | Final | 10:02 AM | **17** | 925 | | 3450 | | | | | |
| 10 | Initial | 10:03 AM | 1 | 200 | 475 | 500 | 2850 | 39.06 | 78.12 | 15.38 | 30.76 |
| | Final | 10:04 AM | **19** | 675 | | 3350 | | | | | |

# Grain Size Distribution

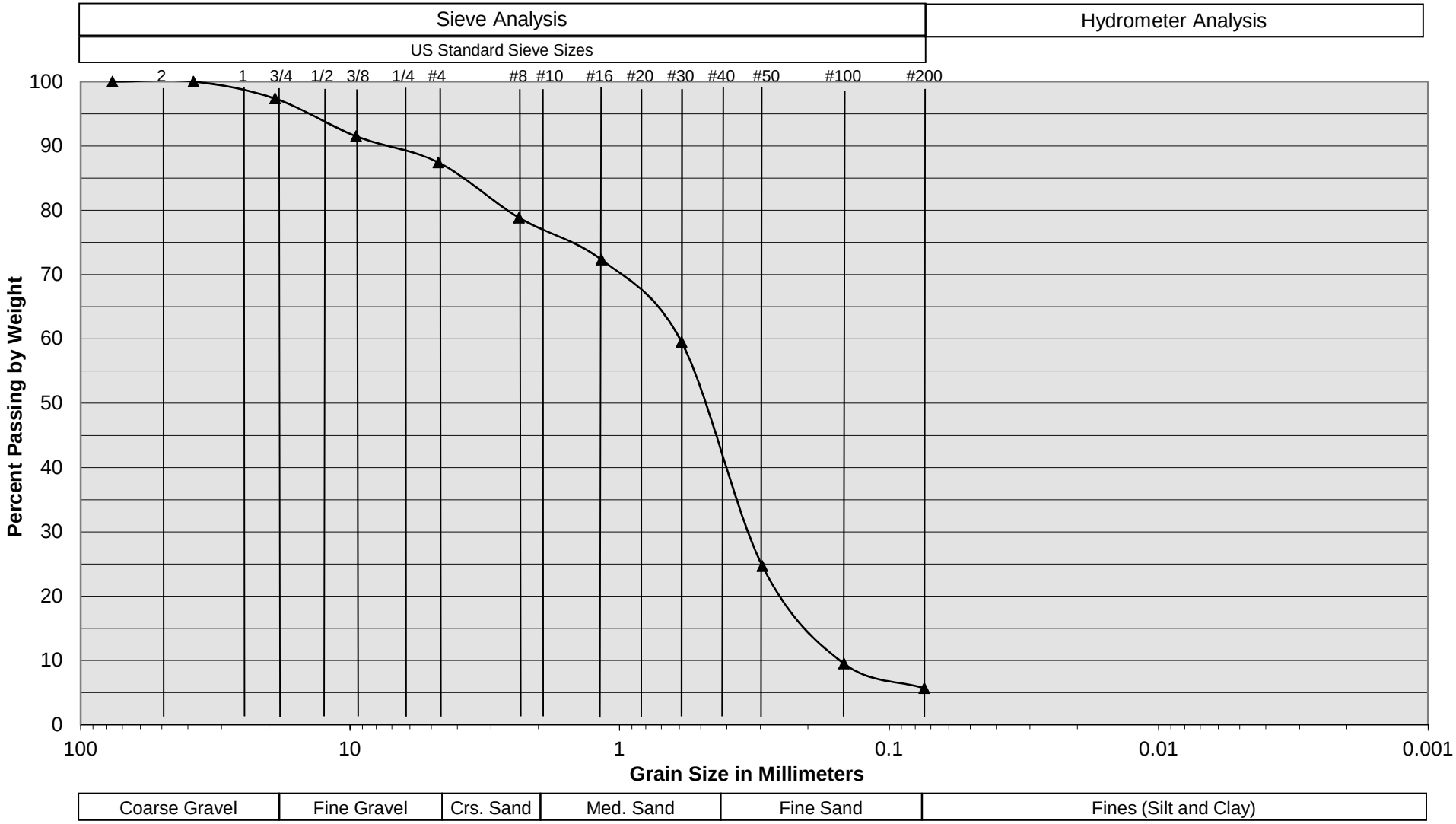



| | |
|---|---|
| Sample Description | I-1 @ 11½ to 13 feet |
| Soil Classification | Light Gray Gravelly fine to coarse Sand, trace Silt |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-2
**PLATE C-1**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# Grain Size Distribution

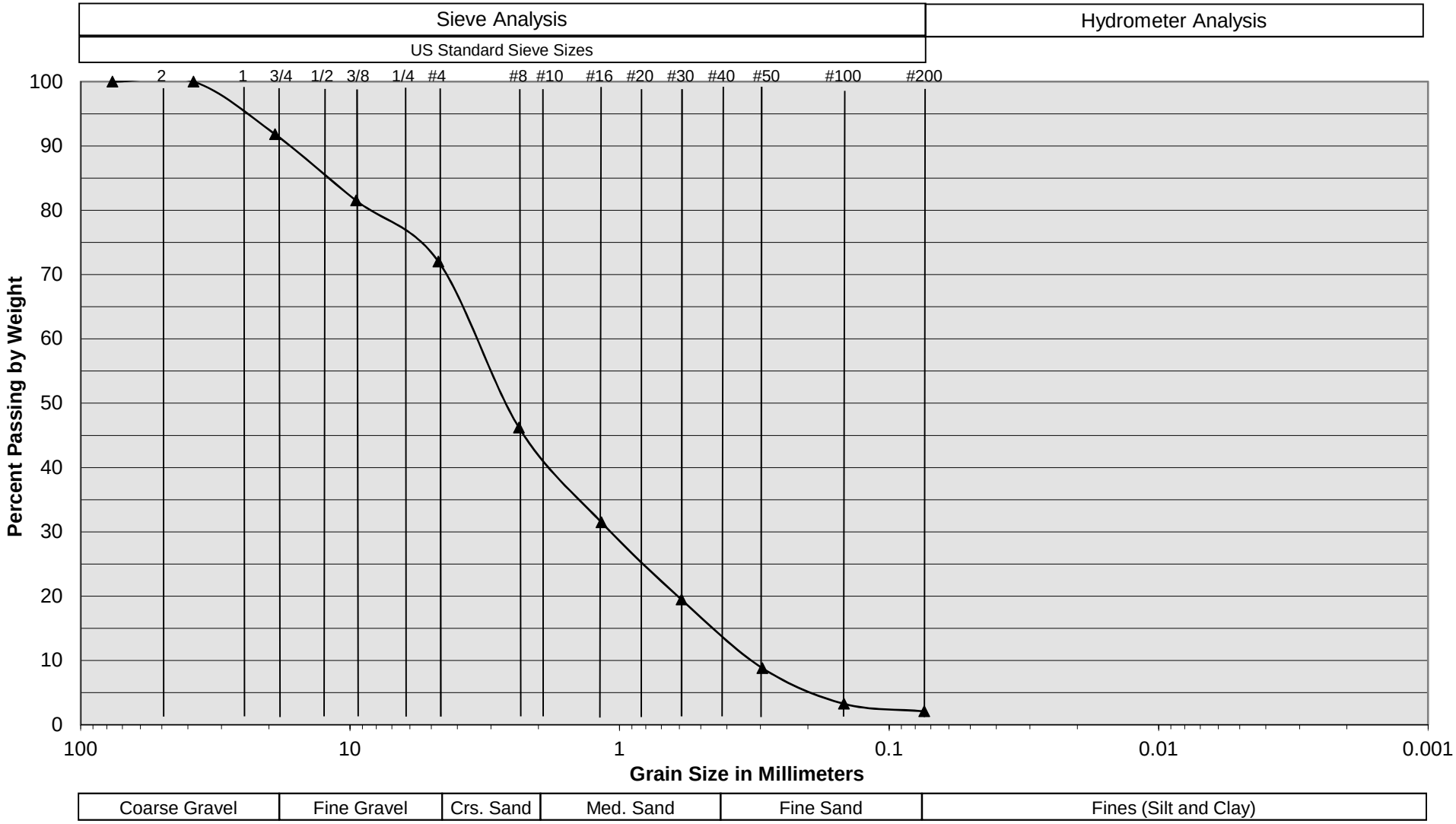



| | |
|---|---|
| Sample Description | I-2 @ 11½ to 13 feet |
| Soil Classification | Light Gray fine to coarse Sand, little fine Gravel, trace coarse Gravel, trace Silt |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-2
**PLATE C-2**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# Grain Size Distribution

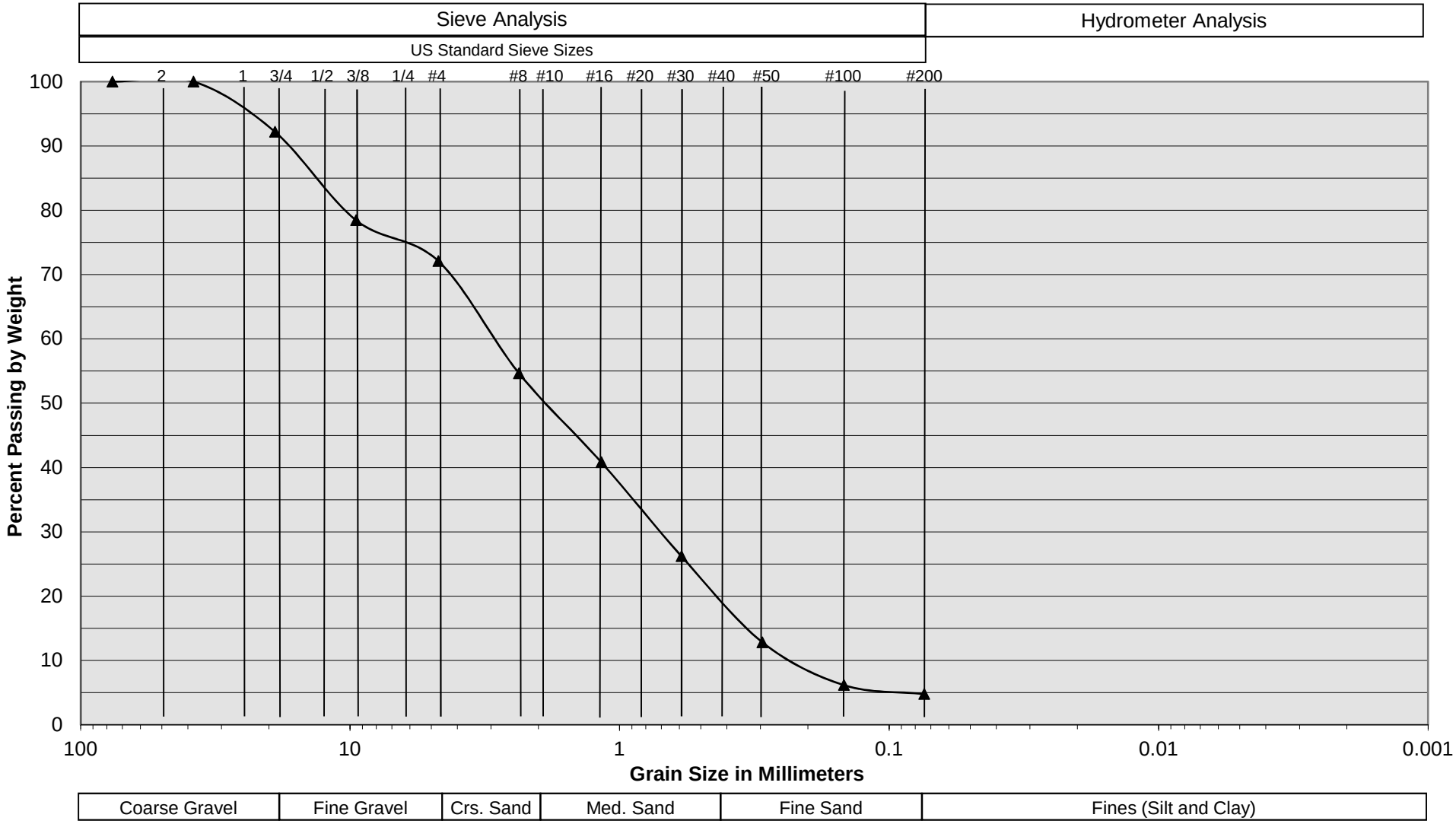



| | |
|---|---|
| Sample Description | I-3 @ 11½ feet |
| Soil Classification | Light Gray Gravelly fine to coarse Sand |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-2
**PLATE C-3**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# Grain Size Distribution




| | |
|---|---|
| Sample Description | I-4 @ 12 feet |
| Soil Classification | Light Gray Gravelly fine to coarse Sand, trace Silt |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-2
**PLATE C-4**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# APPENDIX I

# RESULTS OF INFILTRATION TESTING

November 18, 2019

Transwestern Development Company
20250 Acacia Street, Suite 260
Newport Beach, California 92660

Attention: Mr. Steven Batcheller

Project No.: **19G218-2**

Subject: **Results of Infiltration Testing**
Two Proposed Warehouses
NEC Juniper Avenue and Boyle Avenue
Fontana, California

Reference: Geotechnical Investigation, Two Proposed Warehouses, NEC Juniper Avenue and Boyle Avenue, Fontana, California, prepared for Transwestern Development Company, by Southern California Geotechnical, Inc. (SCG), SCG Project No. 19G218-1, dated November 5, 2019.

Mr. Batcheller:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

## Scope of Services

The scope of services performed for this project was in general accordance with our Proposal No. 19P239-2R, dated September 26, 2019, and Change Order No. 19G218-CO, dated November 7, 2019. The scope of services included site reconnaissance, subsurface exploration, field and laboratory testing, and engineering analysis to determine the infiltration rates of the onsite soils. The infiltration testing was performed using two different infiltration methods, which included infiltration test borings and a double ring infiltrometer. The infiltration testing was performed in general accordance with the Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, prepared for the Riverside County Department of Environmental Health (RCDEH), dated December, 2013 as well as in accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

## Site and Project Description

The subject site is located at the northeast corner of Boyle Avenue and Juniper Avenue in Fontana, California. The site is bounded to the north by a railroad easement, to the west by a Juniper Avenue easement, to the south by Boyle Avenue, and to the east by the Sierra Avenue. A rectangular-shaped parcel located in the eastern portion of the western half of the site, with dimensions of about 170 feet by 530 feet, was excluded from the subject area of this investigation. The general location of the site is illustrated on the Site Location Map, enclosed as Plate 1 of this report.

The site consists of several rectangular-shaped parcels, which total 12.26± acres in size. These parcels are separated by several parcels which were not included in this investigation. The southeastern and southwestern portions of the subject area are currently developed with single-family residences. These residences are single-story structures of wood-frame and stucco construction and assumed to be supported on conventional shallow foundations with concrete slab-on-grade floors. The single-family residences are surrounded by concrete flatwork, exposed soils with light to moderate native grass and weed growth, and numerous trees. The central and northern portions of the eastern- and western-most parcels contain several small metal shipping containers and trailers and areas of moderate native grass and weed growth. One of the parcels, located in the central portion of the site, is vacant and undeveloped with moderate to heavy native grass and weed growth. Trash debris is scattered throughout various areas throughout the site. Our review of historical aerial photographs, readily available on the internet, indicates that the site has been in the same relative state of development since 1994. Earlier aerial photographs, dated between 1938 and 1967, inclusive, indicate that the site was utilized as an orchard.

Detailed topographic information was not available at the time of this report. Based on visual observations made at the time of the subsurface investigation and from elevations obtained from Google Earth, the overall site topography generally slopes downward from the east and west toward the center of the site at a gradient of less than 1± percent and the central portion of the site gently slopes downward toward the south at a gradient of up to 1 percent.

## Proposed Development

SCG was provided a conceptual site plan for the proposed development. Based on Scheme 6 (dated September 18, 2019), the site will be developed with two (2) new warehouses identified as Building 1 and Building 2. Building 1 is located in the eastern area of the site and will be 164,546± ft² in size. Building 2 will be located in the western area of the site and will be 78,120± ft² in size. Building 1 will be constructed with dock-high doors along the central portion of the south building wall and Building 2 will be constructed with dock-high doors along the central portion of the east building wall. The buildings will be surrounded by asphaltic concrete pavements in the parking and drive lanes, Portland cement concrete pavements in the loading dock area, concrete flatwork and landscape planters throughout.

We understand that the proposed development will include on-site infiltration to dispose of storm water. Based on infiltration test locations depicted on the provided site plan, the infiltration systems for the proposed development are expected to consist of two (2) below-grade chamber systems located to the south of proposed Building 1 and to the east of proposed Building 2. The bottoms of the chamber systems will extend 13± feet below the existing site grades.

## Concurrent Study

SCG recently conducted a geotechnical investigation at the subject site, referenced above. As part of this study, seven (7) borings were advanced to depths of 15 to 30± feet below existing site grades. Native alluvium was encountered at the ground surface at all of the boring locations, extending to at least the maximum depth explored of 30± feet below existing site grades. The native alluvial soils generally consist of loose to medium dense fine sandy silts and silty fine sands with varying amounts of medium to coarse sands and fine gravel, underlain by medium dense to

very dense fine to coarse sands with variable silt, fine to coarse gravel, and cobble content. Occasional medium dense silt strata were also encountered at depths of 8 to 12± feet.

Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the lack of any water within the borings, and the moisture contents of the recovered soil samples, the static groundwater is considered to have existed at a depth in excess of 30± feet at the time of the subsurface exploration. As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the groundwater depths in this area is the California Department of Water Resources website, http://www.water.ca.gov/waterdatalibrary/. The nearest monitoring well in this database is located approximately 2,386 feet northeast from the site. Water level readings within this monitoring well indicates a high groundwater level of 260± feet below the ground surface in December of 2009.

## Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of two (2) infiltration test borings, each advanced to a depth of 13± feet below the existing site grades, and two (2) backhoe-excavated trenches, extending to depths of 11½ to 12± feet below existing site grades. All of the borings and trenches were logged during drilling and excavation by a member of our staff. The approximate locations of the infiltration borings and trenches (identified as I-1 through I-4) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Geotechnical Conditions

Artificial fill soil was encountered at the ground surface at Infiltration Trench No. I-4, extending to a depth of 2± feet below the existing site grades. The fill soil consists of loose to medium dense silty fine sand with little medium to coarse sands and trace to little fine gravel. The fill soil possesses a disturbed appearance and contains occasional debris including paper, plastic, glass, and metal fragments, resulting in its classification as artificial fill.

Native alluvium was encountered beneath the artificial fill soil at Trench No. I-4, and at the ground surface at Infiltration Trench No. I-3 and Infiltration Boring Nos. I-1 and I-2. The alluvial soils generally consist of loose to medium dense silty fine sands with varying amounts of medium to coarse sands and fine to coarse gravel, and medium dense to dense fine sand, fine to coarse sands, and gravelly fine to coarse sands with varying cobbles and silt content, extending to at least the maximum depth explored of 13± feet below the existing site grades. The Boring and Trench Logs, which illustrate the conditions encountered at the infiltration test locations, are included with this report.

## Infiltration Testing

We understand that the results of the testing will be used to prepare a preliminary design for the storm water infiltration systems that will be used at the subject site. As previously mentioned,

the infiltration testing was performed using two different infiltration methods. Infiltration Test Nos. I-1 and I-2 were conducted utilizing infiltration test borings, and Infiltration Test Nos. I-3 and I-4 were conducted using the double ring infiltrometer.

## Infiltration Testing Procedure (Infiltration Borings)

As previously stated, the infiltration testing for the infiltration borings was performed in general accordance with the Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, prepared for the Riverside County Department of Environmental Health (RCDEH), dated December, 2013. The San Bernardino County standards defer to guidelines published by RCDEH.

### Pre-soaking

In accordance with the county infiltration standards, both of the infiltration test borings were pre-soaked prior to the infiltration testing. The pre-soaking process consisted of filling the test borings by inverting a full 5-gallon bottle of clear water supported over each hole so that the water level reaches a level of at least 5 times the hole's radius above the gravel at the bottom of each hole. The pre-soaking was completed after all of the water had percolated through each test hole or after 15 hours since initiating the pre-soak.

### Infiltration Testing

Following the pre-soaking process of the infiltration test borings, SCG performed the infiltration testing. Each test hole was filled with water to a depth of at least 5 times the hole's radius above the gravel at the bottom of each test hole, and less than or equal to the water level used during the pre-soaking process. In accordance with the county guidelines, since "sandy soils" were encountered at the bottom of both infiltration borings (where 6 inches of water infiltrated into the surrounding soils for two-consecutive 25-minute readings), readings were taken at 10-minute intervals for a total of 1 hour at Infiltration Test Nos. I-1 and I-2. After each reading, the borings were refilled to the correct water level above the gravel at the bottom of each test hole. The water level readings are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on the spreadsheets.

## Double Ring Infiltration Testing Procedure

The infiltration testing for Infiltration Test Nos. I-3 and I-4 was performed in accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer. Two stainless steel infiltration rings were used for this method of infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At each test location, a trench was excavated to the proposed depth of the infiltration system and the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trench. The rings were driven into the soil using a ten-pound sledge hammer. The soil surrounding the wall of the infiltration rings was only slightly disturbed during the driving process.

Infiltration Testing

Infiltration testing was performed at both of the trench locations. The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained using constant-head float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular space during each time interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the tests. The schedule for readings was determined based on the observed soil type at the base of each backhoe-excavated trench. Based on the existing soils at the trench locations, the volumetric measurements were made at 1-minute increments. The water volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets.

The infiltration rates from all four (4) of the tests are tabulated in inches per hour. In accordance with the typically accepted practice, it is recommended that the most conservative reading from the latter part of the infiltration tests be used as the design infiltration rate. The rates are summarized below:

| **Infiltration Test No.** | **Depth (feet)** | **Soil Description** | **Infiltration Rate (inches/hour)** |
|---|---|---|---|
| I-1 | 13 | Gravelly fine to coarse Sand, trace Silt | 13.0 |
| I-2 | 13 | Fine to coarse Sand, little fine Gravel, trace coarse Gravel, trace Silt | 19.9 |
| I-3 | 11½ | Gravelly fine to coarse Sand, occasional Cobbles | 17.8 |
| I-4 | 12 | Gravelly fine to coarse Sand, trace Silt, occasional Cobbles | 15.4 |

## Laboratory Testing

Moisture Content

The moisture contents for selected soil samples within the borings and trenches were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Boring and Trench Logs.

Grain Size Analysis

The grain size distribution of selected soils collected from the bottom of each infiltration test boring and from the base of each infiltration test trench have been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of the grainsize

analysis are presented on Plates C-1 through C-4 of this report.

## Design Recommendations

Four (4) infiltration tests were performed at the subject site. As noted above, the calculated infiltration rates at the infiltration test locations range from 13.0 to 19.9 inches per hour. **Based on the results of Infiltration Test Nos. I-1 and I-2, we recommend an infiltration rate of 13 inches per hour be used for the design of the proposed below-grade chamber system located to the south of proposed Building 1. Based on the results of Infiltration Test Nos. I-3 and I-4, we recommend an infiltration rate of 15.4 inches per hour be used for the design of the proposed chamber system located to the east of proposed Building 2.** These design infiltration rates are recommended if the bottoms of the chamber systems extend to depths of 12 to 13± feet below the existing site grades.

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration systems to identify the soil classification at the base of each chamber system. It should be confirmed that the soils at the base of the proposed infiltration systems correspond with those presented in this report to ensure that the performance of the systems will be consistent with the rates reported herein.

The design of the proposed storm water infiltration systems should be performed by the project civil engineer, in accordance with the City of Fontana and/or County of San Bernardino guidelines. However, it is recommended that the systems be constructed so as to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the systems. The presence of such materials would decrease the effective infiltration rates. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rates recommended above are based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rates.** It should be noted that the recommended infiltration rates are based on infiltration testing at four (4) discrete locations and the overall infiltration rates of the storm water infiltration systems could vary considerably.

## Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

## Infiltration versus Permeability

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. The infiltration rates presented herein were determined in accordance with the

ASTM Test Method D-3385-03 standard and are considered valid for the time and place of the actual test. Changes in soil moisture content will affect these infiltration rates. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

## Location of Infiltration Systems

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration areas could potentially be damaged due to saturation of subgrade soils. **The proposed infiltration systems for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration systems at least 25 feet from the buildings, it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration systems.

## General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rates contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between trench locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of

the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

**Closure**

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

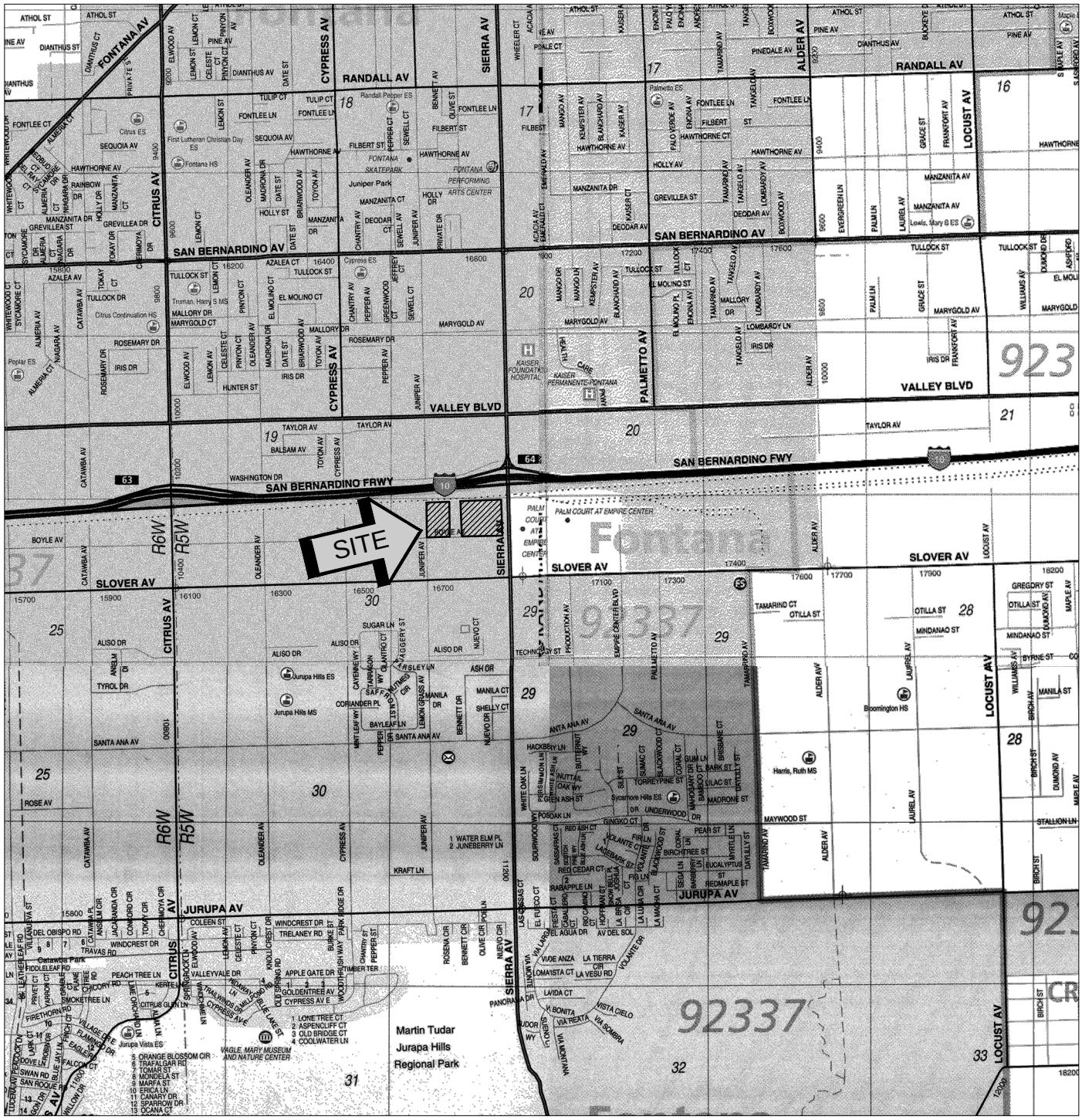
Scott McCann
Staff Scientist

Robert G. Trazo, GE 2655
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
ROBERT TRAZO
No. 2655
GEOTECHNICAL
STATE OF CALIFORNIA

Distribution: (1) Addressee

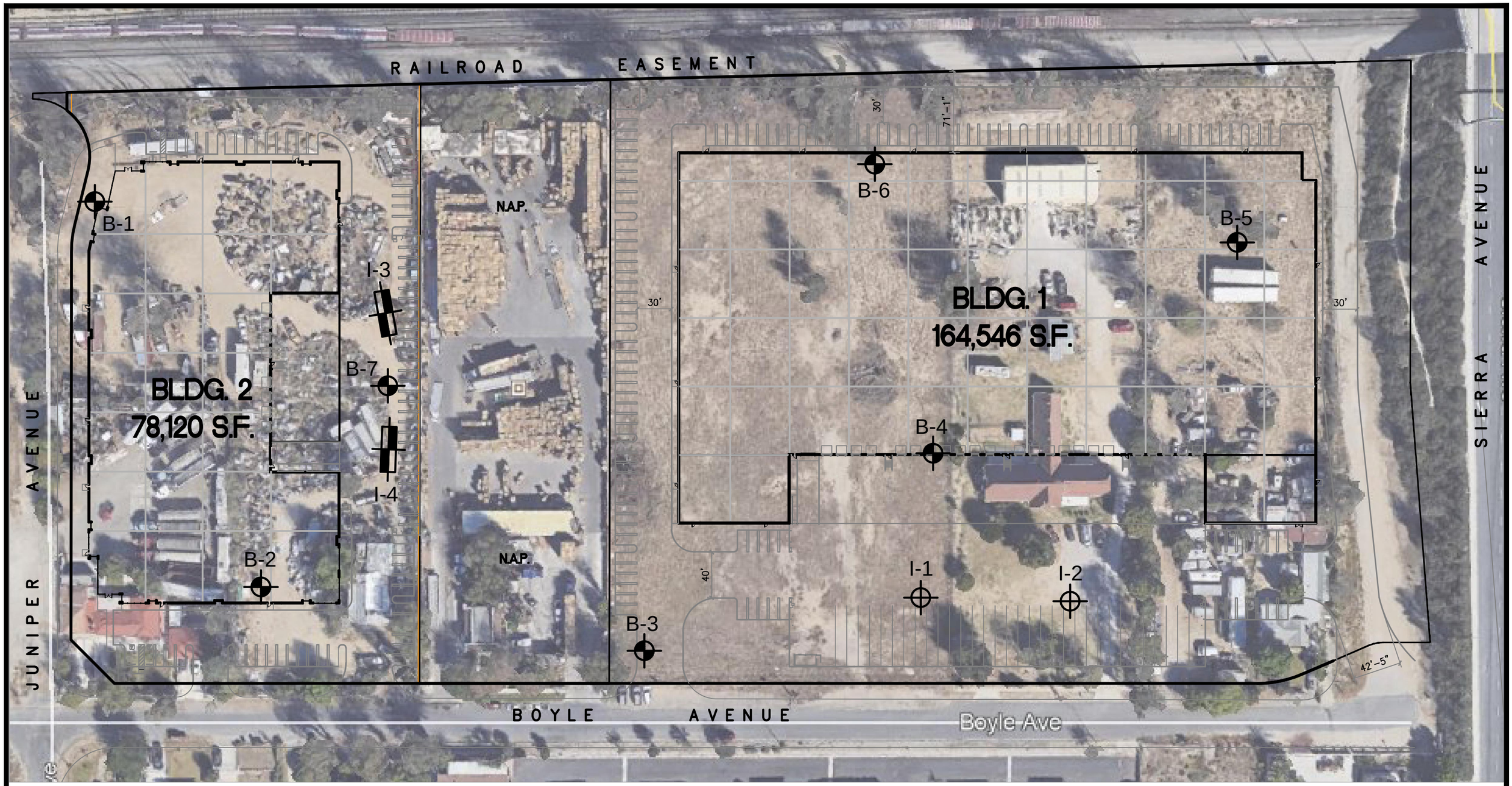
Enclosures: Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Boring Log Legend, Boring and Trench Logs (6 pages)
Infiltration Test Results Spreadsheets (4 pages)
Grain Size Distribution Graphs (4 pages)




SOURCE: SAN BERNARDINO COUNTY
THOMAS GUIDE, 2013

| SITE LOCATION MAP |
|---|
| TWO PROPOSED WAREHOUSES |
| FONTANA, CALIFORNIA |
| SCALE: 1" = 2400' |
| DRAWN: RNK<br>CHKD: RGT |
| SCG PROJECT<br>19G218-2 |
| **PLATE 1** |

SOUTHERN CALIFORNIA GEOTECHNICAL




GEOTECHNICAL LEGEND

- APPROXIMATE INFILTRATION BORING LOCATION
- APPROXIMATE INFILTRATION TRENCH LOCATION
- APPROXIMATE BORING LOCATION FROM CONCURRENT STUDY (SCG PROJECT NO. 19G218-1)

NORTH
SoCalGeo

NOTE: SITE PLAN PREPARED BY HPA, INC.

**INFILTRATION TEST LOCATION PLAN**
TWO PROPOSED WAREHOUSES
FONTANA, CALIFORNIA

SCALE: 1" = 80'
DRAWN: SAM
CHKD: RGT
SCG PROJECT 19G218-2
**PLATE 2**

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL

# BORING LOG LEGEND

| SAMPLE TYPE | GRAPHICAL SYMBOL | SAMPLE DESCRIPTION |
|---|---|---|
| **AUGER** | | SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED) |
| **CORE** | | ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK. |
| **GRAB** | | SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED) |
| **CS** | | CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED) |
| **NSR** | | NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL. |
| **SPT** | | STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED) |
| **SH** | | SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED) |
| **VANE** | | VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED. |

**COLUMN DESCRIPTIONS**

**DEPTH:** Distance in feet below the ground surface.

**SAMPLE**: Sample Type as depicted above.

**BLOW COUNT**: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

**POCKET PEN.**: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

**GRAPHIC LOG**: Graphic Soil Symbol as depicted on the following page.

**DRY DENSITY**: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft$^3$.

**MOISTURE CONTENT**: Moisture content of a soil sample, expressed as a percentage of the dry weight.

**LIQUID LIMIT**: The moisture content above which a soil behaves as a liquid.

**PLASTIC LIMIT**: The moisture content above which a soil behaves as a plastic.

**PASSING #200 SIEVE**: The percentage of the sample finer than the #200 standard sieve.

**UNCONFINED SHEAR**: The shear strength of a cohesive soil sample, as measured in the unconfined state.

# SOIL CLASSIFICATION CHART

| MAJOR DIVISIONS | | | SYMBOLS GRAPH | SYMBOLS LETTER | TYPICAL DESCRIPTIONS |
|---|---|---|---|---|---|
| COARSE GRAINED SOILS<br>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE | GRAVEL AND GRAVELLY SOILS<br>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE | CLEAN GRAVELS<br>(LITTLE OR NO FINES) | | GW | WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | | | GP | POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | GRAVELS WITH FINES<br>(APPRECIABLE AMOUNT OF FINES) | | GM | SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES |
| | | | | GC | CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES |
| | SAND AND SANDY SOILS<br>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE | CLEAN SANDS<br>(LITTLE OR NO FINES) | | SW | WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES |
| | | | | SP | POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES |
| | | SANDS WITH FINES<br>(APPRECIABLE AMOUNT OF FINES) | | SM | SILTY SANDS, SAND - SILT MIXTURES |
| | | | | SC | CLAYEY SANDS, SAND - CLAY MIXTURES |
| FINE GRAINED SOILS<br>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE | SILTS AND CLAYS | LIQUID LIMIT LESS THAN 50 | | ML | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY |
| | | | | CL | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS |
| | | | | OL | ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY |
| | SILTS AND CLAYS | LIQUID LIMIT GREATER THAN 50 | | MH | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS |
| | | | | CH | INORGANIC CLAYS OF HIGH PLASTICITY |
| | | | | OH | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS |
| HIGHLY ORGANIC SOILS | | | | PT | PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS |

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. I-1

JOB NO.: 19G218-2
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 11/14/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Scott McCann

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | ALLUVIUM: Light Brown Sity fine Sand, little medium to coarse Sand, trace fine Gravel, medium dense-dry | | | | | | | |
| | X | 12 | | | | | 2 | | | | | |
| 5 | | | | | | | | | | | | |
| | | | | | Light Gray Gravelly fine to coarse Sand, trace Silt, dense-dry to damp | | | | | | | |
| | X | 31 | | | | | 1 | | | | | |
| 10 | | | | | | | | | | | | |
| | X | 32 | | | | | 2 | | | 7 | | |
| | | | | | Boring Terminated at 13' | | | | | | | |

TBL 19G218-2.GPJ SOCALGEO.GDT 11/19/19

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. I-2

JOB NO.: 19G218-2
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, California

DRILLING DATE: 11/14/19
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Scott McCann

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | ALLUVIUM: Light Brown Sity fine Sand, little medium Sand, trace coarse Sand, trace fine Gravel, loose-dry | | | | | | | |
| | X | 8 | | | | | 2 | | | | | |
| 5 | | | | | | | | | | | | |
| | | | | | Light Gray Brown fine to medium Sand, little coarse Sand, little fine Gravel, little Silt, medium dense-dry to damp | | | | | | | |
| | X | 17 | | | | | 2 | | | | | |
| 10 | | | | | | | | | | | | |
| | X | 24 | | | Light Gray fine to coarse Sand, little fine Gravel, trace coarse Gravel, trace Silt, medium dense-dry | | 1 | | | 6 | | |
| | | | | | Boring Terminated at 13' | | | | | | | |

TBL 19G218-2.GPJ SOCALGEO.GDT 11/19/19

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO. I-3**

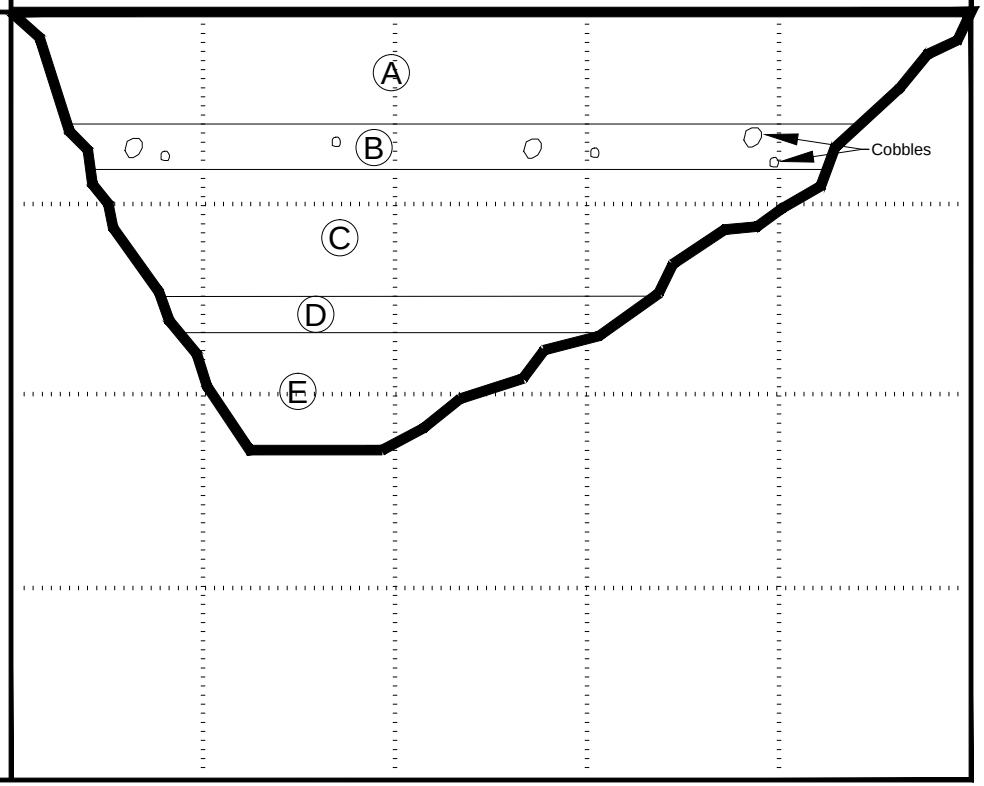
JOB NO.: 19G218-2
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, CA
DATE: 10-17-2019

EQUIPMENT USED: Backhoe
LOGGED BY: Scott McCann
ORIENTATION: S 10 E
ELEVATION:

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

| DEPTH | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION |
|---|---|---|---|---|
| | | | | A: ALLUVIUM: Light Brown Silty fine Sand, little medium to coarse Sand, trace to little fine Gravel, loose to medium dense-dry |
| | | | | B: ALLUVIUM: Light Gray Brown Gravelly fine to coarse Sand, occasional Cobbles, little Silt, medium dense to dense-dry to damp<br>C: ALLUVIUM: Light Gray fine to coarse Sand, little fine Gravel, trace coarse Gravel, medium dense-dry |
| 5 | | | | |
| | | | | D: ALLUVIUM: Gray Brown fine Sand, little medium Sand, little Silt, trace to little coarse Sand, medium dense-dry to damp |
| | | | | E: ALLUVIUM: Light Gray Gravelly fine to coarse Sand, occasional Cobbles, dense-dry |
| 10 | b | | 1 | |
| | | | | Trench Terminated @ 11.5 feet |
| 15 | | | | |

GRAPHIC REPRESENTATION




KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-3**

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO. I-4**

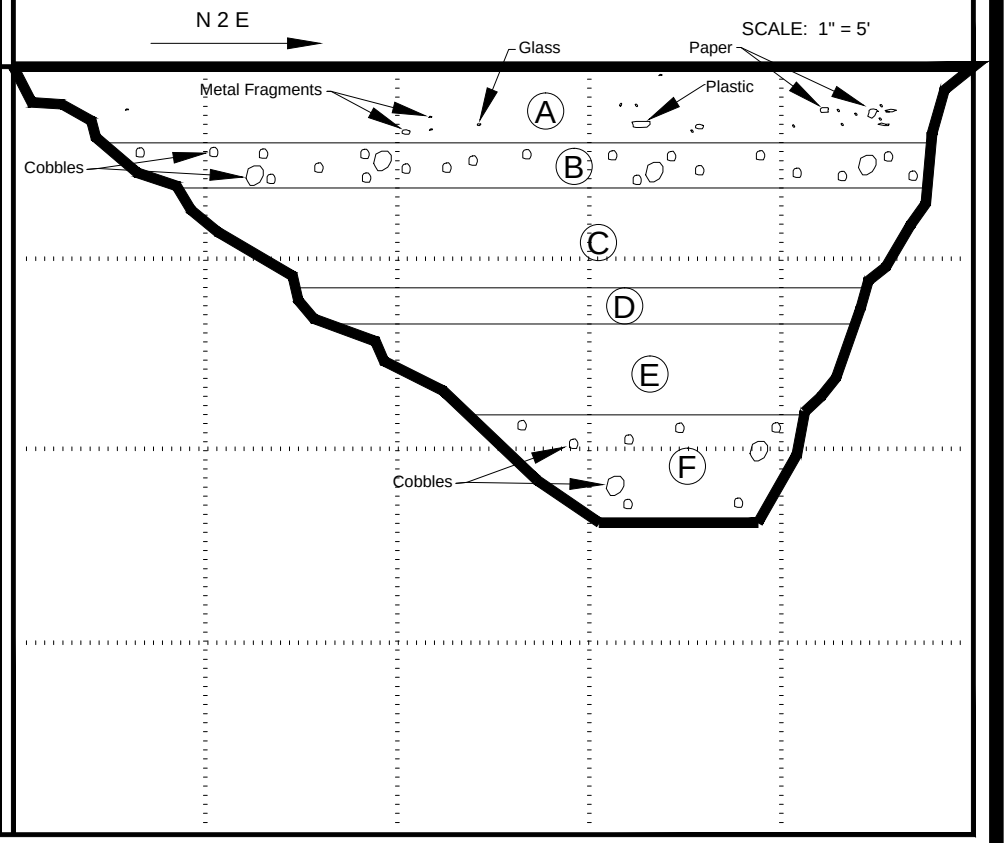
JOB NO.: 19G218-2
PROJECT: Two Proposed Warehouses
LOCATION: Fontana, CA
DATE: 10-17-2019

EQUIPMENT USED: Backhoe
LOGGED BY: Scott McCann
ORIENTATION: N 2 E
ELEVATION:

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

| DEPTH | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION |
|---|---|---|---|---|
| | | | | A: FILL: Light Brown Silty fine Sand, little medium to coarse Sand, trace to little fine Gravel, little Debris (Paper, Plastic, Glass, and Metal fragments), loose to medium dense-dry<br>B: ALLUVIUM: Light Gray Brown Gravelly fine to coarse Sand, occasional to extensive Cobbles, little Silt, dense-dry to damp<br>C: ALLUVIUM: Light Gray fine to coarse Sand, little fine Gravel, trace coarse Gravel, loose to medium dense-dry |
| 5 | | | | D: ALLUVIUM: Gray Brown fine Sand, little Silt, trace to little medium Sand, trace coarse Sand, medium dense-damp<br>E: ALLUVIUM: Light Gray fine to coarse Sand, little fine to coarse Gravel, medium dense-dry to damp |
| 10 | b | | 2 | F: ALLUVIUM: Light Gray Gravelly fine to coarse Sand, trace Silt, occasional Cobbles, dense-dry |
| | | | | Trench Terminated @ 12 feet |
| 15 | | | | |

GRAPHIC REPRESENTATION




KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-4**

**INFILTRATION CALCULATIONS**

| | |
|---|---|
| Project Name | Two Proposed Warehouses |
| Project Location | Fontana, CA |
| Project Number | 19G218-2 |
| Engineer | Scott McCann |

| | | |
|---|---|---|
| Test Hole Radius | 4 | (in) |
| Test Depth | 12.9 | (ft) |

| | |
|---|---|
| Infiltration Test Hole | I-1 |

| Interval Number | | Time | Time Interval (min) | Water Depth (ft) | Change in Water Level (ft) | Average Head Height (ft) | Infiltration Rate Q (in/hr) | |
|---|---|---|---|---|---|---|---|---|
| P1 | Initial | 9:30 AM | 25.0 | 11.20 | 1.70 | 0.85 | 8.03 | Pre-Sat |
| | Final | 9:55 AM | | 12.90 | | | | |
| P2 | Initial | 9:56 AM | 25.0 | 11.20 | 1.70 | 0.85 | 8.03 | |
| | Final | 10:21 AM | | 12.90 | | | | |
| 1 | Initial | 10:22 AM | 10.0 | 11.20 | 1.37 | 1.02 | 13.91 | Infiltration Testing |
| | Final | 10:32 AM | | 12.57 | | | | |
| 2 | Initial | 10:33 AM | 10.0 | 11.20 | 1.33 | 1.04 | 13.28 | |
| | Final | 10:43 AM | | 12.53 | | | | |
| 3 | Initial | 10:44 AM | 10.0 | 11.20 | 1.32 | 1.04 | 13.13 | |
| | Final | 10:54 AM | | 12.52 | | | | |
| 4 | Initial | 10:55 AM | 10.0 | 11.20 | 1.31 | 1.05 | 12.97 | |
| | Final | 11:05 AM | | 12.51 | | | | |
| 5 | Initial | 11:06 AM | 10.0 | 11.20 | 1.31 | 1.05 | 12.97 | |
| | Final | 11:16 AM | | 12.51 | | | | |
| 6 | Initial | 11:17 AM | 10.0 | 11.20 | 1.31 | 1.05 | 12.97 | |
| | Final | 11:27 AM | | 12.51 | | | | |

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where:
- $Q$ = Infiltration Rate (in inches per hour)
- $\Delta H$ = Change in Height (Water Level) over the time interval
- $r$ = Test Hole (Borehole) Radius
- $\Delta t$ = Time Interval
- $H_{avg}$ = Average Head Height over the time interval

**INFILTRATION CALCULATIONS**

| | |
|---|---|
| Project Name | Two Proposed Warehouses |
| Project Location | Fontana, CA |
| Project Number | 19G218-2 |
| Engineer | Scott McCann |

| | | |
|---|---|---|
| Test Hole Radius | 4 | (in) |
| Test Depth | 12.9 | (ft) |

| | |
|---|---|
| Infiltration Test Hole | I-2 |

| Interval Number | | Time | Time Interval (min) | Water Depth (ft) | Change in Water Level (ft) | Average Head Height (ft) | Infiltration Rate Q (in/hr) | |
|---|---|---|---|---|---|---|---|---|
| P1 | Initial | 8:00 AM | 25.0 | 11.20 | 1.70 | 0.85 | 8.03 | Pre-Sat |
| | Final | 8:25 AM | | 12.90 | | | | |
| P2 | Initial | 8:26 AM | 25.0 | 11.20 | 1.70 | 0.85 | 8.03 | |
| | Final | 8:51 AM | | 12.90 | | | | |
| 1 | Initial | 8:52 AM | 10.0 | 11.20 | 1.70 | 0.85 | 20.07 | Infiltration Testing |
| | Final | 9:02 AM | | 12.90 | | | | |
| 2 | Initial | 9:03 AM | 10.0 | 11.20 | 1.70 | 0.85 | 20.07 | |
| | Final | 9:13 AM | | 12.90 | | | | |
| 3 | Initial | 9:14 AM | 10.0 | 11.20 | 1.70 | 0.85 | 20.07 | |
| | Final | 9:24 AM | | 12.90 | | | | |
| 4 | Initial | 9:25 AM | 10.0 | 11.20 | 1.69 | 0.86 | 19.85 | |
| | Final | 9:35 AM | | 12.89 | | | | |
| 5 | Initial | 9:36 AM | 10.0 | 11.20 | 1.70 | 0.85 | 20.07 | |
| | Final | 9:46 AM | | 12.90 | | | | |
| 6 | Initial | 9:47 AM | 10.0 | 11.20 | 1.69 | 0.86 | 19.85 | |
| | Final | 9:57 AM | | 12.89 | | | | |

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where:
- $Q$ = Infiltration Rate (in inches per hour)
- $\Delta H$ = Change in Height (Water Level) over the time interval
- $r$ = Test Hole (Borehole) Radius
- $\Delta t$ = Time Interval
- $H_{avg}$ = Average Head Height over the time interval

**INFILTRATION CALCULATIONS**

| | |
|---|---|
| Project Name | Two Proposed Warehouses |
| Project Location | Fontana, CA |
| Project Number | 19G218-2 |
| Engineer | Scott McCann |

Infiltration Test No: I-3

| Constants | Diameter (ft) | Area ($ft^2$) | Area ($cm^2$) |
|---|---|---|---|
| Inner | 1 | 0.79 | 730 |
| Anlr. Spac | 2 | 2.36 | 2189 |

*Note: The infiltration rate was calculated based on current time interval

| Test Interval | | Time (hr) | Interval **Elapsed** (min) | Flow Readings: Inner Ring (ml) | Ring Flow ($cm^3$) | Annular Ring (ml) | Space Flow ($cm^3$) | Infiltration Rates: Inner Ring* (cm/hr) | Annular Space* (cm/hr) | Inner Ring* (in/hr) | Annular Space* (in/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Initial | 11:00 AM | 1 | 550 | 875 | 500 | 4550 | 71.95 | 124.72 | 28.33 | 49.10 |
| | Final | 11:01 AM | **1** | 1425 | | 5050 | | | | | |
| 2 | Initial | 11:03 AM | 1 | 200 | 750 | 350 | 4200 | 61.67 | 115.13 | 24.28 | 45.33 |
| | Final | 11:04 AM | **4** | 950 | | 4550 | | | | | |
| 3 | Initial | 11:05 AM | 1 | 50 | 700 | 200 | 3900 | 57.56 | 106.90 | 22.66 | 42.09 |
| | Final | 11:06 AM | **6** | 750 | | 4100 | | | | | |
| 4 | Initial | 11:07 AM | 1 | 0 | 625 | 900 | 4150 | 51.40 | 113.76 | 20.23 | 44.79 |
| | Final | 11:08 AM | **8** | 625 | | 5050 | | | | | |
| 5 | Initial | 11:09 AM | 1 | 50 | 650 | 750 | 3600 | 53.45 | 98.68 | 21.04 | 38.85 |
| | Final | 11:10 AM | **10** | 700 | | 4350 | | | | | |
| 6 | Initial | 11:11 AM | 1 | 300 | 650 | 200 | 3400 | 53.45 | 93.20 | 21.04 | 36.69 |
| | Final | 11:12 AM | **12** | 950 | | 3600 | | | | | |
| 7 | Initial | 11:13 AM | 1 | 250 | 575 | 1050 | 3450 | 47.28 | 94.57 | 18.62 | 37.23 |
| | Final | 11:14 AM | **14** | 825 | | 4500 | | | | | |
| 8 | Initial | 11:15 AM | 1 | 250 | 550 | 850 | 3450 | 45.23 | 94.57 | 17.81 | 37.23 |
| | Final | 11:16 AM | **16** | 800 | | 4300 | | | | | |
| 9 | Initial | 11:17 AM | 1 | 150 | 550 | 500 | 3350 | 45.23 | 91.83 | 17.81 | 36.15 |
| | Final | 11:18 AM | **18** | 700 | | 3850 | | | | | |
| 10 | Initial | 11:19 AM | 1 | 100 | 550 | 400 | 3300 | 45.23 | 90.46 | 17.81 | 35.61 |
| | Final | 11:20 AM | **20** | 650 | | 3700 | | | | | |

**INFILTRATION CALCULATIONS**

| | |
|---|---|
| Project Name | Two Proposed Warehouses |
| Project Location | Fontana, CA |
| Project Number | 19G218-2 |
| Engineer | Scott McCann |

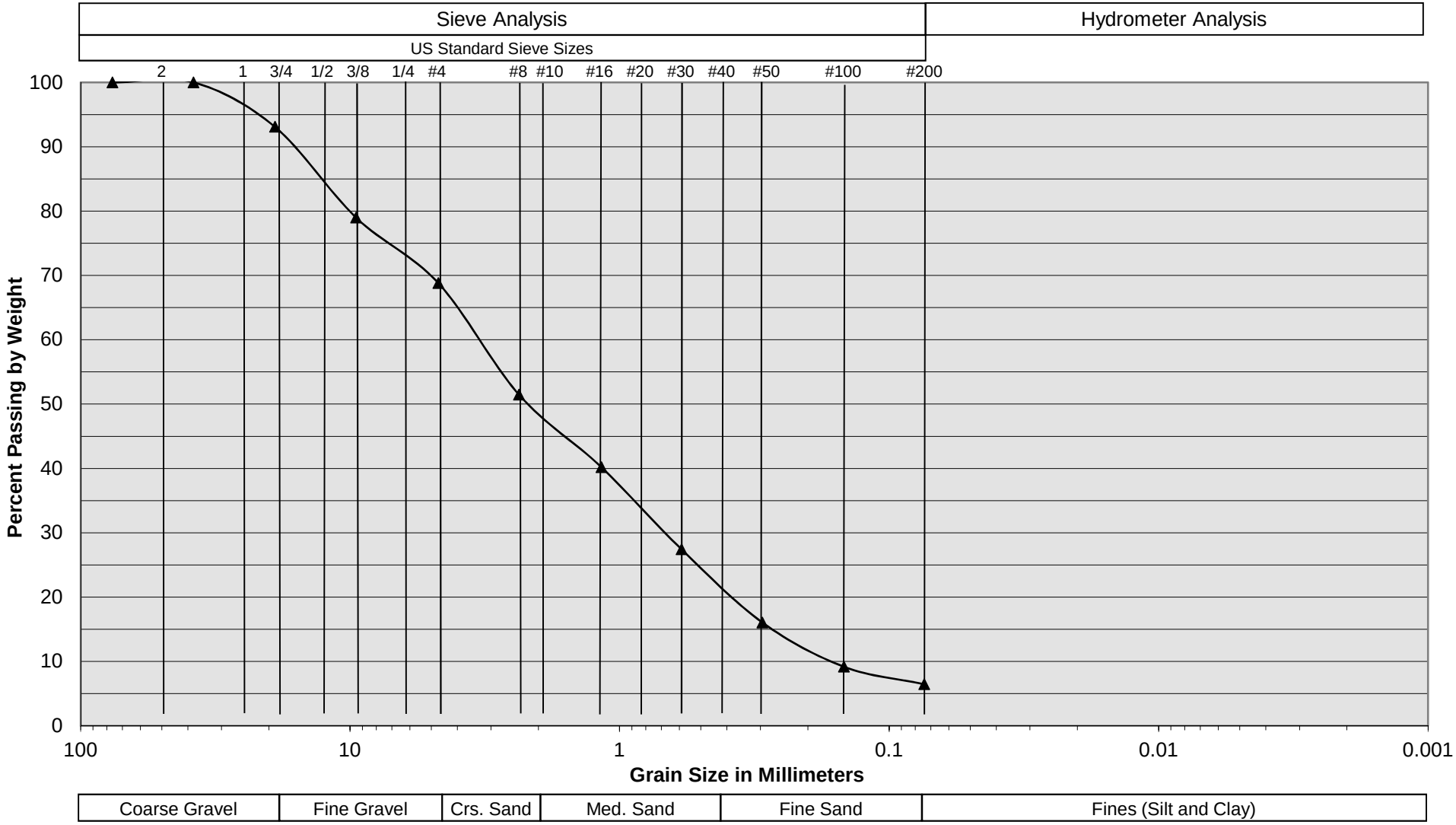
Infiltration Test No: I-4

| Constants | Diameter (ft) | Area ($ft^2$) | Area ($cm^2$) |
|---|---|---|---|
| Inner | 1 | 0.79 | 730 |
| Anlr. Spac | 2 | 2.36 | 2189 |

*Note: The infiltration rate was calculated based on current time interval

| Test Interval | | Time (hr) | Interval **Elapsed** (min) | Flow Readings: Inner Ring (ml) | Ring Flow ($cm^3$) | Annular Ring (ml) | Space Flow ($cm^3$) | Infiltration Rates: Inner Ring* (cm/hr) | Annular Space* (cm/hr) | Inner Ring* (in/hr) | Annular Space* (in/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Initial | 9:45 AM | 1 | 150 | 975 | 900 | 4100 | 80.18 | 112.38 | 31.57 | 44.25 |
| | Final | 9:46 AM | **1** | 1125 | | 5000 | | | | | |
| 2 | Initial | 9:47 AM | 1 | 200 | 700 | 550 | 3900 | 57.56 | 106.90 | 22.66 | 42.09 |
| | Final | 9:48 AM | **3** | 900 | | 4450 | | | | | |
| 3 | Initial | 9:49 AM | 1 | 50 | 650 | 1100 | 3400 | 53.45 | 93.20 | 21.04 | 36.69 |
| | Final | 9:50 AM | **5** | 700 | | 4500 | | | | | |
| 4 | Initial | 9:51 AM | 1 | 100 | 625 | 700 | 3250 | 51.40 | 89.09 | 20.23 | 35.07 |
| | Final | 9:52 AM | **7** | 725 | | 3950 | | | | | |
| 5 | Initial | 9:53 AM | 1 | 150 | 550 | 650 | 3150 | 45.23 | 86.34 | 17.81 | 33.99 |
| | Final | 9:54 AM | **9** | 700 | | 3800 | | | | | |
| 6 | Initial | 9:55 AM | 1 | 150 | 500 | 1000 | 2950 | 41.12 | 80.86 | 16.19 | 31.84 |
| | Final | 9:56 AM | **11** | 650 | | 3950 | | | | | |
| 7 | Initial | 9:57 AM | 1 | 100 | 525 | 450 | 2900 | 43.17 | 79.49 | 17.00 | 31.30 |
| | Final | 9:58 AM | **13** | 625 | | 3350 | | | | | |
| 8 | Initial | 9:59 AM | 1 | 250 | 475 | 600 | 2900 | 39.06 | 79.49 | 15.38 | 31.30 |
| | Final | 10:00 AM | **15** | 725 | | 3500 | | | | | |
| 9 | Initial | 10:01 AM | 1 | 450 | 475 | 550 | 2900 | 39.06 | 79.49 | 15.38 | 31.30 |
| | Final | 10:02 AM | **17** | 925 | | 3450 | | | | | |
| 10 | Initial | 10:03 AM | 1 | 200 | 475 | 500 | 2850 | 39.06 | 78.12 | 15.38 | 30.76 |
| | Final | 10:04 AM | **19** | 675 | | 3350 | | | | | |

# Grain Size Distribution

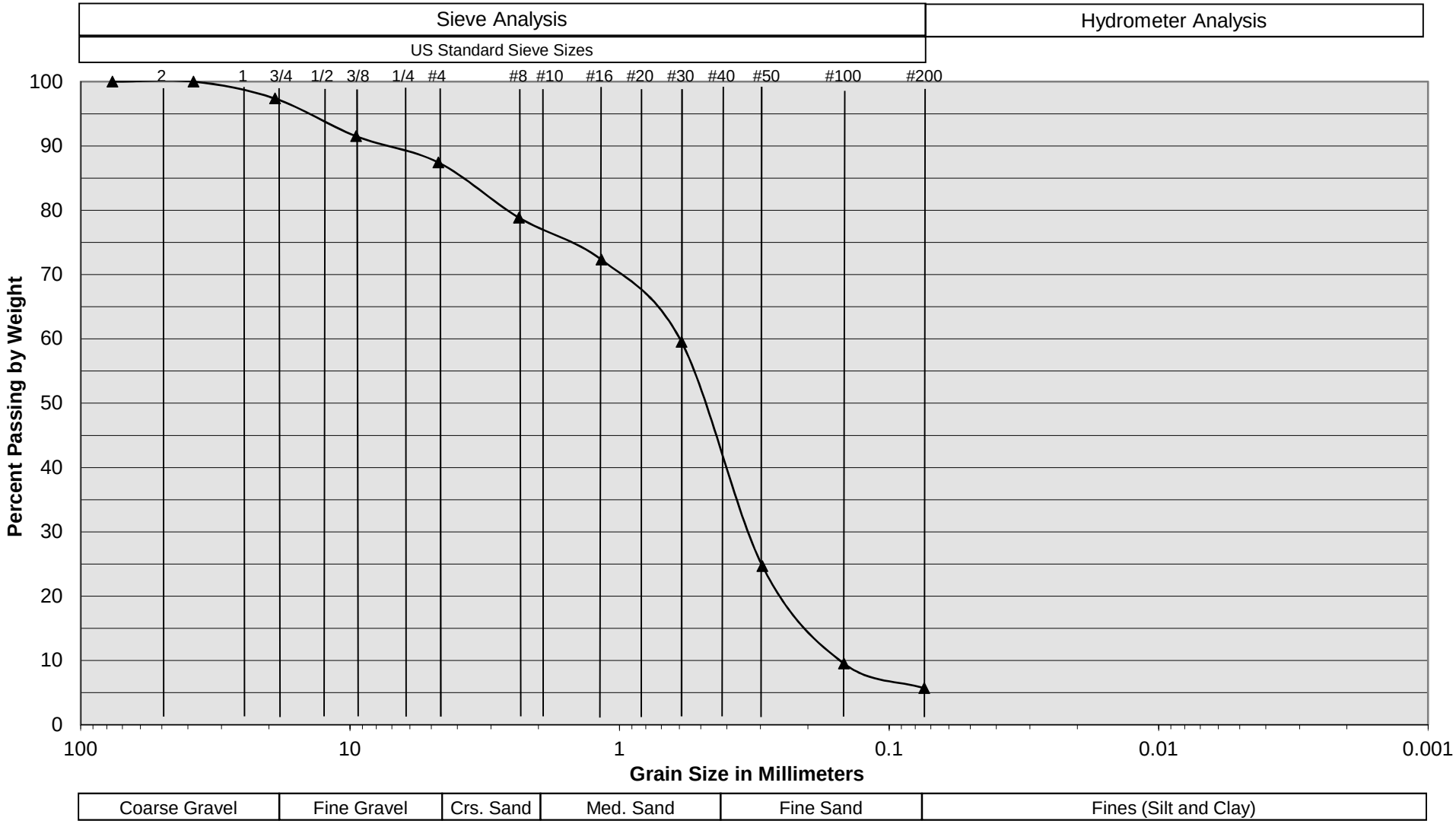



| | |
|---|---|
| Sample Description | I-1 @ 11½ to 13 feet |
| Soil Classification | Light Gray Gravelly fine to coarse Sand, trace Silt |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-2
**PLATE C-1**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# Grain Size Distribution

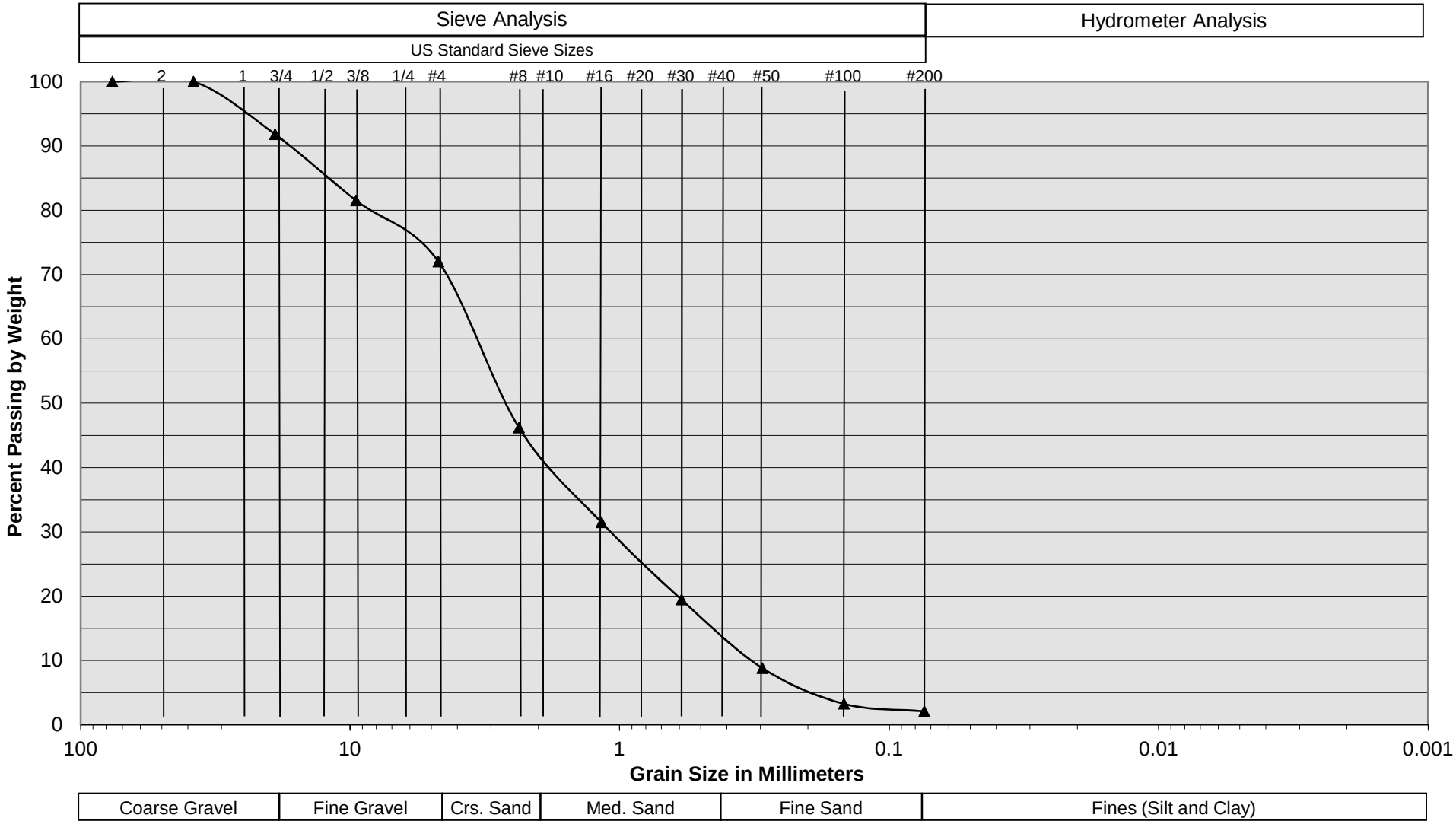



| | |
|---|---|
| Sample Description | I-2 @ 11½ to 13 feet |
| Soil Classification | Light Gray fine to coarse Sand, little fine Gravel, trace coarse Gravel, trace Silt |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-2
**PLATE C-2**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# Grain Size Distribution

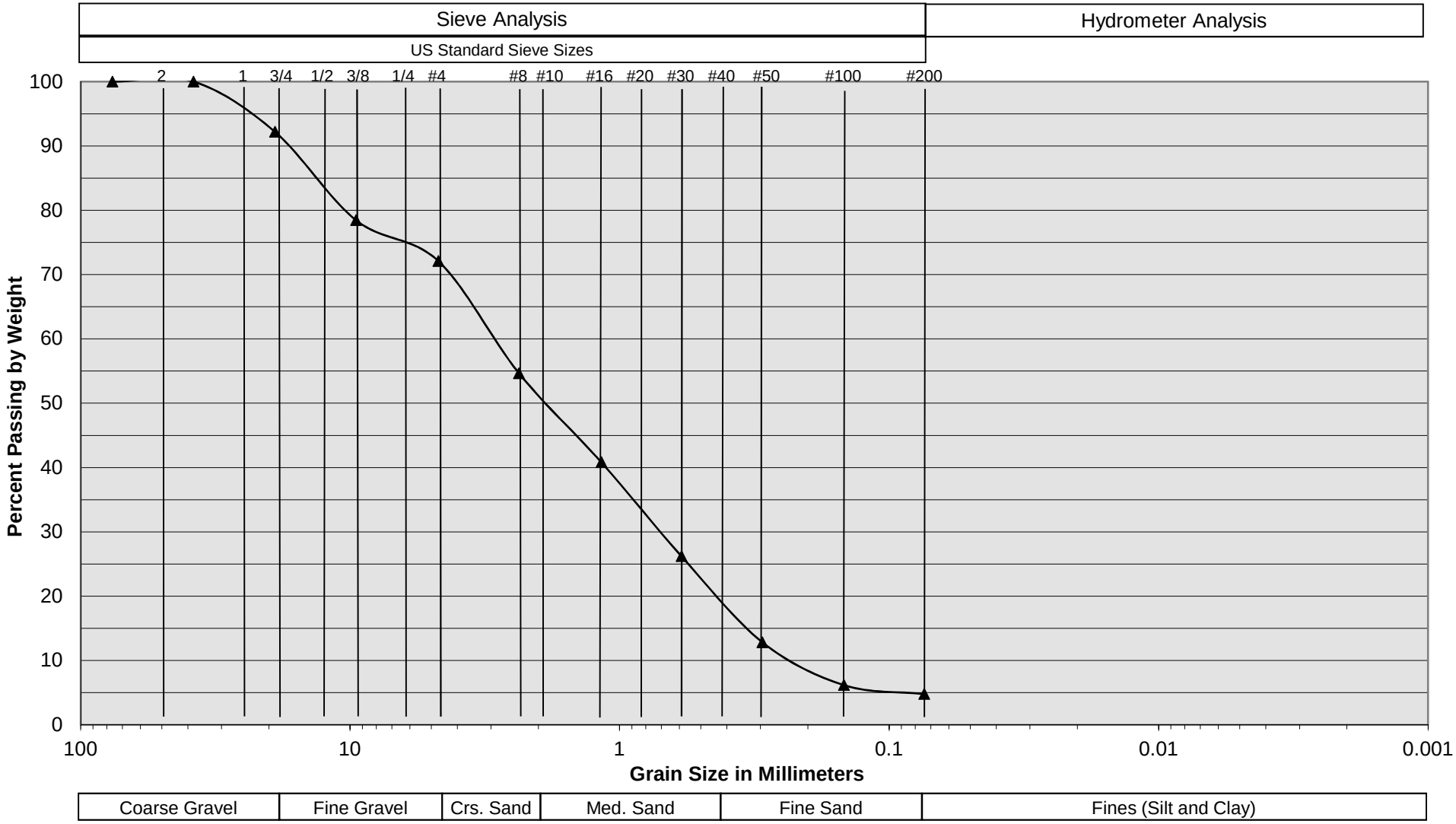



| | |
|---|---|
| Sample Description | I-3 @ 11½ feet |
| Soil Classification | Light Gray Gravelly fine to coarse Sand |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-2
**PLATE C-3**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# Grain Size Distribution




| | |
|---|---|
| Sample Description | I-4 @ 12 feet |
| Soil Classification | Light Gray Gravelly fine to coarse Sand, trace Silt |

Two Proposed Warehouses
Fontana, CA
Project No. 19G218-2
**PLATE C-4**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# APPENDIX J

# NOISE AND VIBRATION IMPACT ANALYSIS

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

# MEMORANDUM

**DATE:** June 19, 2020

**TO:** Cecily Session-Goins, City of Fontana, Assistant Planner

**FROM:** Jason Lui, Associate/Senior Noise Specialist

**SUBJECT:** Transwestern – Boyle Avenue Building 1 Noise and Vibration Impact Analysis

## INTRODUCTION

This noise and vibration impact analysis has been prepared to evaluate the potential noise and vibration impacts and reduction measures associated with the Transwestern Building Project (project) in Fontana, California. This report is intended to satisfy the City of Fontana's (City) requirements and the California Environmental Quality Act (CEQA) for a project-specific noise and vibration impact analysis by examining the impacts of the proposed uses on the project site and evaluating the reduction measures that the project requires. All references cited in this memorandum are included in Attachment A.

### Project Location

The project is located in the southern portion of the City of Fontana, in southwestern San Bernardino County, California. The project site is located in Section 19 of Township 1 South, Range 5 West of the San Bernardino Baseline and Meridian, as depicted on the U.S. Geological Survey (USGS) 7.5-minute series *Fontana, California* quadrangle (1980). Specifically, the center of the project site is at latitude 34°03'56.69" N and longitude -117°26'13.85" W at an elevation of approximately 1,100 feet (ft) above mean sea level (amsl) and is composed of four parcels (Assessor's Parcel Numbers [APNs] 0251-202-05, -06, -07, and 0193-381-01).

The project site is approximately 8.15 acres in size and is bounded by Boyle Avenue to the south, Sierra Avenue to the east, the Union Pacific Railroad and Interstate 10 (I-10) to the north, and an industrial pallet and skids staging yard to the west. The nearest sensitive receptors in proximity to the project site are single-family residences and manufactured mobile homes located across Boyle Avenue to the south. Commercial retail centers are located to the east and north, beyond Sierra Avenue and I-10 respectively. The regional and project location is shown on Figure 1, Regional and Project Location (all figures are provided in Attachment B of this document).

### Project Description

The project includes development of a 176,219 square-foot (sf) logistics/distribution warehouse building, of which approximately 12,000 sf would be office space. The conceptual site plan is shown on Figure 2, Site Plan.

### *Construction*

Existing site elevations range from 1,097 to 1,107 ft amsl with the site sloping slightly downward from north to south. Construction activities include demolition of two residential buildings and ancillary structures and removal of all stored equipment and materials from the site. On-site soils will be overexcavated and recompacted in accordance with the 2019 California Building Code (CBC) to accommodate the proposed warehouse building and parking areas.

Construction parking and staging areas will be placed on site and as far away as practical from existing residential uses to the south. Construction hours will conform to City standards and be limited to 7:00 a.m. to 6:00 p.m. Monday through Saturday. According to the project conceptual grading plans, rough grading is expected to require approximately 13,737 cubic yards of imported soil to account for overexcavation and compaction in accordance with the 2019 CBC. During project construction, it is possible there will be temporary lane closures and/or detours necessary along Boyle Avenue.

Construction of the project is anticipated to commence in late 2020 and be completed in the third quarter of 2021, resulting in a total construction duration of approximately 9 months. Construction equipment anticipated to be used includes rubber-tired dozers, tractors/loaders/backhoes, excavators, graders, scrapers, cranes, forklifts, generators, welders, air compressors, pavers, rollers, and paving equipment.

### *Site Access*

Existing site access is comprised of four residential driveways off Boyle Avenue with limited pedestrian connectivity to the site comprised of a 160 ft sidewalk along the north side of Boyle Avenue. An earthen utility access road along the eastern boundary of the site leads to the Union Pacific Railroad corridor north of the site.

Proposed vehicle access to the project site would include a two-way 40 ft wide driveway off of Boyle Avenue at the western end of the site, and a two-way 54 ft wide driveway off of Boyle Avenue at the eastern end of the site. Passenger vehicles would be able to enter and exit at either driveway, but freight trucks are expected to enter the site only from the western driveway and exit the site only from the eastern driveway. A 30 ft wide fire lane would provide emergency access around the entire warehouse building from both driveways.

The Boyle Avenue frontage and project driveways would receive landscape treatments to be reviewed and approved through the City's general development review process. Entrances and exits to and from parking and loading facilities will be marked clearly with appropriate directional signage where multiple access points are provided. All site access points and driveway aprons are designed and will be constructed to adequate widths for public safety pursuant to City Municipal Code Section No. 30-550(H).

### *Parking*

Parking at the project site will exceed the City's minimum parking requirements as codified in Article XI (On-site street parking and loading regulations) of the City Municipal Code. Whereas the project site requires 65 passenger vehicle parking stalls, the project would include 103 passenger vehicle parking stalls, 5 of which would be Americans with Disabilities Act (ADA) spaces and 2 of which would be

electric vehicle (EV)/ADA spaces. Additionally, the project site requires 34 tractor-trailer parking stalls, and the project would include 35 tractor-trailer parking stalls.

### *Pedestrian and Bicycle Connectivity*

The project site is accessible from nearby public bus stops near the Slover Avenue/Sierra Avenue intersection approximately 0.4 mile from the site, as well as via other amenities such as Class 2 and 3 bicycle lanes along nearby major corridors. Pedestrian access to the project site would occur via sidewalks to be constructed along the north side of Boyle Avenue and east side of Juniper Avenue as part of the off-site and frontage roadway improvements for the project. The project includes a new curb and sidewalk along the entire roadway frontage of the project site.

### *Facility and Site Design*

Compared to the existing scattered ornamental trees and ruderal vegetation on-site, the project would result in an overall improved, updated site and streetscape through the development of a modern warehouse building of varied massing, 360-degree articulation, and landscaped areas in accordance with Division 7 (Design Guidelines) of Article VII (Industrial Zoning Districts) of the City Municipal Code. Design elements of the proposed project include landscaped setbacks and installation of street trees along the site perimeter and on-site trees throughout the parking lot and drive aisles. Additionally, the project includes retaining walls along the northern site boundary to shore the site against changes in surface grade, as well as 14 ft tall concrete tilt-up screen walls with 8 ft tall metal sliding gates to shield the loading docks from surrounding properties.

Light poles will be installed throughout the surface parking lot and along on-site pedestrian pathways. The warehouse building will have security lighting located on the building facades. All lighting on the project site will comply with Section No. 30-550(F) (Lighting) of the City Municipal Code, which requires light shielding, functional and aesthetic design, and compatibility with surrounding uses. The purpose of these lighting standards is to minimize light pollution, glare, and spillover, conserve energy resources, and curtail the degradation of the nighttime visual environment.

### *Landscaping*

The City requires a minimum 15 percent of the site (excluding building area) to be landscaped, and the project includes approximately 35,543 sf of landscaping, which equates to approximately 17.6 percent of the site. The project would incorporate landscape through a combination of hedges and trees along the site perimeter and include dozens of additional trees throughout the site. Enhanced landscaping will be installed throughout the project site pursuant to Section No. 30-551(E)(4) (Landscaping), which requires the Applicant to incorporate a three-tiered planning system compatible with the scale of adjacent structures, streets, and public spaces. Proposed landscaping shall be drought-tolerant and complement existing natural and manmade features, including the dominant landscaping of surrounding areas.

### *Drainage*

The majority of the project site is comprised of pervious surface area. Currently, storm water generally sheet flows from north to south and drains onto Boyle Avenue before flowing west along Boyle Avenue and then south along Juniper Avenue to existing storm drains at the northeast and northwest corners of Slover Avenue and Juniper Avenue. The proposed project is expected to generally maintain

the existing drainage pattern. Upon development of the site, all on-site storm water will be captured on site in accordance with Santa Ana Regional Water Quality Control Board Order Number R8-2010-0036, National Pollutant Discharge Elimination System Permit No. CAS618036, also known as the Municipal Separate Storm Sewer System or MS4 permit. The runoff will be infiltrated via a subterranean chamber system and a pretreatment hydrodynamic separator located on the south side of the proposed warehouse building prior to discharge onto Boyle Avenue at volumes that do not exceed the existing, pre-developed condition.

*Infrastructure and Off-site Improvements*

The project will dedicate and widen Boyle Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install asphalt concrete, curb, gutter, sidewalk, landscaping, and street lights and trees along Boyle Avenue from Juniper Avenue to its eastern terminus at Sierra Avenue. The proposed project will dedicate and widen Juniper Avenue to ultimate half-width per the General Plan standard for a Collector Street, and install curb, gutter, sidewalk, landscaping, and street lights and trees along Juniper Avenue north of Boyle Avenue to its terminus at the Union Pacific Railroad tracks. South of Boyle Avenue, Juniper Avenue will be repaved with asphalt concrete to a half-width of 28 ft. Additionally, the eastern terminus of Boyle Avenue and the northern terminus of Juniper Avenue will be improved with cul-de-sacs. The project also includes installation and expansion of utilities such as sewer, water, electrical, gas, and telecommunications within the Boyle Avenue and Juniper Avenue rights-of-way (ROWs) for interconnection to the project site. Some reconfiguration of the storm drain and catch basin facilities at Slover Avenue also would be required.

## CHARACTERISTICS OF SOUND

Sound is increasing to such disagreeable levels in the environment that it can threaten quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

### Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Decibels, unlike the linear scale (e.g., inches or pounds), are measured on a logarithmic scale, which is a scale based on powers of 10.

For example, 10 decibels (dB) is 10 times more intense than 1 dB, 20 dB is 100 times more intense than 1 dB, and 30 dB is 1,000 times more intense than 1 dB. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 1 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source (e.g., highway traffic or railroad operations), the sound decreases 3 dB for each doubling of distance in a hard site environment; however, line source noise in a relatively flat environment with absorptive vegetation decreases 4.5 dB for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level ($L_{eq}$) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the $L_{eq}$ and community noise equivalent level (CNEL) or the day-night average noise level ($L_{dn}$) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly $L_{eq}$ for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours), and a 10 dBA weighting factor applied to noises occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). $L_{dn}$ is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and $L_{dn}$ are within 1 dBA of each other and are normally interchangeable. The City uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level ($L_{max}$), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by $L_{max}$, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the $L_{10}$ noise level represents the noise level exceeded 10 percent of the time during a stated period. The $L_{50}$ noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time, it is less than this level. The $L_{90}$ noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the $L_{eq}$ and $L_{50}$ are approximately the same.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible

to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

## Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear (the threshold of pain). A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less developed area. Table A lists definitions of acoustical terms, and Table B shows common sound levels and their sources.

### Table A: Definitions of Acoustical Terms

| Term | Definitions |
|---|---|
| Decibel, dB | A unit of measurement that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio. |
| Frequency, Hz | Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., number of cycles per second). |
| A-Weighted Sound Level, dBA | The sound level obtained by use of A-weighting. The A-weighting filter deemphasizes the very low- and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. (All sound levels in this report are A-weighted, unless reported otherwise.) |
| $L_{01}$, $L_{10}$, $L_{50}$, $L_{90}$ | The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period. |
| Equivalent Continuous Noise Level, $L_{eq}$ | The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound. |
| Community Noise Equivalent Level, CNEL | The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dBA to sound levels occurring in the evening from 7:00 PM to 10:00 PM and after the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00 AM. |
| Day/Night Noise Level, $L_{dn}$ | The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00 AM. |
| $L_{max}$, $L_{min}$ | The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging. |
| Ambient Noise Level | The all-encompassing noise associated with a given environment at a specified time; usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant. |
| Intrusive | The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level. |

Source: *Handbook of Acoustical Measurements and Noise Control* (Harris 1991).

## Table B: Common Sound Levels and Their Noise Sources

| Noise Source | A-Weighted Sound Level in Decibels | Noise Environments | Subjective Evaluations |
|---|---|---|---|
| Near Jet Engine | 140 | Deafening | 128 times as loud |
| Civil Defense Siren | 130 | Threshold of Pain | 64 times as loud |
| Hard Rock Band | 120 | Threshold of Feeling | 32 times as loud |
| Accelerating Motorcycle at a Few Feet Away | 110 | Very Loud | 16 times as loud |
| Pile Driver; Noisy Urban Street/Heavy City Traffic | 100 | Very Loud | 8 times as loud |
| Ambulance Siren; Food Blender | 95 | Very Loud | — |
| Garbage Disposal | 90 | Very Loud | 4 times as loud |
| Freight Cars; Living Room Music | 85 | Loud | — |
| Pneumatic Drill; Vacuum Cleaner | 80 | Loud | 2 times as loud |
| Busy Restaurant | 75 | Moderately Loud | — |
| Near Freeway Auto Traffic | 70 | Moderately Loud | — |
| Average Office | 60 | Quiet | One-half as loud |
| Suburban Street | 55 | Quiet | — |
| Light Traffic; Soft Radio Music in Apartment | 50 | Quiet | One-quarter as loud |
| Large Transformer | 45 | Quiet | — |
| Average Residence without Stereo Playing | 40 | Faint | One-eighth as loud |
| Soft Whisper | 30 | Faint | — |
| Rustling Leaves | 20 | Very Faint | — |
| Human Breathing | 10 | Very Faint | Threshold of Hearing |
| — | 0 | Very Faint | — |

Source: Compiled by LSA Associates, Inc. (2015).

## FUNDAMENTALS OF VIBRATION

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 vibration velocity decibels (VdB) or less. This is an order of magnitude below the damage threshold for normal buildings. Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 ft from the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft (see the Federal Transit Administration's [FTA] 2018 *Transit Noise and Vibration Impact Assessment Manual*). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, both construction of a project

and freight train operations on railroad tracks could result in ground-borne vibration that may be perceptible and annoying.

Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path will usually be greater than ground-borne noise. Ground-borne vibration has the potential to disturb people and damage buildings. Although it is very rare for train-induced ground-borne vibration to cause cosmetic building damage, it is not uncommon for heavy duty construction processes (e.g., blasting and pile driving) to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2018). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where Lv is the VdB, "V" is the RMS velocity amplitude, and "Vref" is the reference velocity amplitude, or 1 x 10-6 inches/second (in/sec) used in the United States. Table C illustrates human response to various vibration levels, as described in the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

Factors that influence ground-borne vibration and noise include the following:

- **Vibration Source:** Vehicle suspension, wheel types and condition, railroad track/roadway surface, railroad track support system, speed, transit structure, and depth of vibration source
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption

## Table C: Human Response to Different Levels of Ground-Borne Noise and Vibration

| Vibration Velocity Level | Noise Level | | Human Response |
|---|---|---|---|
| | Low-Frequency[1] | Mid-Frequency[2] | |
| 65 VdB | 25 dBA | 40 dBA | Approximate threshold of perception for many humans. Low-frequency sound usually inaudible; mid-frequency sound excessive for quiet sleeping areas. |
| 75 VdB | 35 dBA | 50 dBA | Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying. Low-frequency noise acceptable for sleeping areas, mid-frequency noise annoying in most quiet occupied areas. |
| 85 VdB | 45 dBA | 60 dBA | Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise annoying for sleeping areas, mid-frequency noise annoying even for infrequent events with institutional land uses such as schools and churches. |

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] Approximate noise level when vibration spectrum peak is near 30 Hertz.
[2] Approximate noise level when vibration spectrum peak is near 60 Hertz.
dBA = A-weighted decibels VdB = vibration velocity decibels
FTA = Federal Transit Administration

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with ground-borne vibration indicates: (1) vibration propagation is more efficient in stiff, clay soils than in loose, sandy soils; and (2) shallow rock seems to concentrate the vibration energy close to the surface and can result in ground-borne vibration problems at large distances from a railroad track. Factors including layering of the soil and the depth to the water table can have significant effects on the propagation of ground-borne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

## REGULATORY SETTING

### Federal Regulations

#### *Federal Transit Administration*

Vibration standards included in the FTA's *Transit Noise and Vibration Impact Assessment Manual* (2018) are used in this analysis for ground-borne vibration impacts on human annoyance. Table D provides the criteria for assessing the potential for interference or annoyance from vibration levels in a building.

### Table D: Interpretation of Vibration Criteria for Detailed Analysis

| Land Use | Maximum $L_v$ (VdB)[1] | Description of Use |
|---|---|---|
| Workshop | 90 | Vibration that is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration. |
| Office | 84 | Vibration that can be felt. Appropriate for offices and similar areas not as sensitive to vibration. |
| Residential Day | 78 | Vibration that is barely felt. Adequate for computer equipment and low-power optical microscopes (up to 20X). |
| Residential Night and Operating Rooms | 72 | Vibration is not felt, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100X) and other equipment of low sensitivity. |

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] As measured in 1/3-octave bands of frequency over the frequency range 8 to 80 Hertz.
FTA = Federal Transit Administration
$L_V$ = velocity in decibels
VdB = vibration velocity decibels

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table E lists the potential vibration building damage criteria associated with construction activities, as suggested in the FTA's *Transit Noise and Vibration Impact Assessment Manual* (2018). These FTA guidelines show that a vibration level of up to 102 VdB (equivalent to 0.5 in/sec in PPV [FTA 2018]) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For non-engineered timber and masonry buildings, the construction building vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

## Table E: Construction Vibration Damage Criteria

| Building Category | PPV (in/sec) | Approximate $L_V$ (VdB)[1] |
|---|---|---|
| Reinforced concrete, steel, or timber (no plaster) | 0.50 | 102 |
| Engineered concrete and masonry (no plaster) | 0.30 | 98 |
| Non-engineered timber and masonry buildings | 0.20 | 94 |
| Buildings extremely susceptible to vibration damage | 0.12 | 90 |

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS vibration velocity in decibels (VdB) re 1 µin/sec.
µin/sec = microinches per second
FTA = Federal Transit Administration
in/sec = inches per second
$L_V$ = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

## Local Regulations

### *City of Fontana*

**Noise Element of the General Plan.** The City's Noise Element of its General Plan lists the policies and actions required to meet the City's noise-related goals. The applicable goals, policies, and actions for the proposed project are listed below.

- **Goal 3.** Fontana's residents are protected from negative effects of "spillover" noise.
  - **Policy:** Residential land uses and areas identified as noise-sensitive shall be protected from excessive noise from non-transportation sources including industrial, commercial, and residential activities and equipment.
  - **Actions:**
    - Projects located in commercial areas shall not exceed stationary source noise standards at the property line of proximate residential or commercial uses.
    - Industrial uses shall not exceed commercial or residential stationary source noise standards at the most proximate land uses.
    - Non-transportation noise shall be considered in land use planning decisions.
    - Construction shall be performed as quietly as feasible when performed in proximity to residential or other noise-sensitive land uses.

To achieve Goal 1, the proposed project was assessed based on the requirements and noise standards in the City's Municipal Code, discussed below.

**Municipal Code.** Section 30-543(a) of the City's Municipal Code has established daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) exterior noise standards of 70 dBA and 65 dBA, respectively, for residential-zoned property from industrial-zoned uses.

Similar to Section 30-543(a) as discussed above, Section 30-543(c) of the City's Municipal Code was used to evaluate potential vibration impacts from project operations. This section limits operational vibration levels that are created or caused to be created any activity that causes a vibration that can be felt beyond the property line with or without the aid of an instrument. Because the City does not specify the vibration level that can be felt, this analysis uses a vibration perception threshold of 65 VdB from the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

In addition, Section 18-63(b) of the City's Municipal Code states that:

> "Noises that are loud, excessive, impulsive, or intrusive sound or noise that annoys or disturbs persons of ordinary sensibilities from a distance of 50 ft or more from the edge of the property, structure, or unit in which the source is located, are declared to be in violation of this article, but such enumeration shall not be deemed to be exclusive. Applicable noises that are prohibited under this section include the following:
>
> - **Loading, Unloading or Opening Boxes:** The creation of a loud, excessive, impulsive or intrusive and excessive noise in connection with loading or unloading of any vehicle or the opening and destruction of bales, boxes, crates and containers.
> - **Construction or Repairing of Buildings or Structures:** The erection (including excavating), demolition, alteration or repair of any building or structure other than between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays, except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the building inspector, which permit may be granted for a period not to exceed three days or less while the emergency continues and which permit may be renewed for periods of three days or less while the emergency continues. If the building inspector should determine that the public health and safety will not be impaired by the erection, demolition, alteration or repair of any building or structure or the excavation of streets and highways within the hours of 6:00 p.m. and 7:00 a.m., and if he shall further determine that loss or inconvenience would result to any party in interest, he may grant permission for such work to be done on weekdays within the hours of 6:00 p.m. and 7:00 a.m., upon application being made at the time the permit for the work is awarded or during the progress of the work."

## EXISTING SETTING

### Sensitive Land Uses in the Project Vicinity

Land uses located within the project area include residences, commercial, and industrial uses. Single-family residences and manufactured mobile homes are located south of the project site across Boyle Avenue. Commercial uses are located east of the project site across Sierra Avenue. Industrial uses are located immediately west of the project site.

### Overview of the Existing Noise Environment

The primary existing noise sources in the project area are transportation facilities. Traffic on I-10, Sierra Avenue, Boyle Avenue, and other local streets contributes to the ambient noise levels in the project vicinity. Noise from motor vehicles is generated by engines, the interaction between the tires and the road, and the vehicles' exhaust systems. In addition, train operations along the Union Pacific Railroad line and aircraft noise from airports nearby contribute to the ambient noise in the project vicinity.

## Ambient Noise Measurements

### *Short-Term Noise Measurements*

Short-term (20-minute) noise level measurements were conducted on May 12 and 13, 2020, using Larson Davis Models 831 and 820 Type 1 sound level meters. Table F shows the results of the short-term noise level measurements along with a description of the measurement location and noise sources that occurred during the measurement. It should be noted that the short-term noise level measurements were conducted during the stay at home order due to COVID-19 and the results of measured noise levels may be lower than typical conditions. As shown in Table F, the measured average noise levels in the project vicinity range from 57.9 to 58.8 dBA $L_{eq}$, and the instantaneous maximum noise levels range from 69.9 to 78.9 dBA $L_{max}$. Figure 3, Noise Monitoring Locations, shows the short-term monitoring locations.

### Table F: Short-Term Ambient Noise Level Measurements

| Monitor No. | Location | Date | Start Time | Noise Level (dBA)[1] | | | Noise Source(s) |
|---|---|---|---|---|---|---|---|
| | | | | $L_{eq}$ | $L_{max}$ | $L_{min}$ | |
| ST-1 | 16883 Boyle Avenue. On the south side of Boyle Avenue in front of the home. | 5/12/20 | 12:42 p.m. | 58.8 | 78.9 | 52.0 | Traffic on I-10, Sierra Avenue, and Boyle Avenue. Aircraft noise and industrial activity west of the project site. Other noise include birds and dogs barking. |
| ST-2 | West side of project approximately 25 ft north of Boyle Avenue and 10 ft from the adjacent pallet facility wall. | 5/12/20 | 12:46 p.m. | 58.5 | 69.9 | 51.2 | Traffic on I-10, Sierra Avenue, and Boyle Avenue. Aircraft and train noise. Industrial activity west of the project site. Other noise include birds and pedestrians. |
| ST-3 | West side of project approximately 170 ft north of Boyle Avenue and 10 ft from the adjacent pallet facility wall. | 5/13/20 | 3:01 p.m. | 57.9 | 72.0 | 50.1 | Traffic on I-10, Sierra Avenue, and Boyle Avenue. Aircraft and train noise. Industrial activity west of the project site. Other noise include birds and pedestrians. |

Source: Compiled by LSA Associates, Inc. (2020).

[1] Measured noise levels were conducted during the stay at home order due to COVID-19 and the results of measured noise levels may be lower than typical conditions.

dBA = A-weighted decibel
ft = foot/feet
I-10 = Interstate 10

$L_{eq}$ = equivalent continuous sound level
$L_{max}$ = maximum measured sound level
$L_{min}$ = minimum measured sound level

### *Long-Term Noise Measurements*

Two long-term (24-hour) noise level measurement were conducted from May 12 to 13, 2020, using Larson Davis Spark 706RC Dosimeters. Tables G and H show the hourly $L_{eq}$, $L_{max}$, and $L_{min}$ results from the long-term noise level measurement, and Table I shows the calculated CNEL level from the long-term noise level measurements. It should be noted that the long-term noise level measurements were conducted during the stay at home order due to COVID-19 and the results of measured noise levels may be lower than before the order. As shown in Table I, the calculated CNEL levels at LT-1 and LT-2 are 65.5 dBA CNEL and 64.5 dBA CNEL, respectively. Figure 3 shows the long-term monitoring location.

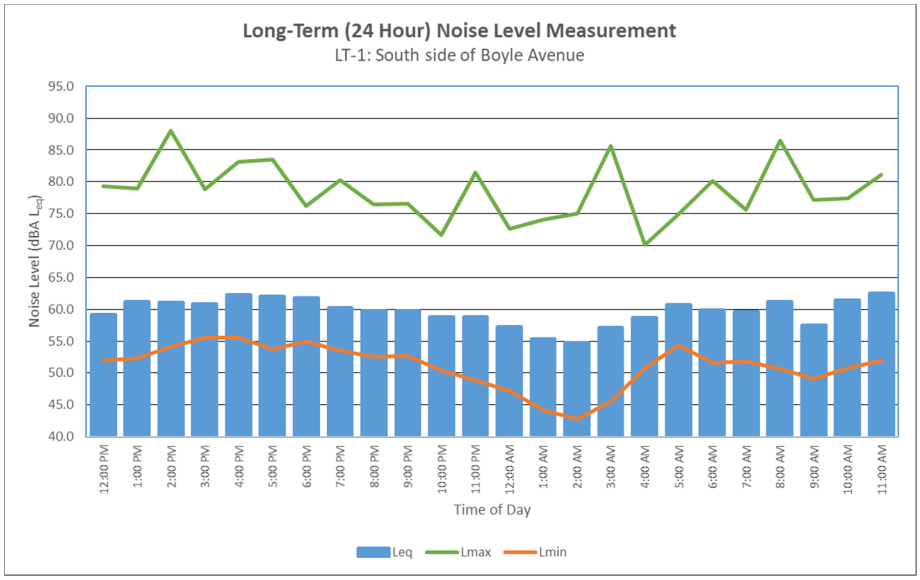
## Table G: Long-Term (24-Hour) Noise Level Measurement Results at LT-1

| | Start Time | Date | Noise Level (dBA) [1] | | |
|---|---|---|---|---|---|
| | | | $L_{eq}$ | $L_{max}$ | $L_{min}$ |
| 1 | 12:00 PM | 5/12/20 | 59.2 | 79.3 | 52.0 |
| 2 | 1:00 PM | 5/12/20 | 61.2 | 79.0 | 52.3 |
| 3 | 2:00 PM | 5/12/20 | 61.0 | 88.0 | 54.1 |
| 4 | 3:00 PM | 5/12/20 | 60.8 | 78.9 | 55.5 |
| 5 | 4:00 PM | 5/12/20 | 62.2 | 83.2 | 55.6 |
| 6 | 5:00 PM | 5/12/20 | 62.0 | 83.5 | 53.7 |
| 7 | 6:00 PM | 5/12/20 | 61.7 | 76.2 | 54.9 |
| 8 | 7:00 PM | 5/12/20 | 60.2 | 80.3 | 53.5 |
| 9 | 8:00 PM | 5/12/20 | 59.7 | 76.5 | 52.6 |
| 10 | 9:00 PM | 5/12/20 | 59.7 | 76.6 | 52.7 |
| 11 | 10:00 PM | 5/12/20 | 58.8 | 71.7 | 50.4 |
| 12 | 11:00 PM | 5/12/20 | 58.7 | 81.5 | 48.8 |
| 13 | 12:00 AM | 5/13/20 | 57.2 | 72.6 | 47.2 |
| 14 | 1:00 AM | 5/13/20 | 55.4 | 74.1 | 44.2 |
| 15 | 2:00 AM | 5/13/20 | 54.7 | 75.0 | 42.7 |
| 16 | 3:00 AM | 5/13/20 | 57.1 | 85.6 | 45.5 |
| 17 | 4:00 AM | 5/13/20 | 58.6 | 70.1 | 50.8 |
| 18 | 5:00 AM | 5/13/20 | 60.7 | 74.9 | 54.4 |
| 19 | 6:00 AM | 5/13/20 | 59.9 | 80.1 | 51.6 |
| 20 | 7:00 AM | 5/13/20 | 59.6 | 75.6 | 51.8 |
| 21 | 8:00 AM | 5/13/20 | 61.1 | 86.5 | 50.7 |
| 22 | 9:00 AM | 5/13/20 | 57.4 | 77.2 | 49.1 |
| 23 | 10:00 AM | 5/13/20 | 61.5 | 77.4 | 50.8 |
| 24 | 11:00 AM | 5/13/20 | 62.4 | 81.1 | 52.0 |

Source: Compiled by LSA Associates, Inc. (2020).

[1] Measured noise levels were conducted during the stay at home order due to COVID-19 and the results of measured noise levels may be lower than before the order.

dBA $L_{eq}$ = equivalent continuous sound level measured in A-weighted decibels



## Table H: Long-Term (24-Hour) Noise Level Measurement Results at LT-2

| | Start Time | Date | Noise Level (dBA)[1] | | |
|---|---|---|---|---|---|
| | | | $L_{eq}$ | $L_{max}$ | $L_{min}$ |
| 1 | 12:00 PM | 5/12/20 | 58.7 | 75.1 | 50.3 |
| 2 | 1:00 PM | 5/12/20 | 59.1 | 76.8 | 50.5 |
| 3 | 2:00 PM | 5/12/20 | 59.0 | 88.5 | 52.4 |
| 4 | 3:00 PM | 5/12/20 | 59.5 | 78.8 | 53.6 |
| 5 | 4:00 PM | 5/12/20 | 60.6 | 81.2 | 54.8 |
| 6 | 5:00 PM | 5/12/20 | 61.9 | 80.0 | 53.0 |
| 7 | 6:00 PM | 5/12/20 | 59.8 | 83.8 | 52.1 |
| 8 | 7:00 PM | 5/12/20 | 58.4 | 81.7 | 49.9 |
| 9 | 8:00 PM | 5/12/20 | 57.9 | 76.8 | 49.3 |
| 10 | 9:00 PM | 5/12/20 | 57.6 | 78.9 | 49.4 |
| 11 | 10:00 PM | 5/12/20 | 56.5 | 75.4 | 48.1 |
| 12 | 11:00 PM | 5/12/20 | 55.7 | 72.0 | 45.1 |
| 13 | 12:00 AM | 5/13/20 | 54.2 | 70.5 | 44.5 |
| 14 | 1:00 AM | 5/13/20 | 53.0 | 69.1 | 40.7 |
| 15 | 2:00 AM | 5/13/20 | 51.9 | 70.7 | 40.9 |
| 16 | 3:00 AM | 5/13/20 | 54.4 | 74.2 | 43.8 |
| 17 | 4:00 AM | 5/13/20 | 60.2 | 84.5 | 50.7 |
| 18 | 5:00 AM | 5/13/20 | 58.6 | 76.9 | 54.0 |
| 19 | 6:00 AM | 5/13/20 | 61.6 | 81.3 | 54.4 |
| 20 | 7:00 AM | 5/13/20 | 60.3 | 77.1 | 51.3 |
| 21 | 8:00 AM | 5/13/20 | 61.3 | 80.5 | 48.8 |
| 22 | 9:00 AM | 5/13/20 | 57.7 | 71.0 | 49.0 |
| 23 | 10:00 AM | 5/13/20 | 61.2 | 78.0 | 52.4 |
| 24 | 11:00 AM | 5/13/20 | 61.2 | 80.2 | 49.7 |

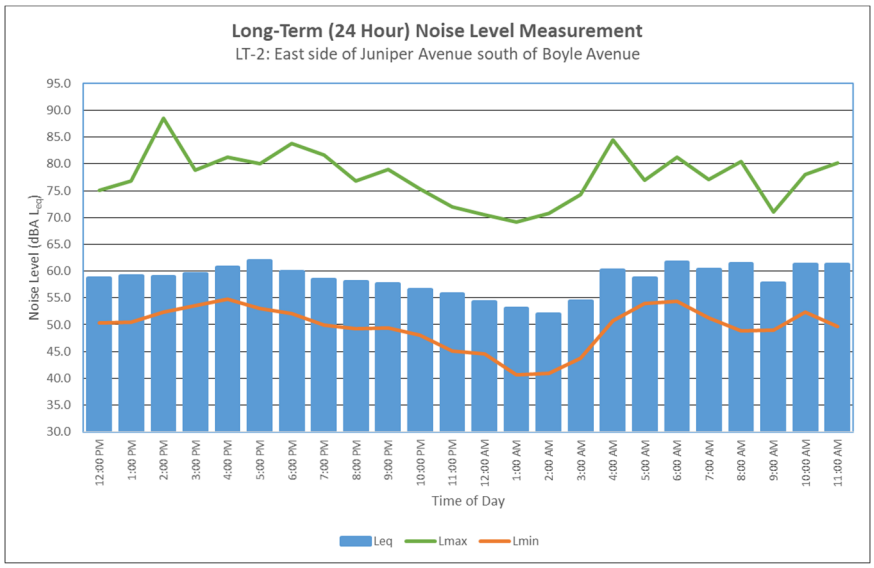
Source: Compiled by LSA Associates, Inc. (2020).

[1] Measured noise levels were conducted during the stay at home order due to COVID-19 and the results of measured noise levels may be lower than before the order.

dBA $L_{eq}$ = equivalent continuous sound level measured in A-weighted decibels

$L_{max}$ = maximum measured sound level

$L_{min}$ = minimum measured sound level



## Table I: Long-Term Ambient Noise Monitoring Results

| Monitoring No. | Location | Start Date | Start Time | Duration (hours) | Noise Level (dBA) | | Noise Source(s) |
|---|---|---|---|---|---|---|---|
| | | | | | $L_{eq}$ | CNEL | |
| LT-1 | South side of Boyle Avenue | 5/12/20 | 12:00 PM | 24 | 60.0 | 65.5 | Traffic on I-10, Sierra Avenue, and Boyle Avenue |
| LT-2 | East side of Juniper Avenue south of Boyle Avenue | 5/12/20 | 12:00 PM | 24 | 59.1 | 64.5 | Traffic on I-10, Juniper Avenue, Boyle Avenue, and Sierra Avenue |

Source: Compiled by LSA Associates, Inc. (2020).
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
I-10 = Interstate 10
$L_{eq}$ = equivalent continuous sound level

### Existing Aircraft Noise

The Ontario International Airport and Flabob Airport are 8.2 miles west and 5.4 miles southeast of the project site, respectively. The Compatibility Policy Map: Noise Impact Zones from the *LA/Ontario International Airport Land Use Compatibility Plan* (City of Ontario 2011) shows that the project site is outside the 60 to 65 dBA CNEL noise contour. Also, the noise compatibility contours for the Flabob Airport in the *Riverside County Airport Land Use Compatibility Plan* (Riverside County Airport Land Use Commission 2004) show that the project site is outside the 55 dBA CNEL noise contour.

### Existing Traffic Noise

The guidelines included in the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (1977; FHWA RD-77-108) were used to evaluate highway traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. The existing (2020) average daily traffic (ADT) volumes were obtained from the proposed project's *Focused Traffic Impact Analysis* (TIA) (LSA 2020). The standard vehicle mix for southern California roadways was used for traffic on these roadway segments. Table J provides the existing traffic noise levels in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. Attachment C provides the specific assumptions used in developing these noise levels and model printouts.

Table J shows that traffic noise levels along Boyle Avenue and Juniper Avenue are low while traffic noise levels are high along Slover Avenue. Also, Table J shows that the 70, 65, and 60 dBA CNEL for Boyle Avenue and Juniper Avenue are confined within the roadway right-of-way while the 70, 65, and 60 dBA CNEL for Slover Avenue impact zones extend up to 60 ft, 116 ft, and 242 ft, respectively, from the roadway centerline.

## Table J: Existing (2020) Traffic Noise Levels

| Roadway Segment | ADT | Centerline to 70 dBA CNEL (ft) | Centerline to 65 dBA CNEL (ft) | Centerline to 60 dBA CNEL (ft) | CNEL (dBA) 50 ft From Centerline of Outermost Lane |
|---|---|---|---|---|---|
| Boyle Avenue between Juniper Avenue and the Project Driveway | 190 | < 50 | < 50 | < 50 | 43.5 |
| Juniper Avenue between Boyle Avenue and Slover Avenue | 465 | < 50 | < 50 | < 50 | 47.4 |
| Slover Avenue between Juniper Avenue and Sierra Avenue | 18,493 | 60 | 116 | 242 | 67.7 |

Source: Compiled by LSA Associates, Inc. (2020).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
dBA = A-weighted decibels
CNEL = Community Noise Equivalent Level
ft = foot/feet

## IMPACTS

### Short-Term Construction Noise Impacts

Two types of short-term noise impacts would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site and would incrementally raise noise levels on access roads leading to the site. The pieces of construction equipment for construction activities will be moved on site, will remain for the duration of each construction phase, and will not add to the daily traffic volume in the project vicinity. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 ft would generate up to a maximum of 84 dBA), the effect on longer-term ambient noise levels would be small because the daily construction-related vehicle trips are small when compared to existing daily traffic volume on Juniper Avenue and Boyle Avenue. The building construction phase would generate the most trips out of all of the construction phases, at 498 trips per day based on the California Emissions Estimator Model (CalEEMod, Version 2016.3.2). Roadways that would be used to access the project site are Boyle Avenue and Juniper Avenue. Based on Table K, Boyle Avenue and Juniper Avenue have estimated existing daily traffic volumes of 190 and 465, respectively, near the project site. Based on the information above, construction-related traffic would increase noise by 5.6 dBA along Boyle Avenue and 3.2 dBA along Juniper Avenue. Measured ambient noise levels along Boyle Avenue at LT-1 were 65.5 dBA CNEL and along Juniper Avenue at LT-2 were 64.5 dBA CNEL. When factoring in ambient noise levels, construction-related traffic would increase noise by 0.4 dBA along Boyle Avenue and 0.5 dBA along Juniper Avenue. The FHWA traffic noise modeling printouts and detailed noise calculations are provided in Attachments C and D, respectively. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, no short-term, construction-related impacts associated with worker commute and transport of construction equipment and material to the project site would occur, and no noise reduction measures would be required.

The second type of short-term noise impact is related noise generated from construction activities. The proposed project anticipates demolition, site preparation, grading, building construction, architectural coating, and paving phases of construction. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics.

## Table K: Typical Construction Equipment Noise Levels

| Equipment Description | Acoustical Usage Factor[1] (%) | Maximum Noise Level ($L_{max}$) at 50 ft[2] |
|---|---|---|
| Backhoe | 40 | 80 |
| Compactor (ground) | 20 | 80 |
| Compressor | 40 | 80 |
| Crane | 16 | 85 |
| Dozer | 40 | 85 |
| Dump Truck | 40 | 84 |
| Excavator | 40 | 85 |
| Flatbed Truck | 40 | 84 |
| Forklift | 20 | 85 |
| Front-End Loader | 40 | 80 |
| Grader | 40 | 85 |
| Impact Pile Driver | 20 | 95 |
| Jackhammer | 20 | 85 |
| Pavement Scarifier | 20 | 85 |
| Paver | 50 | 85 |
| Pickup Truck | 40 | 55 |
| Pneumatic Tools | 50 | 85 |
| Pump | 50 | 77 |
| Rock Drill | 20 | 85 |
| Roller | 20 | 85 |
| Scraper | 40 | 85 |
| Tractor | 40 | 84 |
| Welder | 40 | 73 |

Source: Table 9.1, *FHWA Highway Construction Noise Handbook* (FHWA 2006).
Note: The noise levels reported in this table are rounded to the nearest whole number.
[1] Usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.
[2] Maximum noise levels were developed based on Spec 721.560 from the CA/T program to be consistent with the City of Boston, Massachusetts, Noise Code for the "Big Dig" project.
CA/T = Central Artery/Tunnel
FHWA = Federal Highway Administration
ft = foot/feet
$L_{max}$ = maximum instantaneous noise level

These various sequential phases change the character of the noise generated on a project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table K lists the maximum noise levels ($L_{max}$) recommended for noise impact assessments for typical construction equipment included in the FHWA *Highway Construction Noise Handbook* (FHWA 2006), based on a distance of 50 ft between the equipment and a noise receptor.

Typical noise levels range up to 88 dBA $L_{max}$ at 50 ft during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front-end loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders.

Project construction is expected to require the use of graders, bulldozers, and water trucks/pickup trucks. Noise associated with the use of each type of construction equipment for the site preparation phase is estimated to be between 55 dBA $L_{max}$ and 85 dBA $L_{max}$ at a distance of 50 ft from the active construction area. As shown in Table K, the maximum noise level generated by each grader is assumed

to be approximately 85 dBA $L_{max}$ at 50 ft. Each bulldozer would generate approximately 85 dBA $L_{max}$ at 50 ft. The maximum noise level generated by water trucks/pickup trucks is approximately 55 dBA $L_{max}$ at 50 ft from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 88 dBA $L_{max}$ at a distance of 50 ft from the active construction area. Based on a usage factor of 40 percent, the worst-case combined noise level during this phase of construction would be 84 dBA $L_{eq}$ at a distance of 50 ft from the active construction area.

The closest residential property line is located south of the project site within 50 ft of the project construction boundary and may be subject to short-term construction noise reaching 88 dBA $L_{max}$ (84 dBA $L_{eq}$) or higher generated by construction activities in the project area. Ambient noise levels at the closest residential property line along Boyle Avenue range between 54.7 and 62.4 dBA $L_{eq}$ and 73.6 and 88.0 dBA $L_{max}$ based on the long-term noise level measurement at LT-1 shown in Table G. Although the noise generated by project construction activities would be higher than the ambient noise levels and may result in a temporary increase in the ambient noise levels, construction noise would stop once project construction is completed. The proposed project would be required to comply with the construction hours allowed under the City's Municipal Code Noise Ordinance and standard construction measures listed below. Therefore, no noise impacts from construction activities would occur. No noise reduction measures are required.

- The construction contractor shall limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays. Construction is prohibited outside of these hours.
- During all project site excavation and grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and most noise-sensitive receptors nearest the project site during all project construction.
- The construction contractor shall place all stationary construction equipment so that the emitted noise is directed away from the sensitive receptors nearest the project site. Sensitive receptors nearest to the project site include residences south of the project site across Boyle Avenue.

### Short-Term Construction Vibration Impacts

This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and assesses the potential for building damage using vibration levels in PPV (in/sec). Vibration levels calculated in RMS are best for characterizing human response to building vibration, whereas vibration levels in PPV are best for characterizing damage potential. As shown in Table E, the FTA guidelines indicate that a vibration level up to 102 VdB (equivalent to 0.5 PPV [in/sec]) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage (FTA 2018). For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 PPV [in/sec]). For a fragile building, the construction vibration damage criterion is 90 VdB (0.12 PPV [in/sec]).

Table L shows the reference vibration levels at a distance of 25 ft for each type of standard construction equipment from the FTA's *Transit Noise and Vibration Impact Assessment Manual* (2018). Outdoor demolition, site preparation, and grading for the proposed project are expected to require the use of a large bulldozer and loaded trucks, which would generate ground-borne vibration of up to 87 VdB (0.089 PPV [in/sec]) and 86 VdB (0.076 PPV [in/sec]), respectively, when measured at 25 ft.

## Table L: Vibration Source Amplitudes for Construction Equipment

| Equipment | Reference PPV/$L_V$ at 25 ft | |
|---|---|---|
| | PPV (in/sec) | $L_V$ (VdB)[1] |
| Pile Driver (Impact), Typical | 0.644 | 104 |
| Pile Driver (Sonic), Typical | 0.170 | 93 |
| **Vibratory Roller**[2] | **0.210** | **94** |
| Hoe Ram | 0.089 | 87 |
| Large Bulldozer | 0.089 | 87 |
| Caisson Drilling | 0.089 | 87 |
| **Loaded Trucks** | **0.076** | **86** |
| Jackhammer | 0.035 | 79 |
| Small Bulldozer | 0.003 | 58 |

Sources: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
[2] Equipment shown in **bold** is expected to be used on site.
µin/sec = micro-inches per second
in/sec = inches per second
RMS = root-mean-square
ft = foot/feet
$L_V$ = velocity in decibels
VdB = vibration velocity decibels
FTA = Federal Transit Administration
PPV = peak particle velocity

The greatest vibration levels are anticipated to occur during the demolition, site preparation, and grading phase. All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts normally occur within the buildings.

The formulas for vibration transmission are provided below.

$$L_v dB\ (D) = L_v dB\ (25\ ft) - 30\ Log\ (D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Table M lists the projected vibration levels from various construction equipment expected to be used on the project site to the closest buildings in the project vicinity. As shown in Table M, the closest structure (an industrial building) is located approximately 40 ft from the project construction boundary and would experience a vibration level of 81 VdB (0.044 PPV [in/sec]). Other nearby buildings are farther away and would experience a vibration level of 74 VdB (0.019 PPV [in/sec]). This vibration level would not result in annoyance because vibration levels would not exceed the FTA's annoyance threshold of 90 VdB for buildings that are not as sensitive to vibration similar to workshops. In addition, this vibration level would not result in building damage because vibration levels would not exceed the FTA damage threshold of 94 (0.2 PPV [in/sec]) and the industrial building was observed to be constructed of nonengineered timber and masonry.

## Table M: Summary of Construction Vibration Levels

| Land Use | Direction | Equipment/ Activity | Reference Vibration Level at 25 ft | | Distance to Structure (ft) | Maximum Vibration Level | |
|---|---|---|---|---|---|---|---|
| | | | VdB | PPV (in/sec) | | VdB | PPV (in/sec) |
| Commercial | East | Large Bulldozer | 87 | 0.089 | 275 | 56 | 0.002 |
| | | Loaded Truck | 86 | 0.076 | 275 | 55 | 0.002 |
| Residential | South | Large Bulldozer | 87 | 0.089 | 90 | 70 | 0.013 |
| | | Loaded Truck | 86 | 0.076 | 90 | 69 | 0.011 |
| Industrial | West | Large Bulldozer | 87 | 0.089 | 30 | 85 | 0.068 |
| | | Loaded Truck | 86 | 0.076 | 30 | 84 | 0.058 |

Source: Compiled by LSA Associates, Inc. (2020).
Note: The FTA-recommended building damage threshold is 94 VdB (0.2 PPV [in/sec]) at the receiving building structure.
ft = foot/feet in/sec = inches per second VdB = vibration velocity decibels
FTA = Federal Transit Administration PPV = peak particle velocity

Other nearby buildings (residential and commercial buildings) are farther away and would experience a vibration level of 70 VdB (0.013 PPV [in/sec]) or lower. This vibration level would not result in annoyance because vibration levels would not exceed the FTA's annoyance thresholds of 78 VdB and 84 VdB for residential and commercial buildings, respectively. Also, this vibration level would not result in building damage because vibration levels would not exceed the FTA damage threshold of 94 (0.2 PPV [in/sec]) and the residential and commercial buildings were observed to be constructed of nonengineered timber and masonry. Construction vibration levels would no longer occur once construction of the project is completed. Therefore, no construction vibration impacts would occur, and no vibration reduction measures are required.

### Long-Term Aircraft Noise Impacts

As discussed above, the Ontario International Airport and Flabob Airport are 8.2 miles west and 5.4 miles southeast of the project site, respectively. The Compatibility Policy Map: Noise Impact Zones from the *LA/Ontario International Airport Land Use Compatibility Plan* (City of Ontario 2011) shows that the project site is outside of the 60 to 65 dBA CNEL noise contour. Also, the noise compatibility contours for the Flabob Airport in the *Riverside County Airport Land Use Compatibility Plan* (Riverside County Airport Land Use Commission 2004) show that the project site is outside of the 55 dBA CNEL noise contour. Therefore, the project would not expose people working in the project area to excessive noise levels.

### Long-Term Traffic Noise Impacts

The guidelines included in the FHWA Highway Traffic Noise Prediction Model (1977; FHWA RD-77-108) were used to evaluate highway traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. The existing (2020) and opening year (2021) ADT volumes were obtained from the proposed project's *Focused Traffic Impact Analysis* (TIA) (LSA 2020). The standard vehicle mix for southern California roadways was used for traffic on these roadway segments under the without project scenario. Under the with project scenario, the vehicle mix was adjusted based on the project's vehicle mix. Tables N and O show the existing (2020) and opening year (2021) traffic noise levels without and with the project along roadways in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the

## Table N: Existing (2020) Traffic Noise Levels Without and With Project

| Roadway Segment | Without Project Traffic Conditions | | | | | With Project Traffic Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ADT | Centerline to 70 dBA CNEL (ft) | Centerline to 65 dBA CNEL (ft) | Centerline to 60 dBA CNEL (ft) | CNEL (dBA) 50 ft from Centerline of Outermost Lane | ADT | Centerline to 70 dBA CNEL (ft) | Centerline to 65 dBA CNEL (ft) | Centerline to 60 dBA CNEL (ft) | CNEL (dBA) 50 ft from Centerline of Outermost Lane | Increase from Baseline Conditions |
| Boyle Avenue between Juniper Avenue and the Project Driveway | 190 | < 50 | < 50 | < 50 | 43.5 | 497 | < 50 | < 50 | < 50 | 54.6 | 11.1 (1.5)[1] |
| Juniper Avenue between Boyle Avenue and Slover Avenue | 465 | < 50 | < 50 | < 50 | 47.4 | 772 | < 50 | < 50 | < 50 | 53.7 | 6.3 (1.3)[2] |
| Slover Avenue between Juniper Avenue and Sierra Avenue | 18,493 | 60 | 116 | 242 | 67.7 | 18,694 | 60 | 116 | 244 | 67.7 | 0.0 |

Source: Compiled by LSA Associates, Inc. (2020).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

[1] The overall traffic noise increase for the residences along Boyle Avenue would be 1.5 dBA when the ambient noise levels are factored in. The detailed noise calculations are provided in Attachment D.

[2] The overall traffic noise increase for the residences along Juniper Avenue would be 1.3 dBA when the ambient noise levels are factored in. The detailed noise calculations are provided in Attachment D.

ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = foot/feet

## Table O: Opening Year (2021) Traffic Noise Levels Without and With Project

| Roadway Segment | Without Project Traffic Conditions | | | | | With Project Traffic Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ADT | Centerline to 70 dBA CNEL (ft) | Centerline to 65 dBA CNEL (ft) | Centerline to 60 dBA CNEL (ft) | CNEL (dBA) 50 ft from Centerline of Outermost Lane | ADT | Centerline to 70 dBA CNEL (ft) | Centerline to 65 dBA CNEL (ft) | Centerline to 60 dBA CNEL (ft) | CNEL (dBA) 50 ft from Centerline of Outermost Lane | Increase from Baseline Conditions |
| Boyle Avenue between Juniper Avenue and the Project Driveway | 304 | < 50 | < 50 | < 50 | 45.6 | 611 | < 50 | < 50 | < 50 | 54.0 | 8.4 (1.2)[1] |
| Juniper Avenue between Boyle Avenue and Slover Avenue | 679 | < 50 | < 50 | < 50 | 49.0 | 986 | < 50 | < 50 | < 50 | 53.5 | 4.5 (1.0)[2] |
| Slover Avenue between Juniper Avenue and Sierra Avenue | 20,713 | 63 | 124 | 261 | 68.2 | 20,914 | 64 | 125 | 263 | 68.2 | 0.0 |

Source: Compiled by LSA Associates, Inc. (2020).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

[1] The overall traffic noise increase for the residences along Boyle Avenue would be 1.2 dBA when the ambient noise levels are factored in. The detailed noise calculations are provided in Attachment D.

[2] The overall traffic noise increase for the residences along Juniper Avenue would be 1.0 dBA when the ambient noise levels are factored in. The detailed noise calculations are provided in Attachment D.

ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = foot/feet

Tables N and O show that the project-related traffic noise increase on Boyle Avenue and Juniper Avenue would increase by up to 3.3 dBA and 2.7 dBA, respectively. However, when factoring the ambient noise level of 64.5 dBA CNEL at LT-1 and 68.6 dBA CNEL at LT-2, the project-related traffic noise increase on Boyle Avenue and Juniper Avenue would increase by up to 0.1 dBA and 0.4 dBA, respectively. The detailed noise calculations are provided in Attachment D. Noise level increases less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, no traffic noise impacts from project-related traffic on off-site sensitive receptors would occur. No noise reduction measures are required.

### Long-Term Stationary Noise Impacts

Delivery trucks/truck load and unloading activities, parking activities, and heating, ventilation, and air conditioning (HVAC) equipment associated with the project would potentially affect the existing off-site sensitive land uses. The following provides a detailed noise analysis and discussion of each stationary noise source.

#### *Truck Delivery and Truck Loading and Unloading Activities*

Truck delivery and truck loading/unloading activities for the proposed project would be located on the northeast corner of the proposed building, as shown on Figure 2. These activities would occur during both daytime and nighttime hours. Noise levels generated from these activities would result in a maximum noise similar to noise readings from truck delivery and truck loading and unloading activities for other projects, which would generate a noise level of 75 dBA $L_{max}$ at 50 ft. Although a typical truck-unloading process takes an average of 15–20 minutes, this maximum noise level occurs in a much shorter period of time (less than 5 minutes). Also, it is estimated that there would be approximately seven delivery trucks per hour and that each truck would generate the maximum noise level for a cumulative period of 5 minutes, which would result in a cumulative period of 35 minutes in any hour. Based on the assumptions above, truck delivery and truck loading and unloading activities would generate a noise level of 72.7 dBA $L_{eq}$ at 50 ft.

The closest residential property line to the project's truck delivery and truck loading/unloading activities are located approximately 395 ft south of the project site across Boyle Avenue. At a distance of 395 ft, noise would be attenuated by 18 dBA compared to the noise level measured at 50 ft from the source. The proposed building would shield the loading docks and would provide a minimum noise reduction of 10 dBA. Noise generated from on-site truck delivery and truck loading/ unloading activities at the closest residential property line south of the project site would reach 44.7 dBA $L_{eq}$ (i.e., 72.7 dBA – 18 dBA – 10 dBA = 44.7 dBA).

#### *Parking Lot Activity*

The proposed project would include surface parking on the south and west side of the project site for employees. Noise generated from parking lot activities would include noise generated by vehicles traveling at slow speeds, engine start-up noise, car door slams, car horns, car alarms, and tire squeals. Representative parking activities would generate approximately 60 to 70 dBA $L_{max}$ at 50 ft. It is assumed that parking activities would generate the maximum noise level for a cumulative period of 15 minutes in any hour and that parking activities from employees would generate a noise level of 64.0 dBA $L_{eq}$ at 50 ft.

The closest residential property line to the project's employee parking lot is located approximately 90 ft south of the project site across Boyle Avenue. At a distance of 90 ft, noise would be attenuated by 5.1 dBA compared to the noise level measured at 50 ft from the source. Noise generated from on-site parking lot activities at the closest residential property line south of the project site would reach 58.9 dBA $L_{eq}$ (i.e., 64.0 dBA – 5.1 dBA = 58.9 dBA).

### *HVAC Equipment*

The proposed project would include up to two rooftop HVAC units with 4 ft high parapets. The HVAC equipment could operate 24 hours per day. Each rooftop HVAC unit would generate a noise level of 66.6 dBA $L_{eq}$ at a distance of 50 ft. A total of two HVAC units operating simultaneously would generate a noise level of 69.6 dBA $L_{eq}$ at a distance of 5 ft. At a distance of 50 ft, HVAC noise levels would be 49.6 dBA $L_{eq}$.

The closest residential property line to the proposed rooftop HVAC equipment is located approximately 160 ft south across Boyle Avenue. At a distance of 160 ft, noise would be attenuated by 30.1 dBA compared to the noise level measured at 5 ft from the source. The rooftop HVAC equipment would be shielded by the roofline and 4 ft high parapet, which would provide a minimum noise reduction of 8 dBA. Noise generated from on-site HVAC equipment at the closest residential property line would reach 31.5 dBA $L_{eq}$ (i.e., 49.6 dBA – 10.1 dBA – 8 dBA = 31.5 dBA).

## Long-Term Vibration Impacts

The proposed project would not generate vibration. In addition, vibration levels generated from project-related traffic on the adjacent roadways (Boyle Avenue and Juniper Avenue) are unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. Therefore, no vibration impacts from project-related operations would occur, and no vibration reduction measures are required.

Table P shows the combined stationary noise from truck delivery and truck loading and unloading activities, truck parking from employees and truck delivery, and rooftop HVAC equipment at the closest residential property. As shown in Table P, the combined stationary noise level is 59.1 dBA $L_{eq}$. This noise level would not exceed the City's exterior daytime and nighttime noise standards of 70 dBA and 65 dBA, respectively. In addition, the measured average $L_{eq}$ noise levels at the closest residential property line (LT-2) is 62.2 dBA $L_{eq}$. The measured average ambient noise level is higher than noise levels generated from project operations, and noise generated from project operations would not increase the ambient noise environment in the project area. Therefore, no noise impacts from project operations would occur. No noise reduction measures are required.

## Table P: Stationary Noise Levels

| Noise Source | Reference Noise Level at 50 ft (dBA $L_{eq}$) | Distance from Source to Receptor (ft) | Distance Attenuation (dBA) | Shielding (dBA) | Noise Level (dBA $L_{eq}$) | Combined Noise Level (dBA $L_{eq}$) |
|---|---|---|---|---|---|---|
| Truck Delivery and Truck Loading and Unloading | 72.7 | 210 | 12.5 | 10 | 50.2 | 58.8 |
| Truck Parking | 64 | 70 | 2.9 | 10 | 51.1 | |
| Employee Parking | 64 | 110 | 6.8 | 0 | 57.2 | |
| HVAC Noise | 49.6 | 200 | 12 | 8 | 29.6 | |

Source: Compiled by LSA Associates, Inc. (2020).
dBA = A-weighted decibels
ft = feet
HVAC = heating, ventilation, and air conditioning
$L_{eq}$ = equivalent continuous sound level

## STANDARD CONDITIONS

The following measures would further minimize construction noise:

- The construction contractor shall limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays. Construction is prohibited outside of these hours.
- During all project site excavation and grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and most noise-sensitive receptors nearest the project site during all project construction.
- The construction contractor shall place all stationary construction equipment so that the emitted noise is directed away from the sensitive receptors nearest the project site. Sensitive receptors nearest to the project site include residences south of the project site across Boyle Avenue.

## REDUCTION MEASURES

### Short-Term Construction Noise Impacts

No noise reduction measures are required.

### Short-Term Construction Vibration Impacts

No vibration reduction measures are required.

### Aircraft Noise Impacts

No noise reduction measures are required.

### Traffic Noise Impacts

No noise reduction measures are required.

### Long-Term Stationary Noise Impacts

No noise reduction measures are required.

### Long-Term Vibration Impacts

No vibration reduction measures are required.

Attachments: A: References
B: Figures
C: FHWA Traffic Noise Model Printouts
D: Detailed Noise Calculations

# ATTACHMENT A

# REFERENCES

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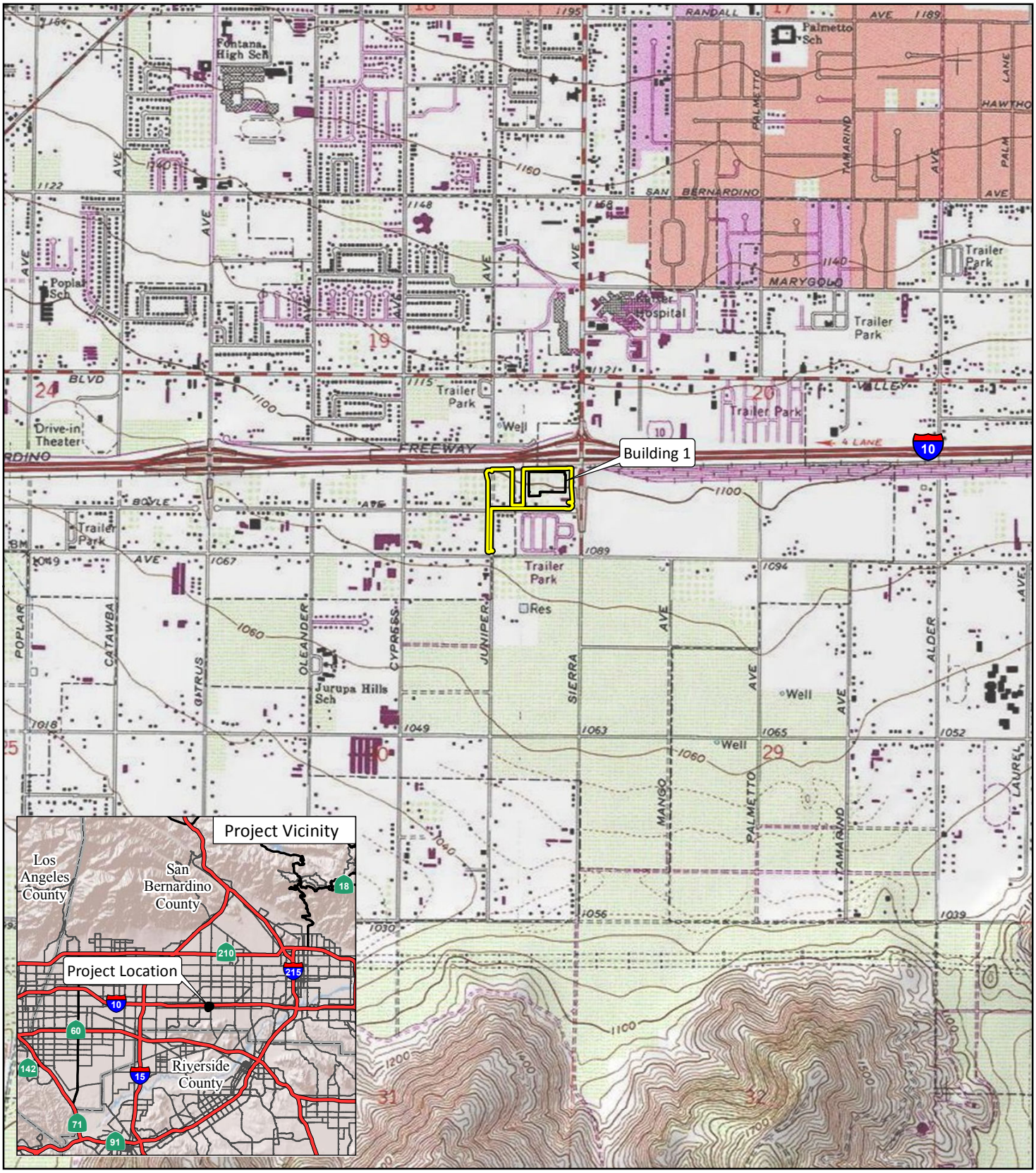
# ATTACHMENT B

# FIGURES




LSA

LEGEND

Project Location

Building 1 Footprint

FIGURE 1

N

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad - *Fontana* (1980), CA

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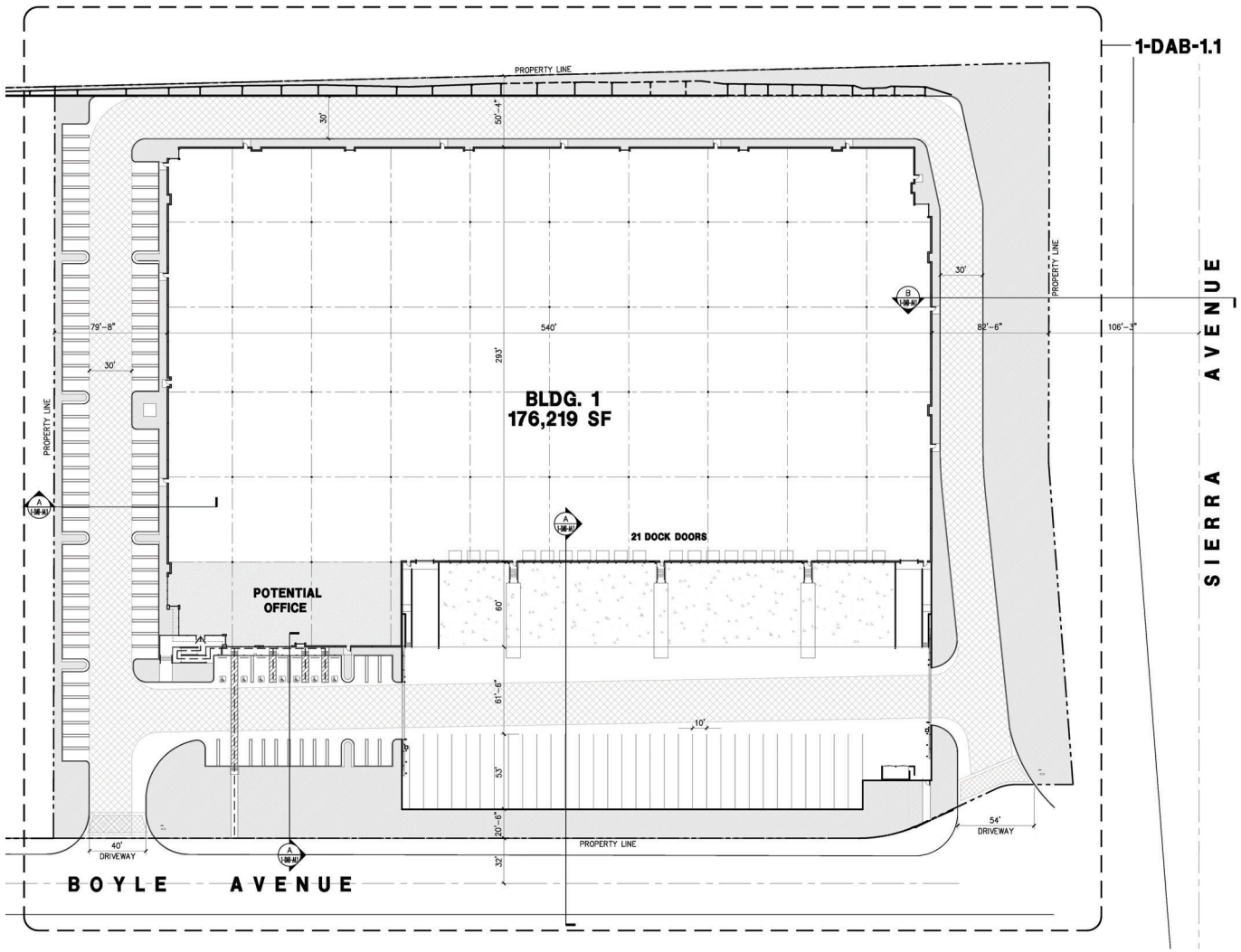
*Transwestern — Boyle Avenue Building 1 Project*

Regional and Project Location




LSA

FIGURE 2

N

0 60 120

FEET

SOURCE: HPA Architecture, March 2020

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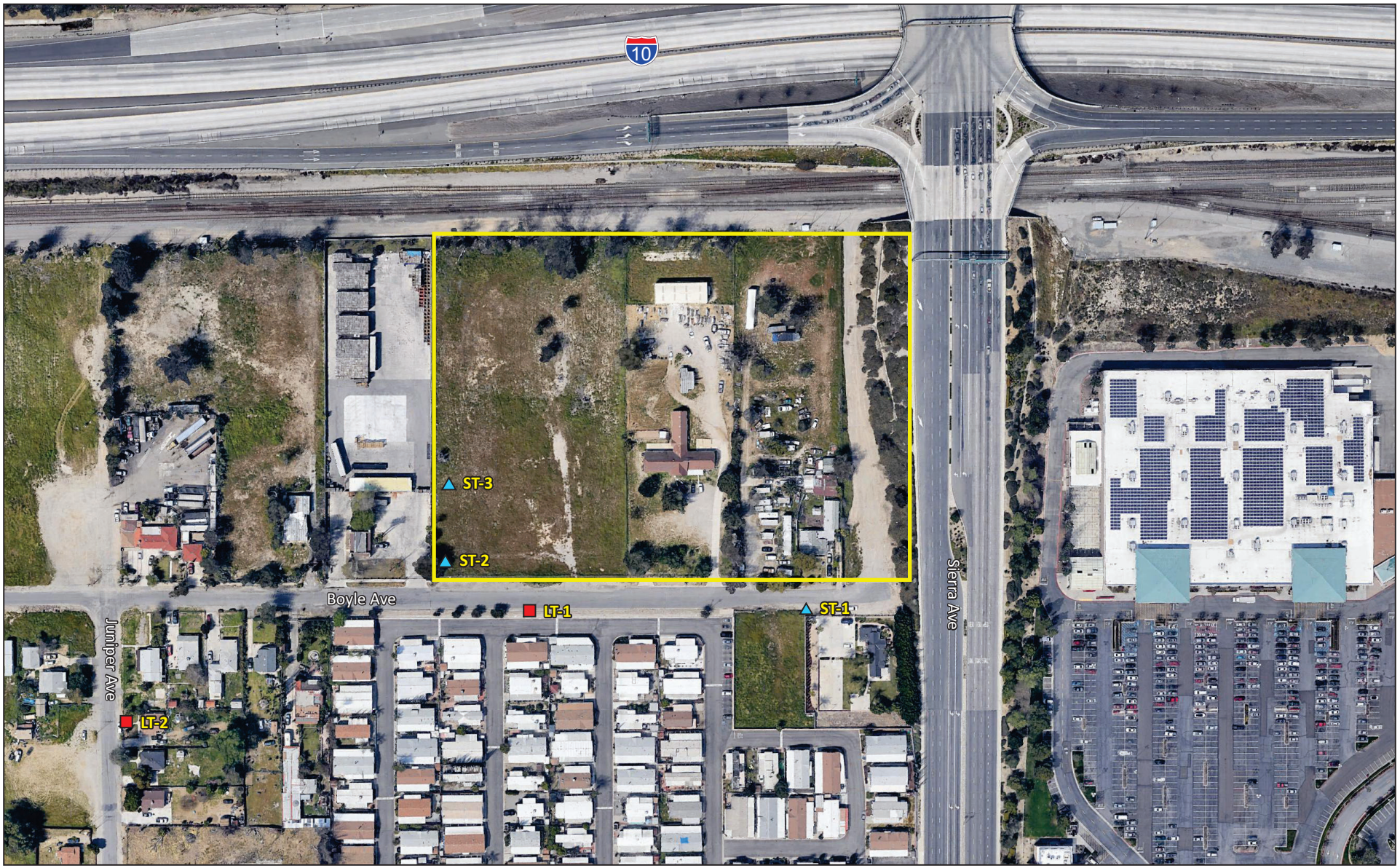
*Transwestern — Boyle Avenue Building 1 Project*

Conceptual Site Plan




LSA

LEGEND

Project Site Building 1

ST-1 Short-Term Noise Level Measurement

LT-1 Long-Term Noise Level Measurement

N

0 125 250

FEET

SOURCE: Google Earth, 2020

FIGURE 3

*Transwestern — Boyle Avenue Building 1 Project*

Noise Monitoring Locations

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# ATTACHMENT C

# FHWA HIGHWAY TRAFFIC NOISE MODEL PRINTOUTS

TABLE Existing NP-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Boyle Avenue Between Juniper Avenue and Project Driveway
NOTES: Transwestern Building 1 - Existing NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 190  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 43.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

TABLE Existing NP-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Juniper Avenue Between Boyle Avenue and Slover Avenue
NOTES: Transwestern Building 1 - Existing NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 465  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

TABLE Existing NP-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Slover Avenue Between Juniper Avenue and Sierra Avenue
NOTES: Transwestern Building 1 - Existing NP

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18493  SPEED (MPH): 45  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 30  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 59.9 | 115.7 | 242.5 | 519.1 |

---

TABLE Existing P-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Boyle Avenue Between Juniper Avenue and Project Driveway
NOTES: Transwestern Building 1 - Existing P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 497  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 67.27 | 11.14 | 8.30 |
| M-TRUCKS | 3.21 | 0.16 | 0.32 |
| H-TRUCKS | 8.32 | 0.25 | 1.03 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 52.4 |

---

TABLE Existing P-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Juniper Avenue Between Boyle Avenue and Slover Avenue
NOTES: Transwestern Building 1 - Existing P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 772  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 72.17 | 11.95 | 8.87 |
| M-TRUCKS | 2.23 | 0.11 | 0.27 |
| H-TRUCKS | 3.84 | 0.12 | 0.46 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

TABLE Existing P-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Slover Avenue Between Juniper Avenue and Sierra Avenue
NOTES: Transwestern Building 1 - Existing P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18694  SPEED (MPH): 45  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 30  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 60.2 | 116.5 | 244.3 | 523.0 |

---

TABLE 2021 NP-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Boyle Avenue Between Juniper Avenue and Project Driveway
NOTES: Transwestern Building 1 - 2021 NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 304  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 45.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

TABLE 2021 NP-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Juniper Avenue Between Boyle Avenue and Slover Avenue
NOTES: Transwestern Building 1 - 2021 NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 679  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

TABLE 2021 NP-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Slover Avenue Between Juniper Avenue and Sierra Avenue
NOTES: Transwestern Building 1 - 2021 NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20713  SPEED (MPH): 45  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 30  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 63.5 | 124.1 | 261.2 | 559.7 |

---

TABLE 2021 P-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Boyle Avenue Between Juniper Avenue and Project Driveway
NOTES: Transwestern Building 1 - 2021 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 611  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 72.35 | 10.45 | 7.77 |
| M-TRUCKS | 2.50 | 0.13 | 0.26 |
| H-TRUCKS | 5.66 | 0.18 | 0.69 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

TABLE 2021 P-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Juniper Avenue Between Boyle Avenue and Slover Avenue
NOTES: Transwestern Building 1 - 2021 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 986  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.11 | 11.34 | 8.42 |
| M-TRUCKS | 1.87 | 0.09 | 0.22 |
| H-TRUCKS | 2.56 | 0.08 | 0.31 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

TABLE 2021 P-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Slover Avenue Between Juniper Avenue and Sierra Avenue
NOTES: Transwestern Building 1 - 2021 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20914  SPEED (MPH): 45  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.53 | 12.56 | 9.33 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 30  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 63.8 | 124.9 | 262.8 | 563.2 |

---

TABLE Existing Plus Construction Traffic-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Boyle Avenue
NOTES: Transwestern Building 1 - Existing Plus Construction Traffic

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 688  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

TABLE Existing Plus Construction Traffic-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/11/2020
ROADWAY SEGMENT: Juniper Avenue
NOTES: Transwestern Building 1 - Existing Plus Construction Traffic

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 963  SPEED (MPH): 25  GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

| | DAY | EVENING | NIGHT |
|---|---|---|---|
| AUTOS | 75.51 | 12.57 | 9.34 |
| M-TRUCKS | 1.56 | 0.09 | 0.19 |
| H-TRUCKS | 0.64 | 0.02 | 0.08 |

ACTIVE HALF-WIDTH (FT): 6  SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

| 70 CNEL | 65 CNEL | 60 CNEL | 55 CNEL |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

---

# ATTACHMENT D

# DETAILED NOISE CALCULATIONS

## Construction Traffic Noise Calculations

| Scenaro | Roadway | ADT | Centerline to 70 dBA CNEL (ft) | Centerline to 65 dBA CNEL (ft) | Centerline to 60 dBA CNEL (ft) | CNEL (dBA) 50 ft From Centerline of Outermost Lane | Reference Distance (ft) | Receptor to Roadway Centerline Distance (ft) | Noise Level (dBA CNEL) | Change in Noise Level (dBA) | Monitor No. | Measured Ambient Noise Level (dBA CNEL) | Combined Ambient Noise Level (dBA CNEL) | Change in Noise Level (dBA) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Existing (2020) without Project | Boyle Avenue | 190 | < 50 | < 50 | < 50 | 43.5 | 56 | 17 | 51.3 | 5.6 | LT-1 | 65.5 | 65.7 | 0.4 |
| Existing (2020) with Project | | 688 | < 50 | < 50 | < 50 | 49.1 | 56 | 17 | 56.9 | | | 65.5 | 66.1 | |
| Existing (2020) without Project | Juniper Avenue | 465 | < 50 | < 50 | < 50 | 47.4 | 56 | 17 | 55.2 | 3.2 | LT-2 | 64.5 | 65.0 | 0.5 |
| Existing (2020) with Project | | 963 | < 50 | < 50 | < 50 | 50.6 | 56 | 17 | 58.4 | | | 64.5 | 65.4 | |

## Operational Traffic Noise Calculations

| | | ADT | Centerline to 70 dBA CNEL (ft) | Centerline to 65 dBA CNEL (ft) | Centerline to 60 dBA CNEL (ft) | CNEL (dBA) 50 ft From Centerline of Outermost Lane | Reference Distance (ft) | Receptor to Roadway Centerline Distance (ft) | Noise Level (dBA CNEL) | Change in Noise Level (dBA) | Monitor No. | Measured Ambient Noise Level (dBA CNEL) | Combined Ambient Noise Level (dBA CNEL) | Change in Noise Level (dBA) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Existing (2020) without Project | Boyle Avenue | 190 | < 50 | < 50 | < 50 | 43.5 | 56 | 17 | 51.3 | | LT-1 | 65.5 | 65.7 | |
| | Juniper Avenue | 465 | < 50 | < 50 | < 50 | 47.4 | 56 | 17 | 55.2 | | LT-2 | 64.5 | 65.0 | |
| Existing (2020) with Project | Boyle Avenue | 497 | < 50 | < 50 | < 50 | 54.6 | 56 | 17 | 62.4 | 11.1 | LT-1 | 65.5 | 67.2 | 1.5 |
| | Juniper Avenue | 772 | < 50 | < 50 | < 50 | 53.7 | 56 | 17 | 61.5 | 6.3 | LT-2 | 64.5 | 66.3 | 1.3 |
| Opening Year (2021) without Project | Boyle Avenue | 304 | < 50 | < 50 | < 50 | 45.6 | 56 | 17 | 53.4 | | LT-1 | 65.5 | 65.8 | |
| | Juniper Avenue | 679 | < 50 | < 50 | < 50 | 49.0 | 56 | 17 | 56.8 | | LT-2 | 64.5 | 65.2 | |
| Opening Year (2021) with Project | Boyle Avenue | 611 | < 50 | < 50 | < 50 | 54.0 | 56 | 17 | 61.8 | 8.4 | LT-1 | 65.5 | 67.0 | 1.2 |
| | Juniper Avenue | 986 | < 50 | < 50 | < 50 | 53.5 | 56 | 17 | 61.3 | 4.5 | LT-2 | 64.5 | 66.2 | 1.0 |

# APPENDIX K

# FOCUSED TRAFFIC IMPACT ANALYSIS

# FOCUSED TRAFFIC IMPACT ANALYSIS

**TRANSWESTERN BUILDING 1 PROJECT**

**CITY OF FONTANA**

**SAN BERNARDINO COUNTY, CALIFORNIA**

LSA

June 2020

# FOCUSED TRAFFIC IMPACT ANALYSIS

## TRANSWESTERN BUILDING 1 PROJECT

## CITY OF FONTANA

## SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

City of Fontana
8353 Sierra Avenue
Fontana, California 92335

Prepared by:

LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507
(951) 781-9310

Project No. CFN1702.24

June 2020

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# 1.0 INTRODUCTION

This focused traffic impact analysis (TIA) has been prepared to assess potential circulation impacts associated with the proposed Transwestern Building 1 Project consisting of a 176,219 square-foot (sf) logistics/distribution warehouse building to be located at 16796 Boyle Avenue in the City of Fontana (City). The project site is zoned General Industrial (M-2) with a General Industrial (I-G) land use designation in the Fontana General Plan. Therefore, the proposed project conforms to the City's anticipated development of the neighborhood. The project site is bounded by Southern Pacific Railroad on the north and Boyle Avenue on the south. Figure 1-1 illustrates the regional and project location. (Figures and tables are located at the end of each chapter).

This report is intended to satisfy the requirements established the City of Fontana's *Draft Traffic Impact Analysis Guidelines* (dated November 2016), the San Bernardino County Transportation Authority's (SBCTA) Congestion Management Plan (CMP) TIA Guidelines (dated June 2016) as well as the requirements for the disclosure of potential impacts and mitigation measures pursuant to the California Environmental Quality Act (CEQA). The scope of work for this TIA, including trip generation, trip distribution, study area, and analysis methodologies have been approved by City staff via the Scoping Agreement process. A copy of the Scoping Agreement is included as Appendix A.

This study examines traffic operations in the vicinity of the proposed project under the following four scenarios:

- Existing conditions;
- Existing with project conditions;
- Opening Year (2021) without project conditions; and
- Opening Year (2021) with project conditions.

Traffic conditions were examined for the weekday daily, a.m., and p.m. peak hour conditions. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak hour is the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m.

## 1.1 PROJECT DESCRIPTION

The proposed project includes a 176,219 sf logistics/distribution warehouse building. The project site is bounded by Southern Pacific Railroad on the north and Boyle Avenue on the south.

Figure 1-2 illustrates the conceptual site plan for the project. As illustrated in Figure 1-2, access to the project site would be provided by two full-access driveways on Boyle Avenue. The easterly driveway on Boyle Avenue is located at the end of the cul-de-sac.

## 1.2 STUDY AREA

The study area was approved by City staff via the City's scoping agreement process (Appendix A). Intersections where the project would add 50 or more peak hour project trips were analyzed in the TIA. Based on the City's draft TIA guidelines, roadway segments with more than 50 peak hour project trips were analyzed. As such, the study area includes the following intersections and roadway segments.

### 1.2.1 Study Intersections

1. Juniper Avenue/Boyle Avenue (City of Fontana);
2. Juniper Avenue/Slover Avenue (City of Fontana); and
3. Project Driveway 1/Boyle Avenue (City of Fontana).

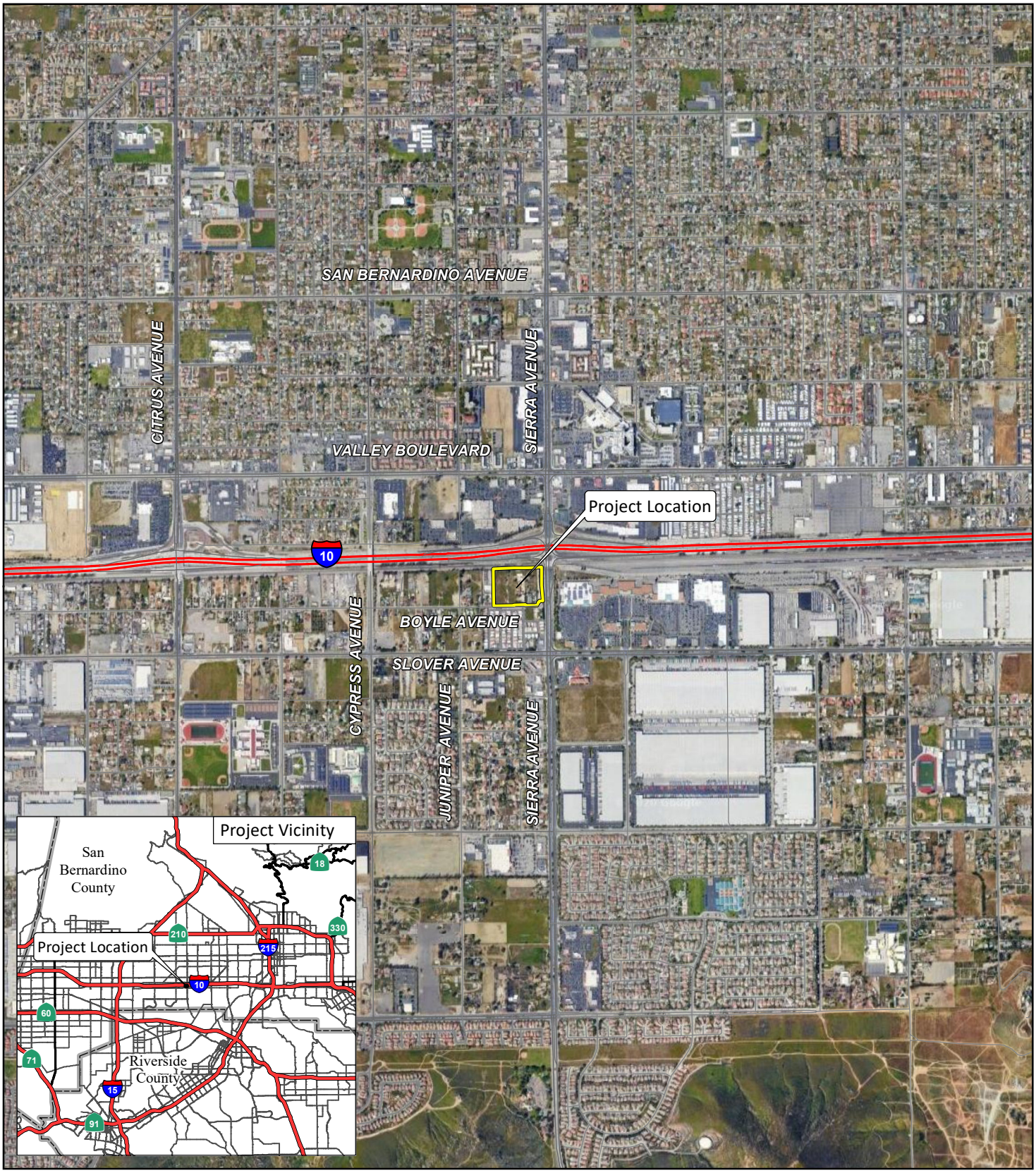
Figure 1-3 illustrates the locations of all study intersections.

### 1.2.2 Roadway Segment

1. Slover Avenue, between Juniper Avenue and Sierra Avenue (City of Fontana).

## 1.3 LIST OF CHAPTER 1.0 FIGURES

- Figure 1-1: Regional and Project Location
- Figure 1-2: Conceptual Site Plan
- Figure 1-3: Study Area Intersections




LSA

FIGURE 1-1

N

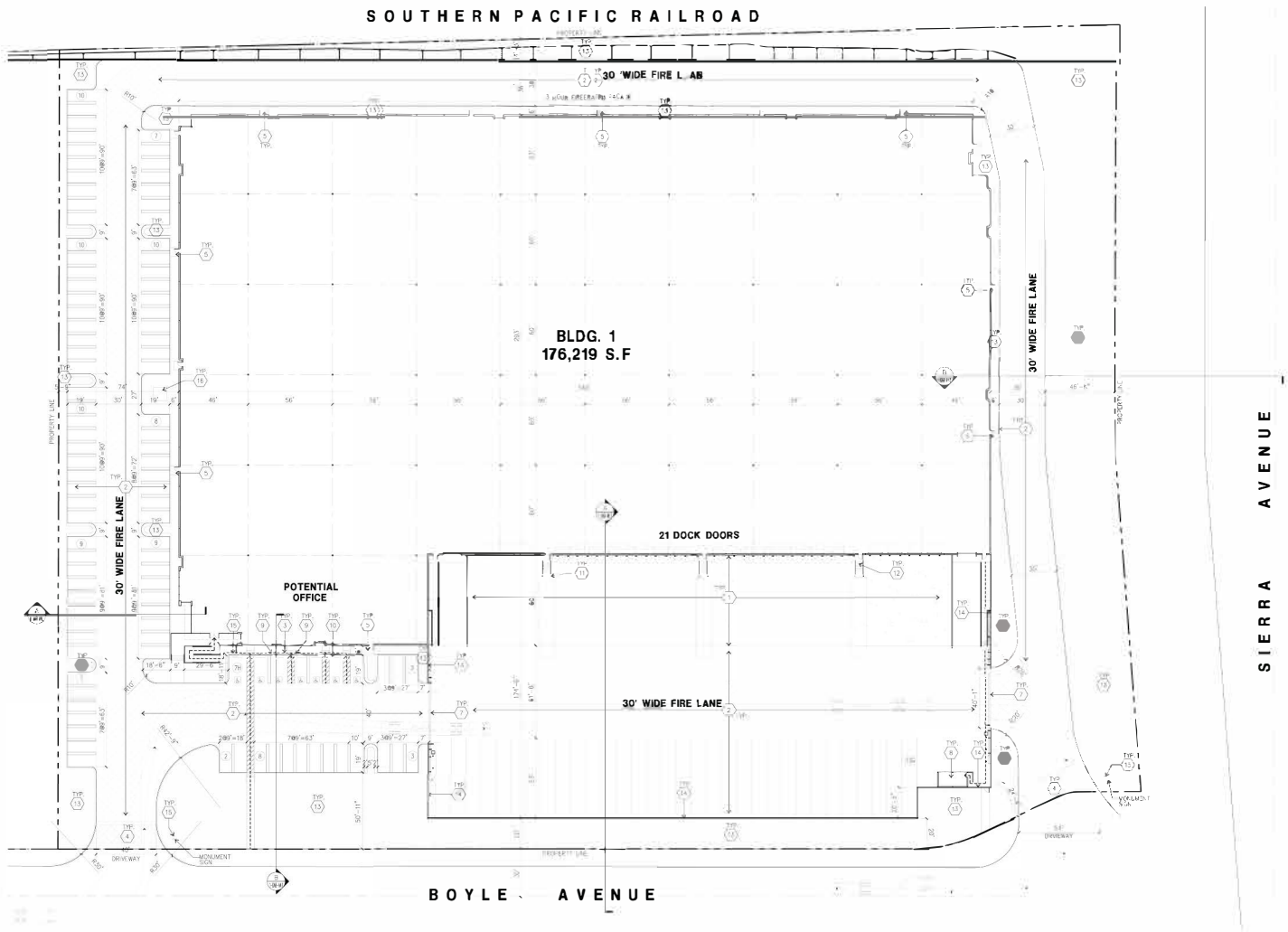
0 1000 2000
FEET

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Regional and Project Location

SOURCE: ESRI Streetmap, 2013; Google Earth, 2018.

I:\CFN1702.24\Reports\Traffic\fig1-1_RegLoc.mxd (5/30/2020)




LSA

FIGURE 1-2

N

0 60 120

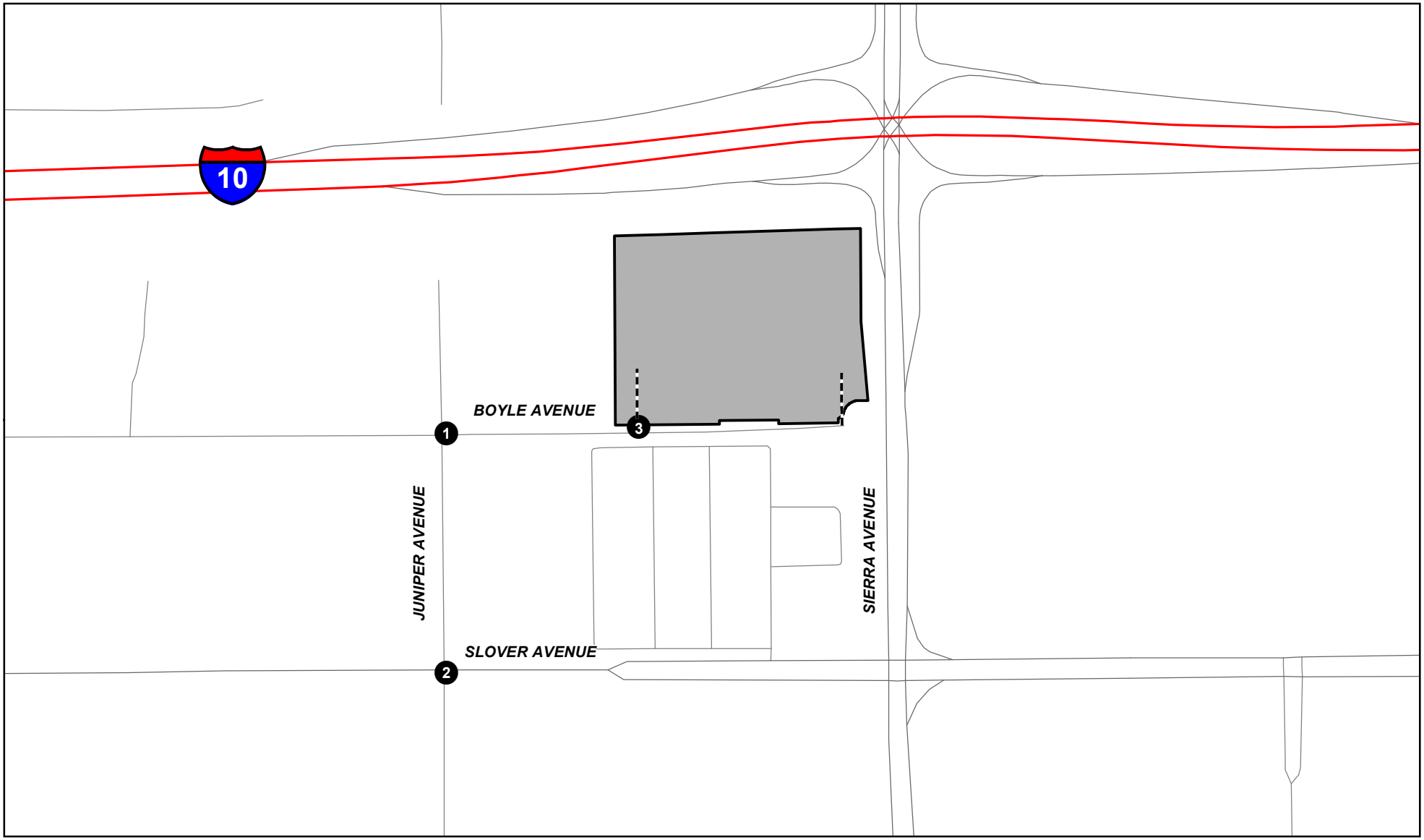
FEET

SOURCE: HPA Architecture, March 2020

I:\CFN2002\Reports\Traffic\fig2_SitePlan.ai (03/30/2020)

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Conceptual Site Plan




LSA

FIGURE 1-3

LEGEND

Project Site

Project Driveway

Study Intersection

N

0 200 400

FEET

SOURCE: ESRI Streetmap, 2013.

I:\CFN1702.24\Reports\Traffic\fig1-3_Intersections.mxd (5/30/2020)

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Study Area Intersections

# 2.0 ANALYSIS METHODOLOGY

## 2.1 LEVEL OF SERVICE DEFINITIONS

Roadway operations and the relationship between capacity and traffic volumes are generally expressed in terms of levels of service (which are defined using the letter grades A through F). These levels recognize that, while an absolute limit exists as to the amount of traffic traveling through a given intersection (the absolute capacity), the conditions that motorists experience rapidly deteriorate as traffic approaches the absolute capacity. Under such conditions, congestion is experienced. There is general instability in the traffic flow, which means that relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays. This near-capacity situation is labeled Level of Service (LOS) E. Beyond LOS E, capacity has been exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it. An upstream queue will then form and continue to expand in length until the demand volume again declines.

A complete description of the meaning of level of service can be found in the Transportation Research Board Special Report 209, *Highway Capacity Manual* (HCM). The HCM establishes levels of service A through F for intersections and roadways as shown in Tables 2-A and 2-B, respectively.

Table 2-C shows the level of service criteria for unsignalized and signalized intersections and Table 2-D shows the level of service criteria for roadway segments, based on the City's General Plan.

Consistent with the City's guidelines, the *Highway Capacity Manual* 6 (HCM 6) analysis methodologies were used to determine intersection levels of service for all study area intersections. Intersection LOS was calculated using Synchro 10 software, which uses the HCM 6 methodologies, while roadway LOS was calculated using vehicle-to-capacity ratios as outlined in the City's General Plan.

## 2.2 LEVEL OF SERVICE PROCEDURES AND THRESHOLDS

Study intersections and roadway segment analyzed in this report are under the jurisdiction of the City of Fontana. The City of Fontana uses LOS C as its minimum level of service criteria for intersections and roadways segments.

## 2.3 SIGNIFICANCE THRESHOLD

All study intersections are under the jurisdiction of the City of Fontana. As stated in the City's draft TIA guidelines, a significant project impact occurs at a study intersection which is forecast to operate at an unsatisfactory condition (LOS worse than C) during the peak hours.

The City's draft TIA guidelines does not have significant impact criteria for roadway segments; therefore, determination of a significant impact has been based on the impact criteria contained in the guidelines, which state that a significant project impact occurs at a roadway segment when the project causes an unsatisfactory condition (deteriorate from LOS A through C to D through F) or the project contributes to an existing deficiency.

## 2.4 LIST OF CHAPTER 2.0 TABLES

- Table 2-A: Level of Service Definitions, Intersections
- Table 2-B: Level of Service Definitions, Roadway Segments
- Table 2-C: Level of Service Criteria, Unsignalized and Signalized Intersections
- Table 2-D: Level of Service Criteria, Roadway Segments

**Table 2-A: Level of Service Definitions, Intersections**

| LOS | Description |
|---|---|
| A | No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily and nearly all drivers find freedom of operation. |
| B | This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles. |
| C | This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. |
| D | This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups. |
| E | Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand. |
| F | This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero. |

**Table 2-B: Level of Service Definitions, Roadway Segments**

| LOS | Description |
|---|---|
| A | Describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control Delay at the boundary intersection is minimal. The travel speed exceeds 85% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| B | Describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted, and control delay at the boundary is not significant. The travel speed is between 67% and 85% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| C | Describes stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersection may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| D | Indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersection. The travel speed is between 40% and 50% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| E | Characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersection. The travel speed is between 30% and 40% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| F | Characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersection, as indicated by high delay and extensive queuing. The travel speed is between 30% or less of the base free-flow speed, and the volume-to-capacity ratio is greater than 1.0. |

**Table 2-C: Level of Service Criteria, Unsignalized and Signalized Intersections**

| Level of Service | Unsignalized Intersection Average Delay per Vehicle (sec.) | Signalized Intersection Average Delay per Vehicle (sec.) |
|---|---|---|
| A | ≤ 10 | ≤ 10 |
| B | > 10 and ≤ 15 | > 10 and ≤ 20 |
| C | > 15 and ≤ 25 | > 20 and ≤ 35 |
| D | > 25 and ≤ 35 | > 35 and ≤ 55 |
| E | > 35 and ≤ 50 | > 55 and ≤ 80 |
| F | > 50 | > 80 |

**Table 2-D: Level of Service Criteria, Roadway Segments**

| Level of Service | Volume to Capacity (V/C) Ratio |
|---|---|
| A | ≤ 0.60 |
| B | > 0.61 and ≤ 0.70 |
| C | > 0.71 and ≤ 0.80 |
| D | > 0.81 and ≤ 0.90 |
| E | > 0.91 and ≤ 1.00 |
| F | > 1.00 |

# 3.0 CIRCULATION NETWORK SETTING

## 3.1 EXISTING CIRCULATION NETWORK

This section provides a description of the circulation network within the study area. Figure 3-1 illustrates existing with project study intersection geometrics and traffic control. As previously stated, access to the project site would be provided by two full-access driveways on Boyle Avenue. The easterly driveway on Boyle Avenue is located at the end of the cul-de-sac.
Within the City of Fontana, all major roadways are classified based on the roadway classification provided in the Community and Circulation Element of the City's General Plan, adopted November 2018. Figure 3-2 illustrates the City of Fontana Roadway Classification. The classifications and the number of mid-block arterial lanes of the study roadway segment is shown on Table 3-A. Following is a brief description of major roadways within the study area:

- Slover Avenue: Slover Avenue is designated as a Primary Highway in the City's General Plan. Between Juniper Avenue and Sierra Avenue, Slover Avenue is a four-lane, divided Primary Highway with two-way left-turn lane (TWLTL) and raised median. There are no bicycle lanes in this segment. There is also no provision for on-street parking.
- Boyle Avenue: Boyle Avenue is not designated in the City's General Plan. East of Juniper Avenue, Boyle Avenue is a two-lane undivided road. There are no bike lanes in this segment. However, there is provision for on-street parking on both sides of the segment.
- Juniper Avenue: The segment of Juniper Avenue within the study area is not designated in the City's General Plan. Between Boyle Avenue and Slover Avenue, Juniper Avenue is a two-lane undivided road. There are no bike lanes in this segment. However, there is provision for on-street parking on both sides of the segment.

## 3.2 BIKES, PEDESTRIANS, AND TRANSIT

### 3.2.1 Bicycle Circulation

According to the General Plan, the City recognizes three classes of bicycle facilities: Class I – Bike Paths, Class II – Bike Lanes, and Class III – Bike Routes. Class I facilities are dedicated and buffered bike paths that are physically separated from motor vehicle routes providing exclusive right-of-way for non-motorized users, Class II facilities are dedicated and unbuffered bike lanes that carry bicycle traffic adjacent to motor vehicle traffic, and Class III facilities are bike routes shared with vehicular lanes. These facilities provide safe, comfortable, and convenient bicycle travel for local trips within the City to schools, parks, civic sites, and shopping areas. Figure 3-3 illustrates the existing and proposed bicycle facilities within the City of Fontana.

### 3.2.2 Pedestrians

The City of Fontana completed its Active Transportation Plan for Safe Routes to Schools projects to improve pedestrian access to schools for schoolchildren. The City's connected neighborhoods will provide mobility areas with up to 1/2-mile walking radii for pedestrians for local trips to schools, parks, civic sites, and shopping areas. This approach builds on the Safe Routes to Schools Program, in which the City is already participating, and the Fontana Unified School District walking-distance

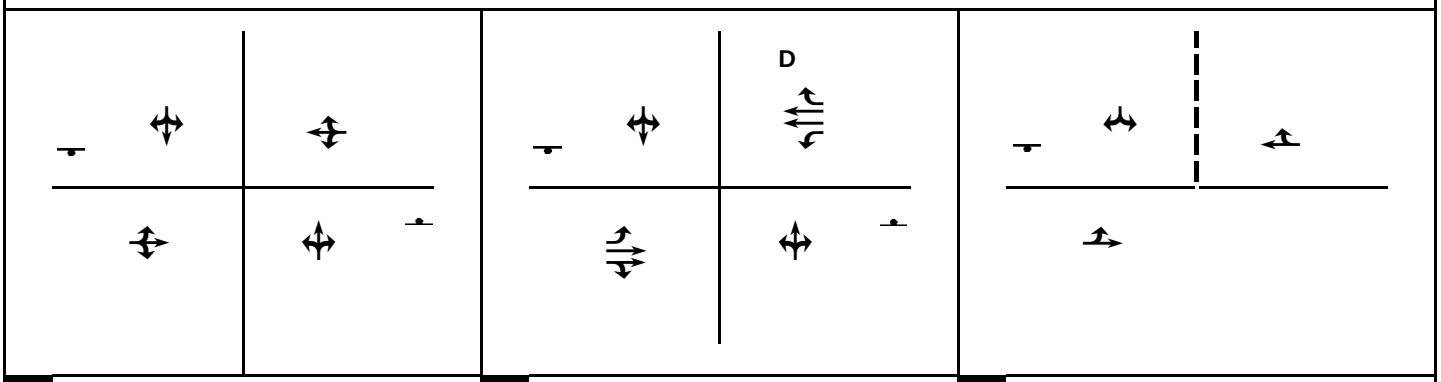
criteria for transportation, which current provides a 1/2-mile walking distance for kindergarten. The existence of sidewalks provides more transportation choices for non-work trips, which can replace some auto trips, reducing growth in congestion and air pollution. Figure 3-4 illustrates the sidewalk connectivity within the City.

### 3.2.3 Transit

Omnitrans provides local bus and paratransit services throughout 15 cities in San Bernardino County, as well as portions of unincorporated areas of the County. The fixed route service area consists of approximately 480 square miles. Omnitrans Local bus route 82 operates within the study area, connecting Fontana to neighboring communities including Ontario and Rancho Cucamonga.

## 3.1 LIST OF CHAPTER 3.0 FIGURES AND TABLES

- Figure 3-1: Existing with Project Intersection Geometric and Traffic Control
- Figure 3-2: City of Fontana Roadway Classifications
- Figure 3-3: City of Fontana Bicycle Facilities
- Figure 3-4: City of Fontana Sidewalk Connectivity
- Table 3-A: Roadway Segment Classification




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

LSA

FIGURE 3-1

Legend

Stop Sign

Project Driveway

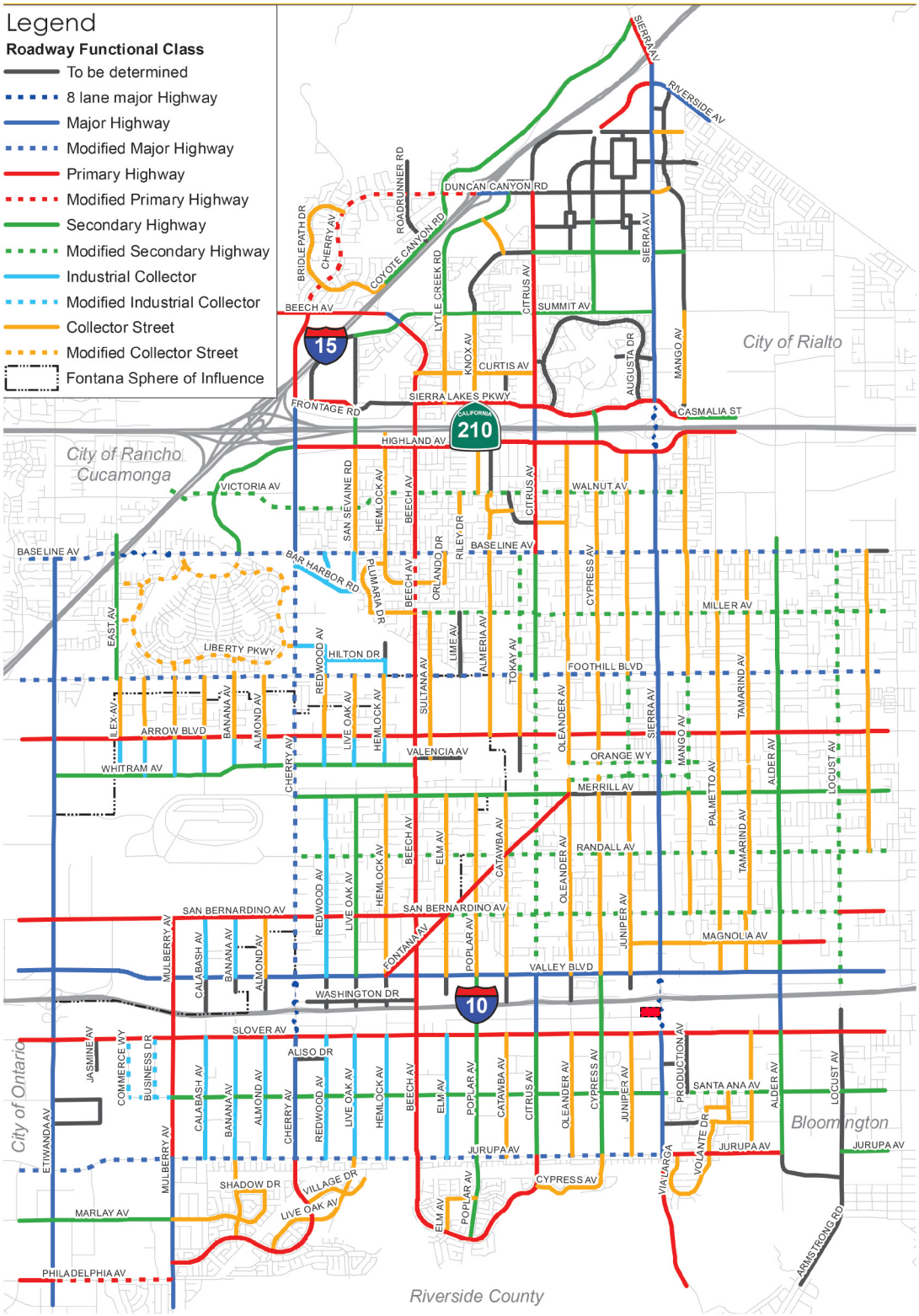
**D** De Facto Right Turn

*Transwestern Building 1*

*Focused Traffic Impact Analysis*

Existing with Project Intersection Geometric and Traffic Control

R:\CFN1702.24_Transwestern Boyle Building 1\Technical Studies\Traffic\May 2020\g12 - Geo_Exist_P.xlsx\Figure (5/30/2020)




LSA

Legend

Project Site

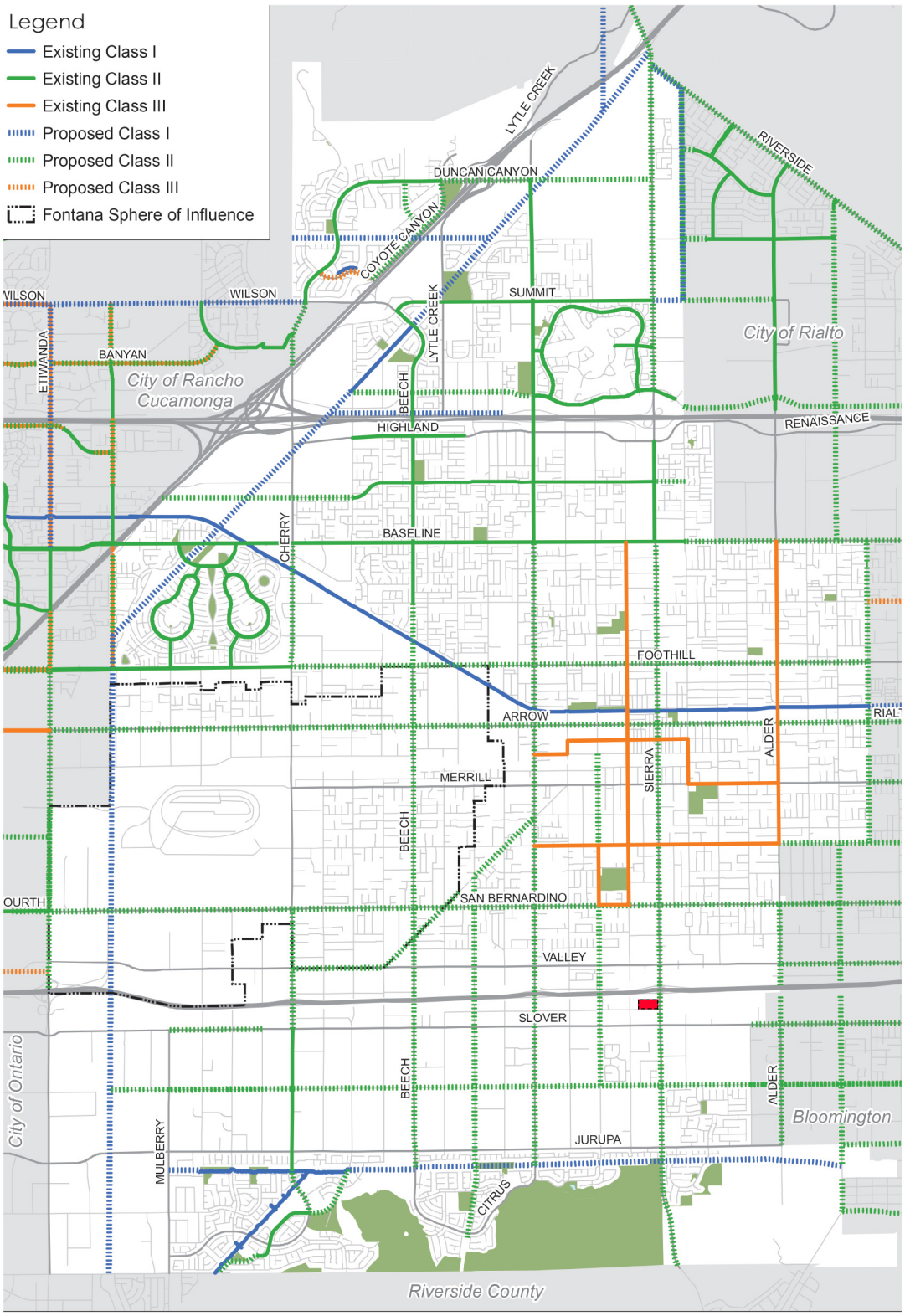
FIGURE 3-2

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

City of Fontana Roadway Classification

SOURCE: City of Fontana General Plan, November 2018

I:\CFN1702.24\Reports\Traffic\fig3-2_RdwayClassification.ai (05/19/2020)




LSA

Legend

Project Site

N

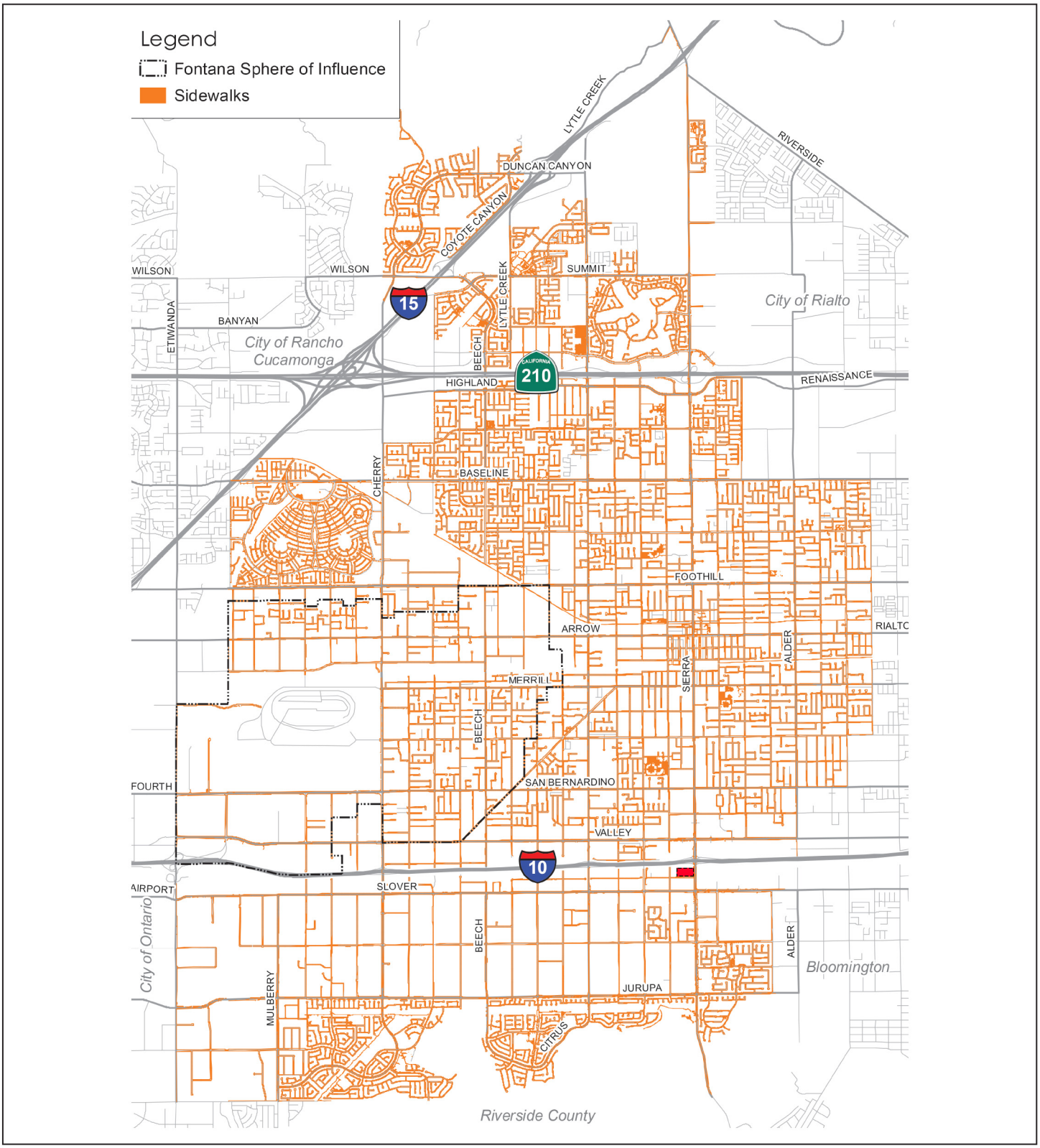
FIGURE 3-3

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

City of Fontana Bicycle Facilities

SOURCE: City of Fontana General Plan, November 2018

I:\CFN1702.24\Reports\Traffic\fig3-3_Bikefacilities.ai (05/19/2020)




LSA

Legend

Project Site

FIGURE 3-4

N

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

City of Fontana Sidewalk Connectivity

SOURCE: City of Fontana General Plan, November 2018

I:\CFN1702.24\Reports\Traffic\fig3-4_SidewalkConnectivity.ai (05/19/2020)

LSA

## Table 3-A - Roadway Segment Classification

| Roadway | # | Segment | Jurisdiction | Existing Conditions Classification [1] | Existing Conditions Number of Lanes | General Plan Classification[1] | General Plan Number of Lanes |
|---|---|---|---|---|---|---|---|
| **Slover Avenue** | 1 | between Juniper Avenue and Sierra Avenue | Fontana | Primary Highway | 4 | Primary Highway | 4 |

**Notes:**

[1]Classifications for all segments have been obtained from the City of Fontana General Plan Community Mobility and Circulation Element Roadway Functional Classifications.

# 4.0 TRAFFIC VOLUMES WITHOUT PROJECT SCENARIOS

## 4.1 EXISTING TRAFFIC VOLUMES

Traffic volumes for existing year traffic conditions are typically developed using existing count data collected at study intersections and roadway segments. Due to the current statewide school and office closures for the COVID-19 pandemic, new traffic counts will not reflect realistic traffic conditions at the study intersections. Therefore, LSA consulted with City staff and traffic counters to obtain historic traffic counts at all study intersections and the roadway segment being analyzed. Following is a brief description of the development of existing traffic volumes from historic counts.

**Step 1:** City staff provided LSA with historic daily traffic counts on Juniper Avenue and Slover Avenue, collected in May 2019, when the schools were in session. LSA also obtained historic traffic counts at the intersection of Juniper Avenue/Slover Avenue from the Southwest Fontana Logistics Center Project TIA, collected in April 2017. By comparing the difference between counts collected in April 2017 and counts collected in May 2019, annual growth rates were developed for peak hour traffic volumes. These growth rates were applied to the May 2019 counts provided by the City to develop the existing traffic volumes.

**Step 2:** Vehicle classification counts were collected at the intersection of Juniper Avenue/Boyle Avenue in May 2020. To estimate the traffic volumes at this intersection in pre-COVID-19 situation, traffic volumes at the south leg of the intersection were compared with the traffic volumes estimated for the north leg of the intersection of Juniper Avenue/Slover Avenue in Step 1. Based on this comparison, approach volumes for other movements at the intersection of Juniper Avenue/Boyle Avenue were adjusted accordingly.

**Step 3:** At the intersection of Juniper Avenue/Boyle Avenue, the adjusted traffic volumes from Step 2 were converted to Passenger Car Equivalent (PCE) volumes. The concept of PCEs accounts for the larger impact of trucks on traffic operations. It does so by assigning each type of truck a PCE factor that represents the number of passenger vehicles that could travel through an intersection in the same time that a particular type of truck could. Consistent with the City's draft TIA guidelines, peak hour PCE volumes were developed using a PCE factor of 2.0 for 2-axle trucks, 2.5 for 3-axle trucks, and 3.0 for trucks with four or more axles.

**Step 4:** The percentage of trucks at the intersection of Project Driveway1 /Boyle Avenue was determined based truck percentages from the intersection of Juniper Avenue/Boyle Avenue. At this location, truck PCE volumes were computed using a PCE factor of 2.5 for all trucks, consistent with the City's draft TIA guidelines.

**Step 5**: By comparing the difference between daily counts collected in April 2017 and daily counts collected in May 2019, an annual growth rate was developed for daily traffic volumes for the roadway segment on Slover Avenue between Juniper Avenue and Sierra Avenue. The annual growth rate was applied to the May 2019 counts provided by the City to develop the existing daily traffic volumes for the roadway segment.

Detailed traffic count sheets are included in Appendix B. Existing peak hour PCE volumes at study intersections are illustrated in Figure 4-1. Table 4-A illustrates existing daily traffic volumes at the study roadway segment.

## 4.2 OPENING YEAR (2021) WITHOUT PROJECT TRAFFIC VOLUMES

As approved during the City's scoping agreement process (Appendix A), traffic volumes for project opening year without project conditions were developed by applying the same per annum growth rate estimated in section 4.1 to the existing without project traffic volumes and adding trips from cumulative projects in the area. This methodology was applied to both study intersections and roadway segments analysis.

Information concerning cumulative projects in the vicinity of the proposed project was obtained from City staff. Table 4-B lists the cumulative projects included in this analysis. Figure 4-2 illustrates the cumulative project locations. The trip generation for cumulative projects was developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition, and other TIAs. As shown in Table 4-B, the cumulative projects are forecasted to generate 29,690 net daily PCE trips, with 2,371 net PCE trips occurring during the a.m. peak hour and 2,440 net PCE trips occurring during the p.m. peak hour. Cumulative project trips were assigned to the roadway network based on their locations in relation to surrounding land uses and regional arterials. Figure 4-3 illustrates peak hour cumulative project trips at study area intersections.

Figure 4-4 illustrates peak hour traffic volumes at study intersections under opening year without project conditions. Table 4-C shows opening year daily volumes at the study area roadway segment.

Detailed volume development worksheets are included in Appendix C.

## 4.3 LIST OF CHAPTER 4.0 FIGURES AND TABLES

- Figure 4-1: Existing Peak Hour Traffic Volumes
- Figure 4-2: Cumulative Project Locations
- Figure 4-3: Cumulative Project Trip Assignment
- Figure 4-4: Opening Year (2021) Peak Hour Traffic Volumes
- Table 4-A: Existing Roadway Segment Daily Traffic Volumes
- Table 4-B: Cumulative Projects Trip Generation
- Table 4-C: Opening Year (2021) Roadway Segment Daily Traffic Volumes

| 1 Juniper Avenue/Boyle Avenue | 2 Juniper Avenue/Slover Avenue | 3 Project Driveway 1/Boyle Avenue |
|---|---|---|
| ↓ 0 / 9<br>↳ 10 / 10<br>→ 4 / 2<br>↴ 13 / 13<br>↰ 7 / 12<br>↑ 3 / 7<br>↱ 1 / 11 | ↰ 8 / 14<br>↓ 2 / 6<br>↳ 14 / 11<br>↱ 3 / 19<br>← 635 / 682<br>↰ 65 / 76<br>↳ 6 / 9<br>→ 482 / 830<br>↴ 21 / 55<br>↰ 34 / 33<br>↑ 1 / 0<br>↱ 66 / 83 | ***Future Intersection*** |

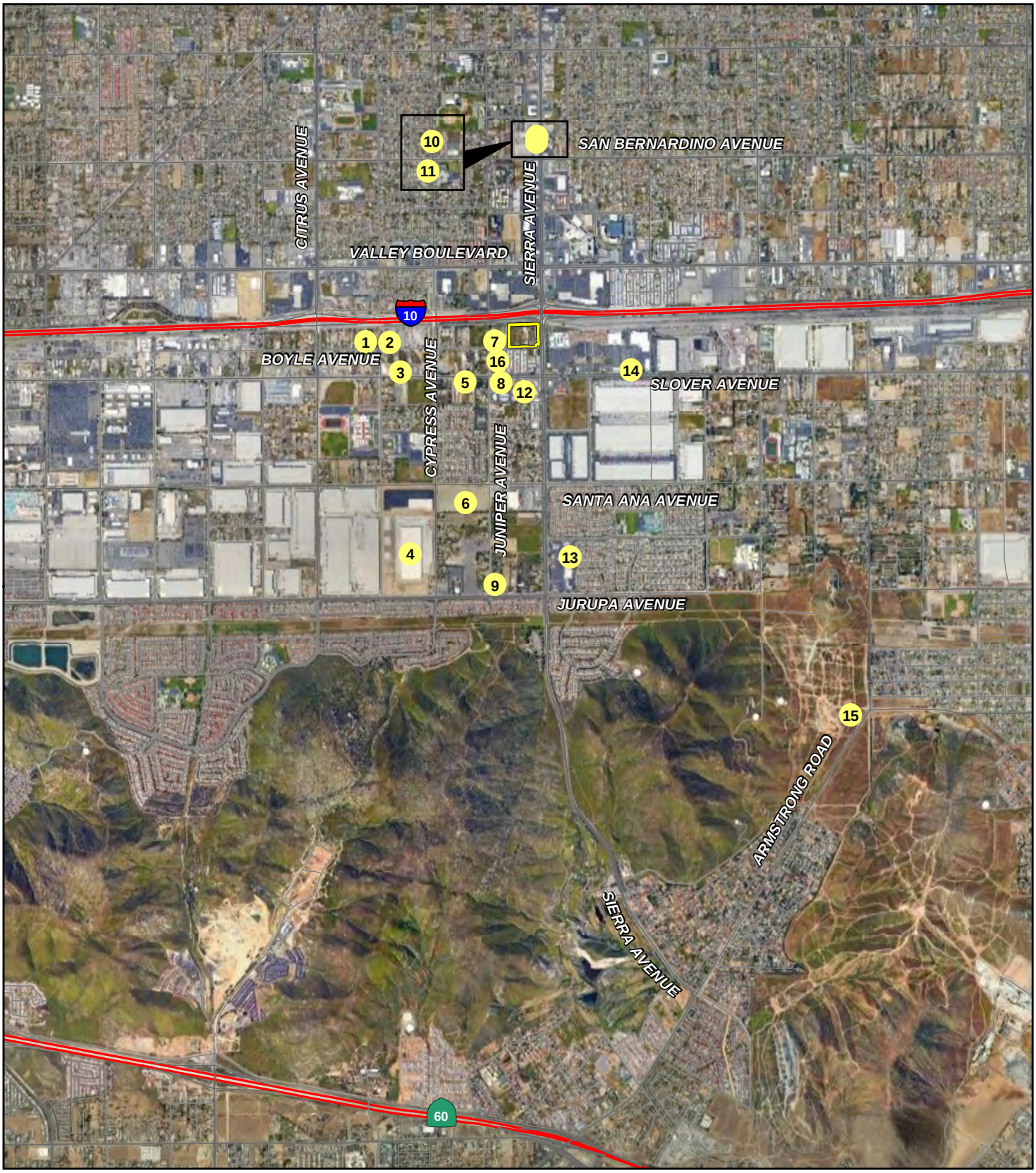
FIGURE 4-1

LSA

XXX / YYY
AM / PM Peak Hour PCE Volumes

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Existing Peak Hour Traffic Volumes




LSA

LEGEND

Project Location

Cumulative Project

N

0 1650 3300

FEET

FIGURE 4-2

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Cumulative Project Locations

SOURCE: ESRI Streetmap, 2013; Google Earth, 2018.

I:\CFN1702.24\Reports\Traffic\fig9_Cumul_Proj.mxd (5/16/2020)

| 1 | 2 | 3 |
|---|---|---|
| ← 0 / 10<br>↰ 2 / 8<br>5 / 1 →<br>13 / 5 ↱ | ↰ 2 / 5<br>↱ 2 / 22<br>↰ 20 / 6<br>← 87 / 77<br>5 / 2 ↱<br>71 / 93 → | ***Future Intersection*** |
| Juniper Avenue/Boyle Avenue | Juniper Avenue/Slover Avenue | Project Driveway 1/Boyle Avenue |

LSA

FIGURE 4-3

XX / YY
AM / PM Peak Hour Trips

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Cumulative Project Trip Assignment

| 1 Juniper Avenue/Boyle Avenue | 2 Juniper Avenue/Slover Avenue | 3 Project Driveway 1/Boyle Avenue |
|---|---|---|
| ↓ 0 / 19<br>↳ 12 / 18<br>→ 4 / 2<br>↲ 13 / 13<br>↰ 7 / 12<br>↑ 8 / 8<br>↱ 14 / 16 | ↲ 10 / 19<br>↓ 2 / 6<br>↳ 16 / 33<br>↱ 23 / 27<br>← 735 / 824<br>↰ 66 / 83<br>↳ 11 / 11<br>→ 561 / 923<br>↲ 21 / 55<br>↰ 37 / 35<br>↑ 1 / 0<br>↱ 71 / 88 | ***Future Intersection*** |

FIGURE 4-4

LSA

XXX / YYY
AM / PM Peak Hour PCE Volumes

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Opening Year (2021) Peak Hour Traffic Volumes

LSA

## Table 4-A - Existing Roadway Segment Daily Traffic Volumes

| Roadway | # | Segment | Jurisdiction | Existing ADT | Project Trips | Existing With Project ADT |
|---|---|---|---|---|---|---|
| **Slover Avenue** | 1 | between Juniper Avenue and Sierra Avenue | Fontana | 18,493 | 201 | 18,694 |

LSA

## Table 4-B - Cumulative Projects Trip Generation

| Project No. | Land Use/Builder/Applicant/Project Name | Units | | A.M. Peak Hour In | A.M. Peak Hour Out | A.M. Peak Hour Total | P.M. Peak Hour In | P.M. Peak Hour Out | P.M. Peak Hour Total | Daily |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 . | **Warehouse[1]** | 88.98 | TSF | | | | | | | |
| | **16262 Boyle Avenue** | | | | | | | | | |
| | Total Trip Generation | | | 12 | 3 | 15 | 4 | 13 | 17 | 155 |
| | Auto Trips | | | 8 | 2 | 10 | 3 | 9 | 12 | 107 |
| | Truck PCE Trips | | | 11 | 3 | 14 | 3 | 11 | 14 | 130 |
| | **Total PCE Trip Generation** | | | **19** | **5** | **24** | **6** | **20** | **26** | **237** |
| 2 . | **Warehouse[1]** | 94.22 | TSF | | | | | | | |
| | **16346 Boyle Avenue** | | | | | | | | | |
| | Total Trip Generation | | | 12 | 4 | 16 | 4 | 13 | 17 | 164 |
| | Auto Trips | | | 8 | 3 | 11 | 3 | 9 | 12 | 113 |
| | Truck PCE Trips | | | 11 | 3 | 14 | 3 | 11 | 14 | 138 |
| | **Total PCE Trip Generation** | | | **19** | **6** | **25** | **6** | **20** | **26** | **251** |
| 3 . | **Truck Repair Center** | 5.46 | TSF | | | | | | | |
| | **16374 Slover Avenue** | | | | | | | | | |
| | Trips/Unit[2] | | | 1.43 | 0.53 | 1.96 | 0.90 | 1.36 | 2.26 | 16.28 |
| | Trip Generation | | | 8 | 3 | 11 | 5 | 7 | 12 | 89 |
| 4 . | **Southwest Fontana Logistics Center** | 1,628.94 | TSF | | | | | | | |
| | **11263 Oleander Avenue** | | | | | | | | | |
| | Total Trip Generation | | | 391 | 97 | 488 | 129 | 392 | 521 | 5,798 |
| | Auto Trips | | | 236 | 57 | 293 | 78 | 235 | 313 | 3,479 |
| | Truck PCE Trips | | | 422 | 110 | 532 | 139 | 426 | 565 | 6,303 |
| | **Total PCE Trip Generation[3]** | | | **658** | **167** | **825** | **217** | **661** | **878** | **9,782** |
| 5 . | **Warehouse[1]** | 133.00 | TSF | | | | | | | |
| | **16609 Slover Avenue** | | | | | | | | | |
| | Total Trip Generation | | | 17 | 6 | 23 | 6 | 19 | 25 | 232 |
| | Auto Trips | | | 12 | 4 | 16 | 4 | 13 | 17 | 160 |
| | Truck PCE Trips | | | 14 | 5 | 19 | 5 | 17 | 22 | 194 |
| | **Total PCE Trip Generation** | | | **26** | **9** | **35** | **9** | **30** | **39** | **354** |
| 6 . | **Southwest Fontana Logistics Center Sports Park** | 18.20 | AC | | | | | | | |
| | **16679 Santa Ana Avenue** | | | | | | | | | |
| | Trips/Unit | | | 2.64 | 1.70 | 4.34 | 2.03 | 1.32 | 3.35 | 7.69 |
| | Trip Generation[3] | | | 48 | 31 | 79 | 37 | 24 | 61 | 140 |
| 7 . | **Transwestern Building 2 [4]** | 76.56 | TSF | | | | | | | |
| | **16748 Boyle Avenue** | | | | | | | | | |
| | Total Trip Generation | | | 11 | 2 | 13 | 4 | 11 | 15 | 133 |
| | Auto Trips | | | 7 | 2 | 9 | 3 | 7 | 10 | 92 |
| | Truck PCE Trips | | | 11 | 0 | 11 | 3 | 11 | 14 | 111 |
| | **Total PCE Trip Generation** | | | **18** | **2** | **20** | **6** | **18** | **24** | **203** |
| 8 . | **Hotel** | 104 | RM | | | | | | | |
| | **Southeast Corner of Juniper Avenue and Slover Avenue** | | | | | | | | | |
| | Trips/Unit[5] | | | 0.28 | 0.19 | 0.47 | 0.31 | 0.29 | 0.60 | 8.36 |
| | Trip Generation | | | 29 | 20 | 49 | 32 | 30 | 62 | 869 |

LSA

## Table 4-B - Cumulative Projects Trip Generation

| Project No. | Land Use/Builder/Applicant/Project Name | Units | | A.M. Peak Hour In | A.M. Peak Hour Out | A.M. Peak Hour Total | P.M. Peak Hour In | P.M. Peak Hour Out | P.M. Peak Hour Total | Daily |
|---|---|---|---|---|---|---|---|---|---|---|
| 9 . | **Warehouse**[1] | 754.41 | TSF | | | | | | | |
| | **11259 Juniper Avenue** | | | | | | | | | |
| | Total Trip Generation | | | 98 | 30 | 128 | 38 | 106 | 144 | 1,312 |
| | Auto Trips | | | 67 | 21 | 88 | 25 | 74 | 99 | 906 |
| | Truck PCE Trips | | | 84 | 24 | 108 | 35 | 86 | 121 | 1,093 |
| | **Total PCE Trip Generation** | | | **151** | **45** | **196** | **60** | **160** | **220** | **1,999** |
| 10 . | **Coffee Shop** | 7.55 | TSF | | | | | | | |
| | **9610 Sierra Avenue** | | | | | | | | | |
| | Trips/Unit[6] | | | 45.38 | 43.61 | 88.99 | 21.69 | 21.69 | 43.38 | 820.38 |
| | Trip Generation | | | 343 | 329 | 672 | 164 | 164 | 328 | 6,194 |
| | Pass-by Trips[7, 8] | | | (168) | (162) | (330) | (82) | (82) | (164) | (3,066) |
| | Total Net Trips | | | 175 | 167 | 342 | 82 | 82 | 164 | 3,128 |
| 11 . | **JLL Retail** | 18.80 | TSF | | | | | | | |
| | **9610 Sierra Avenue** | | | | | | | | | |
| | Trips/Unit[9] | | | 0.58 | 0.36 | 0.94 | 1.83 | 1.98 | 3.81 | 37.75 |
| | Trip Generation | | | 11 | 7 | 18 | 34 | 37 | 71 | 710 |
| | Pass-by Trips[10, 11] | | | 0 | 0 | 0 | (12) | (13) | (25) | (242) |
| | Total Net Trips | | | 11 | 7 | 18 | 22 | 24 | 46 | 468 |
| 12 . | **Townplace Suites Hotel** | 116 | RM | | | | | | | |
| | **10530 Sierra Avenue** | | | | | | | | | |
| | Trips/Unit[5] | | | 0.28 | 0.19 | 0.47 | 0.31 | 0.29 | 0.60 | 8.36 |
| | Trip Generation | | | 32 | 22 | 54 | 36 | 34 | 70 | 970 |
| 13 . | **Quick Quack Car Wash** | 3.58 | TSF | | | | | | | |
| | **11141 Sierra Avenue** | | | | | | | | | |
| | Trips/Unit[12] | | | 4.49 | 4.49 | 8.98 | 7.10 | 7.10 | 14.20 | 163.09 |
| | Trip Generation | | | 16 | 16 | 32 | 25 | 25 | 50 | 584 |
| | Pass-by Trips[13] | | | (4) | (4) | (8) | (6) | (6) | (12) | (146) |
| | Net Trip Generation | | | 12 | 12 | 24 | 19 | 19 | 38 | 438 |
| 14 . | **Tire Shop** | 7.85 | TSF | | | | | | | |
| | **17256 Slover Avenue** | | | | | | | | | |
| | Trips/Unit[14] | | | 1.74 | 0.98 | 2.72 | 1.71 | 2.27 | 3.98 | 28.52 |
| | Trip Generation | | | 14 | 8 | 22 | 13 | 18 | 31 | 224 |
| | Pass-by Trips[11, 15] | | | 0 | 0 | 0 | (4) | (5) | (9) | (63) |
| | Net Trip Generation | | | 14 | 8 | 22 | 9 | 13 | 22 | 161 |

LSA

## Table 4-B - Cumulative Projects Trip Generation

| Project No. | Land Use/Builder/Applicant/Project Name | Units | A.M. Peak Hour In | A.M. Peak Hour Out | A.M. Peak Hour Total | P.M. Peak Hour In | P.M. Peak Hour Out | P.M. Peak Hour Total | Daily |
|---|---|---|---|---|---|---|---|---|---|
| 15 . | **West Valley Logistics Center** | 3,470.00 TSF | | | | | | | |
| | **West of Locust Avenue, South of Jurupa Avenue** | | | | | | | | |
| | Total Trip Generation | | 312 | 127 | 439 | 143 | 334 | 477 | 6,382 |
| | Auto Trips | | 227 | 92 | 319 | 95 | 223 | 318 | 3,950 |
| | Truck PCE Trips | | 227 | 93 | 320 | 125 | 299 | 424 | 6,545 |
| | **Total PCE Trip Generation[16]** | | **454** | **185** | **639** | **220** | **522** | **742** | **10,495** |
| 16 . | **Warehouse[1]** | 41.00 TSF | | | | | | | |
| | **16726 Slover Avenue** | | | | | | | | |
| | Total Trip Generation | | 5 | 1 | 6 | 1 | 6 | 7 | 71 |
| | Auto Trips | | 4 | 1 | 5 | 1 | 4 | 5 | 49 |
| | Truck PCE Trips | | 3 | 0 | 3 | 0 | 5 | 5 | 59 |
| | **Total PCE Trip Generation** | | **7** | **1** | **8** | **1** | **9** | **10** | **108** |
| | | **Total Net Trip Generation** | **1,681** | **690** | **2,371** | **767** | **1,673** | **2,440** | **29,691** |

**Notes:**

DU = Dwelling Units; TSF = Thousand Square Feet; AC = Acres, RM = Rooms

[1] The trip generation was developed based on the Institute of Transportation Engineers (ITE)*Trip Generation Manual* (10th Edition) rates for Land Use 150 – "Warehousing." The resulting trips were converted to trucks and passenger vehicles based on the South Coast Air Quality Management District (SCAQMD) recommendations for warehousing projects. As such, 31 percent of project traffic will be trucks. Based on Vehicle Mix from the SCAQMD, Warehouse Truck Trip Study Data Results and Usage, dated December 2014, the truck mix was considered as 18.7% 4-axle, 5.5% 3-axle, and 6.8% 2-axle trucks. Based on the City of Fontana Draft Traffic Impact Analysis Guidelines, all truck trips were converted to passenger car equivalents (PCEs) using a 2.0 PCE factor for 2-axle trucks, 2.5 for 3-axle trucks, and 3.0 for 4- and more axle trucks.

[2] Rates based on Land Use 943 - "Automobile Parts and Service Center" from ITE *Trip Generation Manual,* 10th Edition. Setting/Location used is General Urban/Suburban.

[3] Trip generation taken from *Southwest Fontana Logistics Center Traffic Impact Analysis* by LSA, dated August 2017.

[4] Trip generation taken from *Transwestern - Boyle Avenue Building 2 Trip Generation Memorandum* by LSA, dated June 2020.

[5] Rates based on Land Use 310 - "Hotel" from ITE *Trip Generation Manual,* 10th Edition. Setting/Location used is General Urban/Suburban.

[6] Rates based on Land Use 937 - "Coffee/Donut Shop with Drive-Through Window" from ITE *Trip Generation Manual* , 10th Edition. Setting/Location used is General Urban/Suburban.

[7] No pass-by rates were applicable for Land Use 937 - "Coffee/Donut Shop with Drive-Through Window." Pass-by rates from Land Use 934 - "Fast-Food Restaurant with Drive-Through Window" were used instead.

[8] A 49% pass-by rate was applied for the AM Peak Hour. A 50% pass-by rate was applied for the PM Peak Hour. Rates based on Land Use 934 - "Fast-Food Restaurant with Drive-Through Window" from ITE, *Trip Generation Handbook* , 3rd Edition. The average of AM and PM pass-by rate has been considered as the daily pass-by rate.

[9] Rates based on Land Use 820 - "Shopping Center" from ITE *Trip Generation Manual,* 10th Edition. Setting/Location used is General Urban/Suburban.

[10] Pass-by rates based on Land Use 820 – "Shopping Center" from ITE *Trip Generation Handbook* , 3rd Edition. No pass-by rate was available for the a.m. peak hour. The p.m. peak hour pass-by rate is 34%.

[11] There is no data available for daily pass-by trips; therefore, the p.m. pass-by rate was applied for the daily trip generation.

[12] Trip generation rates obtained from the ITE *Trip Generation Manual* (10th Edition) for Land Use 948 - "Automated Car Wash", Setting/Location - "General Urban/Suburban." Only p.m. peak hour rates are available for this land use in the ITE manual. The a.m. peak hour and daily rates were obtained by using the p.m. peak hour trip generation rate ratio between Land Use 948 and Land Use 949 - "Car Wash and Detail Center" and applying the ratio to the a.m. peak hour and daily rates for Land Use 949. Also, the p.m. peak hour splits for Land Use 948 were used for the a.m. peak hour.

[13] Pass-by rates are not available for Land Use 948 - "Automated Car Wash" from ITE *Trip Generation Handbook* , 3rd Edition. Typically, Pass-by rates for Land Use 820 - "Shopping Center" from ITE *Trip Generation Handbook* , 3rd Edition, is 34%. Shopping Centers may include automated car wash, among the variety of uses. As such, to prepare a conservative analysis, a pass-by rate of 25% has been considered for this study.

[14] Rates based on Land Use 848 - "Tire Store" from ITE *Trip Generation Manual,* 10th Edition. Setting/Location used is General Urban/Suburban.

[15] Pass-by rates based on Land Use 848 – "Tire Store" from ITE *Trip Generation Handbook* , 3rd Edition. No pass-by rate was available for the a.m. peak hour. The p.m. peak hour pass-by rate is 28%.

[16] Trip generation obtained from *West Valley Logistics Center Traffic Impact Analysis* prepared by Urban Crossroads in October, 2017.

LSA

## Table 4-C - Opening Year (2021) Roadway Segment Daily Traffic Volumes

| Roadway | # | Segment | Jurisdiction | Existing (2020) ADT | Total Growth (2020-2021) | Cumulative Project Trips | Opening Year (2021) without Project ADT | Project Trips | Opening Year (2021) with Project ADT |
|---|---|---|---|---|---|---|---|---|---|
| **Slover Avenue** | 1 | between Juniper Avenue and Sierra Avenue | Fontana | 18,493 | 680 | 1,540 | 20,713 | 201 | 20,914 |

# 5.0 PROJECT TRAFFIC

## 5.1 PROJECT TRIP GENERATION

The trip generation for proposed project was developed using rates from the ITE *Trip Generation Manual*, 10th Edition, for Land Use 150 – "Warehouse". For the proposed warehouse uses, trips were converted to trucks and passenger vehicles based on the South Coast Air Quality Management District (SCAQMD) requirements for warehousing projects. As such, 31 percent of project traffic will be trucks. Based on the City's draft TIA guidelines, all truck trips were converted to PCEs using a 2.0 PCE factor for 2-axle trucks, 2.5 for 3-axle trucks, and 3.0 for 4- and more axle trucks. As Table 5-A shows, the proposed project is forecast to generate 468 daily PCE trips with 49 PCE trips occurring during the a.m. peak hour and 51 PCE trips occurring during the p.m. peak hour.

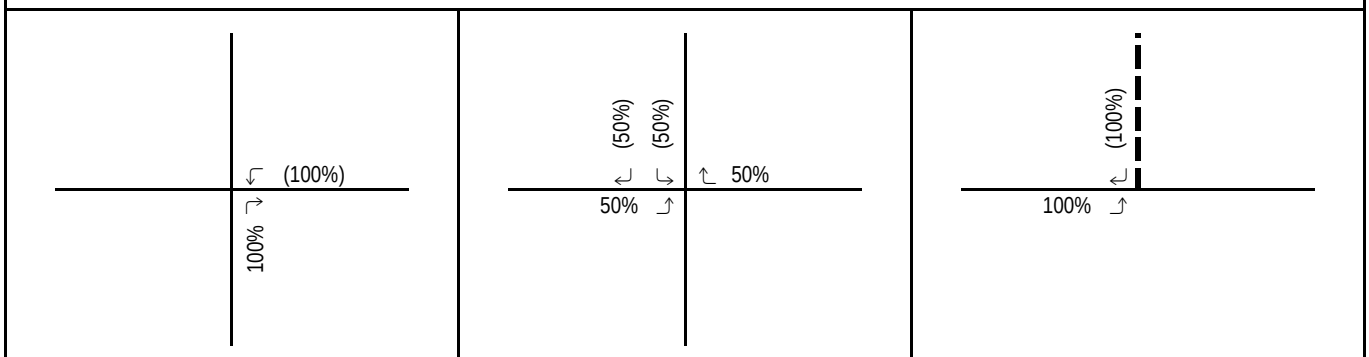
## 5.2 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Generalized trip distribution patterns for passenger vehicles and trucks were developed based on the regional roadway network and the locations of residential, employment, and commercial centers in relation to the proposed project. Because trucks typically have different travel patterns than passenger vehicles, two separate trip distributions were developed for the project. The project trip distributions were approved by City staff via the scoping agreement process. Figures 5-1 and 5-2 illustrate the passenger vehicle and truck trip distributions, respectively.

The trip assignment for project trips is the product of the project trip generation and the trip distribution percentages. Figures 5-3 and 5-4 illustrate the passenger vehicles and truck trip assignments at the study area intersections during the peak hours. Figure 5-5 illustrates the total trip assignment (in PCEs) for the proposed project.

## 5.3 LIST OF CHAPTER 5.0 FIGURES AND TABLES

- Figure 5-1: Project Trip Distribution - Passenger Vehicles
- Figure 5-2: Project Trip Distribution - Trucks
- Figure 5-3: Project Trip Assignment - Passenger Vehicles
- Figure 5-4: Project Trip Assignment - Trucks
- Figure 5-5: Total Project Trip Assignment
- Table 5-A: Project Trip Generation




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

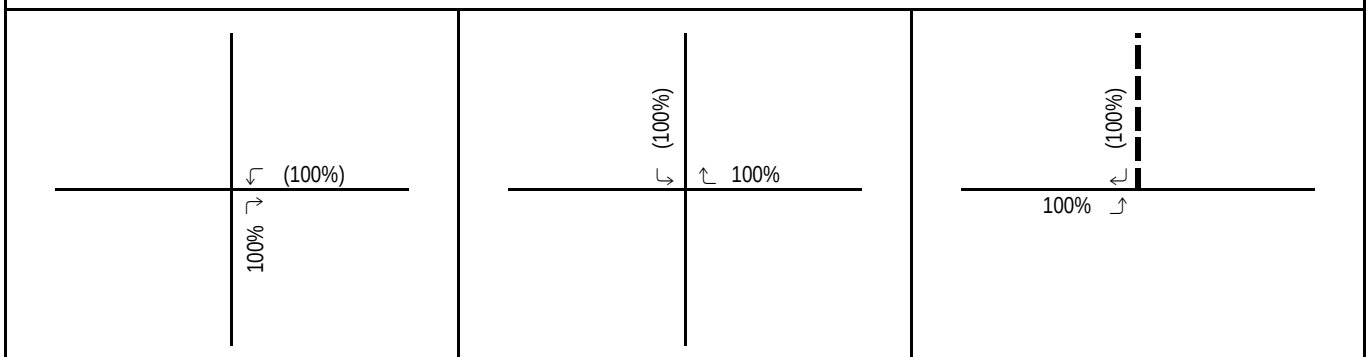
LSA

FIGURE 5-1

XXX% (YYY%)
Inbound% (Outbound%) Distribution
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Project Trip Distribution - Passenger Vehicles




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

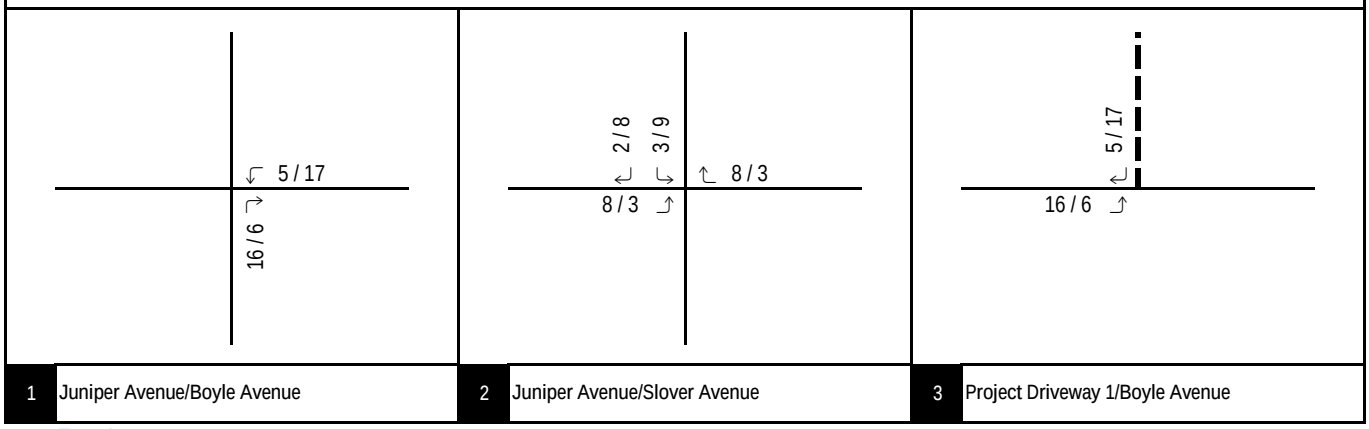
LSA

FIGURE 5-2

XXX% (YYY%)
Inbound% (Outbound%) Distribution
---·Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Project Trip Distribution - Trucks



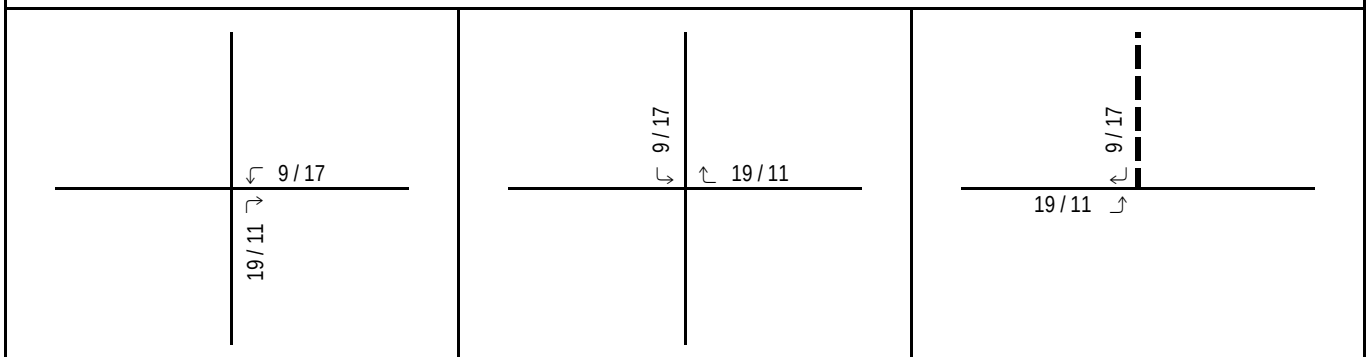

LSA

FIGURE 5-3

XX / YY
AM / PM Peak Hour Trips
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Project Trip Assignment - Passenger Vehicles




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

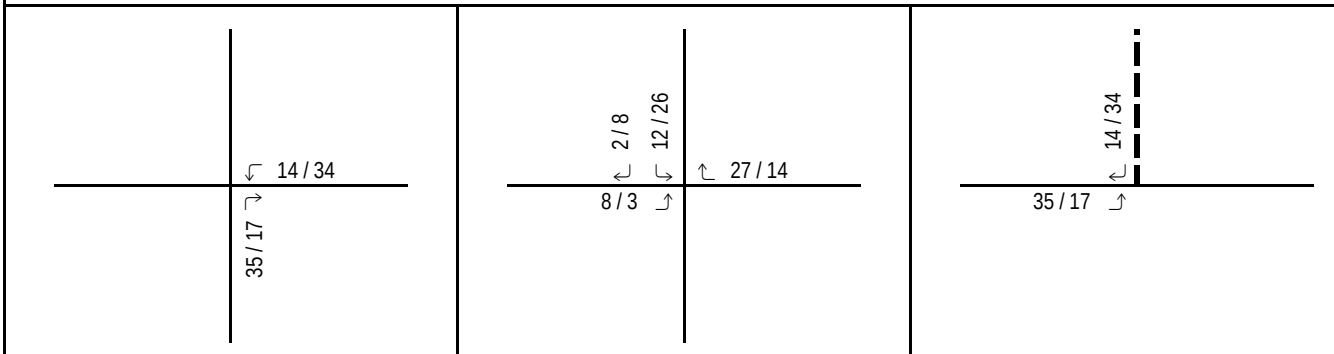
LSA

FIGURE 5-4

XX / YY
AM / PM Peak Hour PCE Trips
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Project Trip Assignment - Trucks




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

LSA

FIGURE 5-5

XX / YY
AM / PM Peak Hour PCE Trips
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Total Project Trip Assignment

LSA

## Table 5-A - Project Trip Generation

| Land Uses | Units | A.M. Peak Hour In | A.M. Peak Hour Out | A.M. Peak Hour Total | P.M. Peak Hour In | P.M. Peak Hour Out | P.M. Peak Hour Total | Daily |
|---|---|---|---|---|---|---|---|---|
| **Warehouse[1]** | | | | | | | | |
| | 176.22 TSF | | | | | | | |
| Trips/Unit (Cars) | | 0.089 | 0.028 | 0.117 | 0.033 | 0.098 | 0.131 | 1.201 |
| Trips/Unit (2-Axle Trucks) | | 0.009 | 0.003 | 0.012 | 0.004 | 0.009 | 0.013 | 0.118 |
| Trips/Unit (3-Axle Trucks) | | 0.007 | 0.002 | 0.009 | 0.003 | 0.007 | 0.010 | 0.096 |
| Trips/Unit (4+ Axle Trucks) | | 0.025 | 0.007 | 0.032 | 0.010 | 0.026 | 0.036 | 0.325 |
| Trips/Unit (Total) | | 0.130 | 0.040 | 0.170 | 0.050 | 0.140 | 0.190 | 1.740 |
| Trip Generation (Cars) | | 16 | 5 | 21 | 6 | 17 | 23 | 212 |
| Trip Generation (2-Axle Trucks) | | 2 | 0 | 2 | 1 | 1 | 2 | 21 |
| Trip Generation (3-Axle Trucks) | | 1 | 1 | 2 | 1 | 1 | 2 | 17 |
| Trip Generation (4+ Axle Trucks) | | 4 | 2 | 6 | 2 | 4 | 6 | 57 |
| Trip Generation (Total) | | 23 | 8 | 31 | 10 | 23 | 33 | 307 |
| Trip Generation (Cars) | | 16 | 5 | 21 | 6 | 17 | 23 | 212 |
| PCE Trip Generation (2-Axle Trucks) | | 4 | 0 | 4 | 2 | 2 | 4 | 42 |
| PCE Trip Generation (3-Axle Trucks) | | 3 | 3 | 6 | 3 | 3 | 6 | 43 |
| PCE Trip Generation (4+ Axle Trucks) | | 12 | 6 | 18 | 6 | 12 | 18 | 171 |
| **PCE Trip Generation (Total)** | | **35** | **14** | **49** | **17** | **34** | **51** | **468** |

**Notes:**

TSF = thousand square-feet

[1] The trip generation was developed based on the Institute of Transportation Engineers (ITE)*Trip Generation Manual* (10th edition) rates for Land Use 150 – "Warehousing." The resulting trips were converted to trucks and passenger vehicles based on the South Coast Air Quality Management District (SCAQMD) recommendations for warehousing projects. As such, 31 percent of project traffic will be trucks. Based on Vehicle Mix from the SCAQMD,*Warehouse Truck Trip Study Data Results and Usage* , dated December 2014, the truck mix was considered as 18.7% 4-axle, 5.5% 3-axle, and 6.8% 2-axle trucks. Based on the City of Fontana*Draft Traffic Impact Analysis Guidelines* , all truck trips were converted to passenger car equivalents (PCEs) using a 2.0 PCE factor for 2-axle trucks, 2.5 for 3-axle trucks, and 3.0 for 4- and more axle trucks.

# 6.0 TRAFFIC VOLUMES WITH PROJECT SCENARIOS

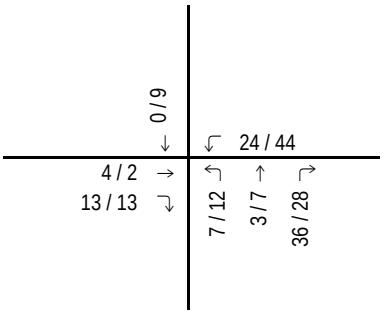
Existing and opening year with project traffic volumes were developed by adding project traffic to the corresponding without project scenarios. Figure 6-1 illustrates existing with project peak hour PCE volumes at study intersections. Existing with project daily volumes on the roadway segment is shown in previously referenced Table 4-A.

Figure 6-2 illustrates opening year with project peak hour PCE volumes at study intersections. Opening year with project daily volumes on the roadway segment is shown in previously referenced Table 4-C.

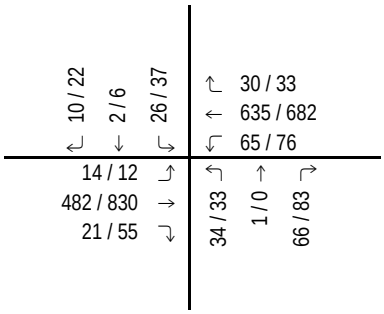
Detailed volume development worksheets are included in Appendix C.

## 6.1 LIST OF CHAPTER 6.0 FIGURES

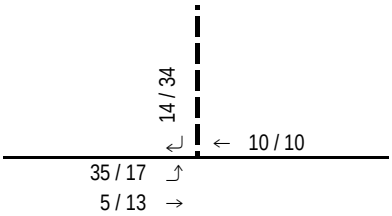
- Figure 6-1: Existing with Project Peak Hour Traffic Volumes
- Figure 6-2: Opening Year (2021) with Project Peak Hour Traffic Volumes




1 Juniper Avenue/Boyle Avenue




2 Juniper Avenue/Slover Avenue




3 Project Driveway 1/Boyle Avenue

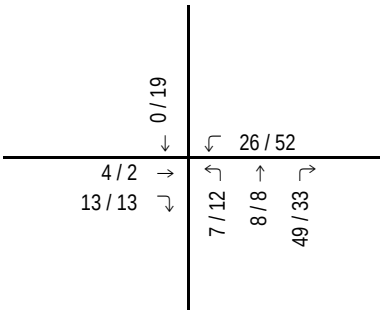
FIGURE 6-1

LSA

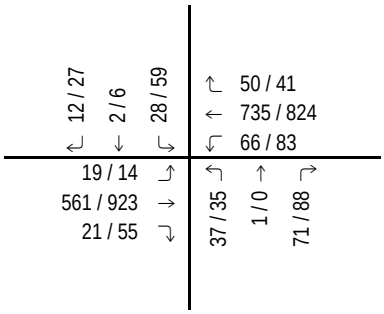
XXX / YYY
AM / PM Peak Hour PCE Volumes
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

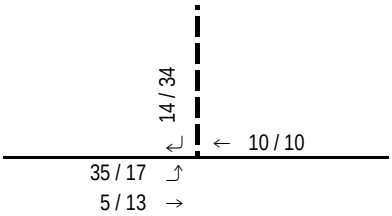
Existing with Project Peak Hour Traffic Volumes




1 Juniper Avenue/Boyle Avenue




2 Juniper Avenue/Slover Avenue




3 Project Driveway 1/Boyle Avenue

FIGURE 6-2

LSA

XXX / YYY
AM / PM Peak Hour PCE Volumes
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Opening Year (2021) with Project Peak Hour Traffic Volumes

# 7.0 INTERSECTION AND ROADWAY LEVELS OF SERVICE

## 7.1 EXISTING LEVELS OF SERVICE

### 7.1.1 Study Intersections

Previously referenced Figure 3-1 illustrates existing with project study intersection geometrics and traffic control. An intersection LOS analysis was conducted for existing conditions using the methodologies previously discussed. Table 7-A summarizes the results of this analysis and shows that the following intersection is currently operating at an unsatisfactory LOS:

- Juniper Avenue/Slover Avenue (both a.m. and p.m. peak hours).

All other study intersections are currently operating at a satisfactory LOS.

### 7.1.2 Roadway Segments

A roadway segment LOS analysis was conducted for existing conditions using the methodologies previously discussed. Table 7-B summarizes the results of this analysis and shows that the roadway segment is currently operating at a satisfactory LOS.

## 7.2 EXISTING WITH PROJECT LEVELS OF SERVICE

Analysis of the existing with project scenario is provided for CEQA compliance to identify direct project impacts if the project were to be built and in operation today. This scenario eliminates the effects of ambient growth and other cumulative projects and deals specifically with project impacts.

### 7.2.1 Study Intersections

An intersection LOS analysis was conducted for existing with project conditions using the methodologies previously discussed. Table 7-A summarizes the results of this analysis and shows that the following intersection is forecast to operate at an unsatisfactory LOS:

- Juniper Avenue/Slover Avenue (both a.m. and p.m. peak hours).

This intersection operates at an unsatisfactory LOS even under existing conditions. Hence, the project contributes to the existing deficiency at this intersection. As such, the project has a significant impact at this intersection. All other study intersections are forecast to operate at a satisfactory LOS.

### 7.2.2 Roadway Segments

A roadway segment LOS analysis was conducted for existing with project conditions using the methodologies previously discussed. Table 7-B summarizes the results of this analysis and shows that the roadway segment is forecast to operate at a satisfactory LOS under existing with project conditions.

## 7.3 OPENING YEAR (2021) WITHOUT PROJECT LEVELS OF SERVICE

### 7.3.1 Study Intersections

An intersection LOS analysis was conducted for opening year without project conditions using the methodologies previously discussed. Table 7-C summarizes the results of this analysis and shows that the following intersection is forecast to operate at an unsatisfactory LOS:

- Juniper Avenue/Slover Avenue (both a.m. and p.m. peak hours).

All other study intersections are forecast to operate at a satisfactory LOS.

### 7.3.2 Roadway Segments

A roadway segment LOS analysis was conducted for opening year without project conditions using the methodologies previously discussed. Table 7-D summarizes the results of this analysis and shows that the study roadway segment is forecast to operate at a satisfactory LOS.

## 7.4 OPENING YEAR (2021) WITH PROJECT LEVELS OF SERVICE

### 7.4.1 Study Intersections

An intersection LOS analysis was conducted for opening year with project conditions using the methodologies previously discussed. Table 7-C summarizes the results of this analysis and shows that the following intersection is forecast to operate at an unsatisfactory LOS:

- Juniper Avenue/Slover Avenue (both a.m. and p.m. peak hours).

This intersection is forecast to operate at an unsatisfactory LOS even under opening year without project conditions. Hence, the project contributes to the forecast deficiency at this intersection. As such, the project has a cumulative impact at this intersection. All other study intersections are forecast to operate at a satisfactory LOS.

### 7.4.2 Roadway Segments

A roadway segment LOS analysis was conducted for opening year with project conditions using the methodologies previously discussed. Table 7-D summarizes the results of this analysis and shows that the study roadway segment is forecast to operate at a satisfactory LOS.

Detailed Level of Service Worksheets are included in Appendix D.

## 7.5 LIST OF CHAPTER 7.0 FIGURES AND TABLES

- Table 7-A: Existing Intersection Levels of Service
- Table 7-B: Existing Roadway Segment Levels of Service
- Table 7-C: Opening Year (2021) Intersection Levels of Service
- Table 7-D: Opening Year (2021) Roadway Segment Levels of Service

LSA

## Table 7-A - Existing Intersection Levels of Service

| Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | | | With Project | | | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | A.M. Peak Hour | | | P.M. Peak Hour | | | A.M. Peak Hour | | | P.M. Peak Hour | | | |
| | | | | Delay (sec.) | LOS | | Delay (sec.) | LOS | | Delay (sec.) | LOS | | Delay (sec.) | LOS | | |
| | | | | | | | | | | | | | | | | |
| 1 . Juniper Avenue/Boyle Avenue | Fontana | TWSC | C | 7.3 | A | | 9.4 | A | | 7.3 | A | | 10.1 | B | | No |
| 2 . Juniper Avenue/Slover Avenue | Fontana | TWSC | C | 31.0 | **D** | * | 38.0 | **E** | * | 39.4 | **E** | * | 58.1 | **F** | * | **Yes** |
| 3 . Project Driveway 1/Boyle Avenue | Fontana | OWSC | C | *Does not exist* | | | *Does not exist* | | | 8.4 | A | | 8.5 | A | | No |
| | | | | | | | | | | | | | | | | |

**Notes:**

OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds. For OWSC and TWSC intersections, reported delay is for worst-case movement.

* Exceeds LOS Stndard

LSA

## Table 7-B - Existing Roadway Segment Levels of Service

| Roadway Segment | Jurisdiction | Classification[1] | Existing Number of Lanes | Without Project | | | | With Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Roadway Capacity[2] | Daily Volume | V/C Ratio | LOS | Roadway Capacity[2] | Daily Volume | V/C Ratio | LOS |
| **Segments on Slover Avenue** | | | | | | | | | | | |
| 1 . between Juniper Avenue and Sierra Avenue | Fontana | Primary Highway | 4 | 36,000 | 18,500 | 0.51 | A | 36,000 | 18,700 | 0.52 | A |
| | | | | | | | | | | | |

**Notes:**

LOS = Level of Service

* Exceeds LOS Standard

[1] Roadway Classifications for the segment has been obtained from the City of Fontana General Plan Community Mobility and Circulation Element, adopted November 2018.

[2] Roadway Capacity for the segment has been obtained from the City of Fontana General Plan Update Draft Environmental Report, dated June 2018.

LSA

## Table 7-C - Opening Year (2021) Intersection Levels of Service

| Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | | | With Project | | | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | A.M. Peak Hour | | | P.M. Peak Hour | | | A.M. Peak Hour | | | P.M. Peak Hour | | | |
| | | | | Delay (sec.) | LOS | | Delay (sec.) | LOS | | Delay (sec.) | LOS | | Delay (sec.) | LOS | | |
| | | | | | | | | | | | | | | | | |
| 1 . Juniper Avenue/Boyle Avenue | Fontana | TWSC | C | 7.3 | A | | 9.6 | A | | 7.3 | A | | 10.4 | B | | No |
| 2 . Juniper Avenue/Slover Avenue | Fontana | TWSC | C | 44.1 | **E** | * | >100 | **F** | * | 61.6 | **F** | * | >100 | **F** | * | **Yes** |
| 3 . Project Driveway 1/Boyle Avenue | Fontana | OWSC | C | *Does not exist* | | | *Does not exist* | | | 8.4 | A | | 8.5 | A | | No |
| | | | | | | | | | | | | | | | | |

**Notes:**

OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds. For OWSC and TWSC intersections, reported delay is for worst-case movement.

* Exceeds LOS Standard

LSA

## Table 7-D - Opening Year (2021) Roadway Segment Levels of Service

| Roadway Segment | Jurisdiction | Classification[1] | Existing Number of Lanes | Without Project | | | | With Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Roadway Capacity[2] | Daily Volume | V/C Ratio | LOS | Roadway Capacity[2] | Daily Volume | V/C Ratio | LOS |
| **Segments on Slover Avenue** | | | | | | | | | | | |
| 1 . between Juniper Avenue and Sierra Avenue | Fontana | Primary Highway | 4 | 36,000 | 20,720 | 0.58 | A | 36,000 | 20,920 | 0.58 | A |
| | | | | | | | | | | | |

**Notes:**

LOS = Level of Service

* Exceeds LOS Standard

[1] Roadway Classifications for the segment has been obtained from the City of Fontana General Plan Community Mobility and Circulation Element, adopted November 2018.

[2] Roadway Capacity for the segment has been obtained from the City of Fontana General Plan Update Draft Environmental Report, dated June 2018.

# 8.0 CIRCULATION IMPROVEMENTS AND FUNDING SOURCES

## 8.1 RECOMMENDED IMPROVEMENTS

Improvements have been recommended at study area intersection where a significant impact has been identified or where the project contributes to an unsatisfactory LOS.

Table 8-A lists the intersection improvements required to meet the City's level of service standard and offset project impacts under existing and opening year with project conditions for the intersection of Juniper Avenue/Slover Avenue. Intersection geometrics and traffic control for existing and opening year conditions with recommended improvements are illustrated in Figure 8-1. Tables 8-B and 8-C show the levels of service at study area intersections with the recommended improvements under existing and opening year conditions, respectively.

## 8.2 FUNDING SOURCES AND MECHANISMS

San Bernardino County Transportation Authority (SBCTA) is the County Transportation Commission for the County and member Cities of San Bernardino. SBCTA is responsible for cooperative regional planning and furthering of an efficient countywide multimodal transportation system, and supporting freeway construction projects, regional and local road improvements, transit, congestion management efforts, and long-term planning studies.

In the San Bernardino Valley area, local jurisdictions implement development mitigation programs that generate development contributions for regional transportation improvements equal to or greater than fair-share contributions determined through the Nexus Study. Regional transportation facilities addressed by the Nexus Study include freeway interchanges, railroad grade separations, and regional arterial highways on the Nexus Network. Local jurisdiction development mitigation programs are required to comply with requirements established in Appendix J of the CMP. Each local jurisdiction, including the City of Fontana, has adopted and is required to implement a compliant development mitigation program for the Nexus Network based on the requirements established in the CMP.

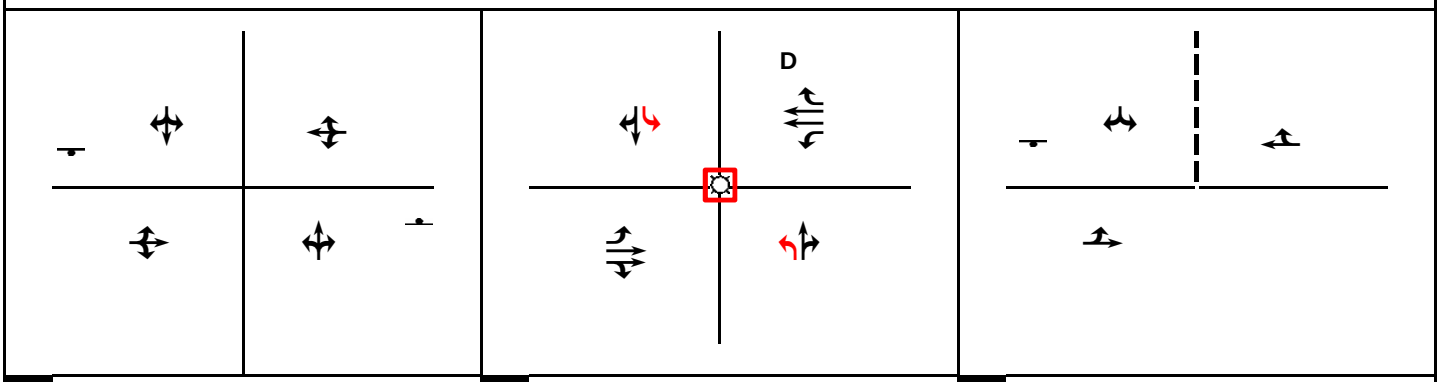
Where there is a funding mechanism (fee program) for the recommended improvements, payment into the fee program would be considered sufficient project obligation to alleviate project impacts. Previously referenced Table 8-A summarizes the applicable funding mechanism for the recommended intersection improvements under existing and opening year (2021) with project conditions. The intersection of Juniper Avenue/Slover Avenue operates at a deficient LOS under existing and opening year without project conditions. As such, the project contributes to the existing and forecast deficiencies at this intersection.

Prior to issuance of an occupancy permit, the applicant shall construct the improvements required at the Juniper Avenue/Slover Avenue intersection to maintain a level of service C or better. As such, the City will add the intersection improvements to the 2021-2022 Measure I Nexus Study list and the Capital Project Needs Analysis (CPNA) project list and enter into a reimbursement agreement with the applicant to reimburse the cost of the improvements minus the fair share amount identified in the traffic study. The project's fair share has been calculated as a percentage of total growth from

existing to opening year conditions, which is 18.42 percent. This measure shall be implemented to the satisfaction of the City of Fontana Director of Engineering, or designee.

## 8.3 LIST OF CHAPTER 8.0 FIGURES AND TABLES

- Figure 8-1: Existing and Opening Year (2021) with Project with Improvements Intersection Geometric and Traffic Control
- Table 8-A: Recommended Intersection Improvements and Funding Sources
- Table 8-B: Existing with Project Recommended Improvements Intersection Levels of Service
- Table 8-C: Opening Year (2021) with Project Recommended Improvements Intersection Levels of Service




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

LSA

FIGURE 8-1

Legend

- Stop Sign
- D De Facto Right Turn
- Signal
- Project Driveway
- Recommended Improvement

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Existing and Opening Year with Project with Improvements Study Intersections Geometric and Traffic Control

R:\CFN1702.24_Transwestern Boyle Building 1\Technical Studies\Traffic\May 2020\g12 - Geo_MIT.xlsx\Figure (5/30/2020)

**Table 8-A - Recommended Intersection Improvements and Funding Sources**

| Intersection | Jurisdiction | Existing with Project Improvements | Opening Year (2021) with Project Improvements | Funding Sources | Project Fair Share[1] |
|---|---|---|---|---|---|
| 2 . Juniper Avenue/Slover Avenue | Fontana | Install a traffic signal. Restripe the NB approach to add a dedicated NBL and a NBTR. There is sufficient right-of-way available for implementation of this improvement. Additionally, a dedicated SBL lane will be required for the SB approach. This will require widening the SB approach by approximately 22 feet. The conceptual design of these improvements are illustrated in Figure 10-3. | No additional improvements are required beyond what is required under Existing with Project conditions. | SBCTA Nexus Study | 18.42% |

**Notes:**

NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound

L, T, R = Left, Through, Right

SBCTA = San Bernardino County Transportation Authority

[1] The project's fair share has been calculated based on project traffic as a percentage of total growth from existing to opening year (2021) conditions.

LSA

## Table 8-B - Existing with Project Recommended Improvements Intersection Levels of Service

| Intersection | Jurisdiction | With Project Without Improvements | | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Control | A.M. Peak Hour | | | P.M. Peak Hour | | | Control | A.M. Peak Hour | | P.M. Peak Hour | |
| | | | Delay (sec.) | LOS | | Delay (sec.) | LOS | | | Delay (sec.) | LOS | Delay (sec.) | LOS |
| | | | | | | | | | | | | | |
| 2 . Juniper Avenue/Slover Avenue | Fontana | TWSC | 39.4 | E | * | 58.1 | F | * | Signal | 33.8 | C | 30.6 | C |
| | | | | | | | | | | | | | |

**Notes:**

LOS = Level of Service; TWSC = Two Way Stop Control

Delay = Average control delay in seconds. For TWSC intersection, reported delay is for worst-case movement.

* Exceeds LOS Standard

LSA

## Table 8-C - Opening Year (2021) with Project Recommended Improvements Intersection Levels of Service

| Intersection | Jurisdiction | With Project Without Improvements | | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Control | A.M. Peak Hour | | | P.M. Peak Hour | | | Control | A.M. Peak Hour | | P.M. Peak Hour | |
| | | | Delay (sec.) | LOS | | Delay (sec.) | LOS | | | Delay (sec.) | LOS | Delay (sec.) | LOS |
| | | | | | | | | | | | | | |
| 2 . Juniper Avenue/Slover Avenue | Fontana | TWSC | 61.6 | F | * | >100 | F | * | Signal | 34.1 | C | 31.1 | C |
| | | | | | | | | | | | | | |

**Notes:**

LOS = Level of Service; TWSC = Two Way Stop Control

Delay = Average control delay in seconds. For TWSC intersection, reported delay is for worst-case movement.

* Exceeds LOS Standard

# 9.0 SIGNAL WARRANT ANALYSIS

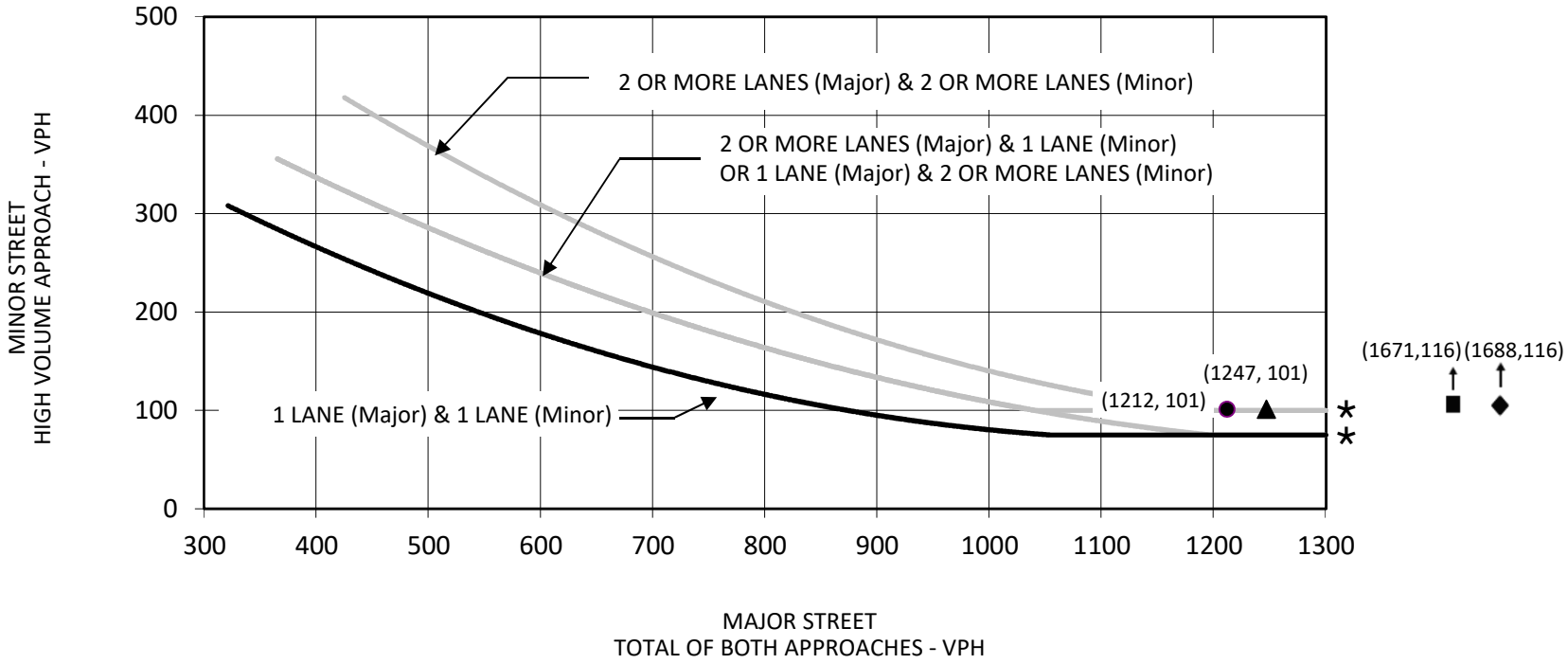
A peak hour signal warrant analysis was conducted at the intersection of Juniper Avenue/Slover Avenue under existing and opening year conditions to consider the feasibility of installing a signal as an improvement. As stated in the City's draft TIA guidelines, a peak hour signal warrant analysis shall utilize the peak hour warrants from the most recent edition the *California Manual on Uniform Traffic Control Devices (CAMUTCD)*. Therefore, this analysis is based on the provisions of the CAMUTCD, 2014, Chapter 4C– *Traffic Control Signal Needs Studies* for Warrant 3 – Peak Hour. The peak hour signal warrant is intended for use where traffic conditions are such that for a minimum of one hour on an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. Figure 9-1 and 9-2 illustrates the peak hour signal warrants at this intersection under existing and opening year conditions, respectively. As illustrated in Figures 9-1 and 9-2, a signal will be warranted at the intersection of Juniper Avenue/Slover Avenue under existing and opening year without project conditions.

## 9.1 LIST OF CHAPTER 9.0 FIGURES

- Figure 9-1: Existing Conditions Peak Hour Warrant
- Figure 9-2: Opening Year (2021) Conditions Peak Hour Warrant

# WARRANT 3, PEAK HOUR (70% FACTOR)

**(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)**




* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 9-1

● No Project AM Peak Hour

▲ With Project AM Peak Hour

■ No Project PM Peak Hour

◆ With Project PM Peak Hour

*Transwestern Building 1*

*Focused Traffic Impact Analysis*

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Existing Conditions Peak Hour Warrant

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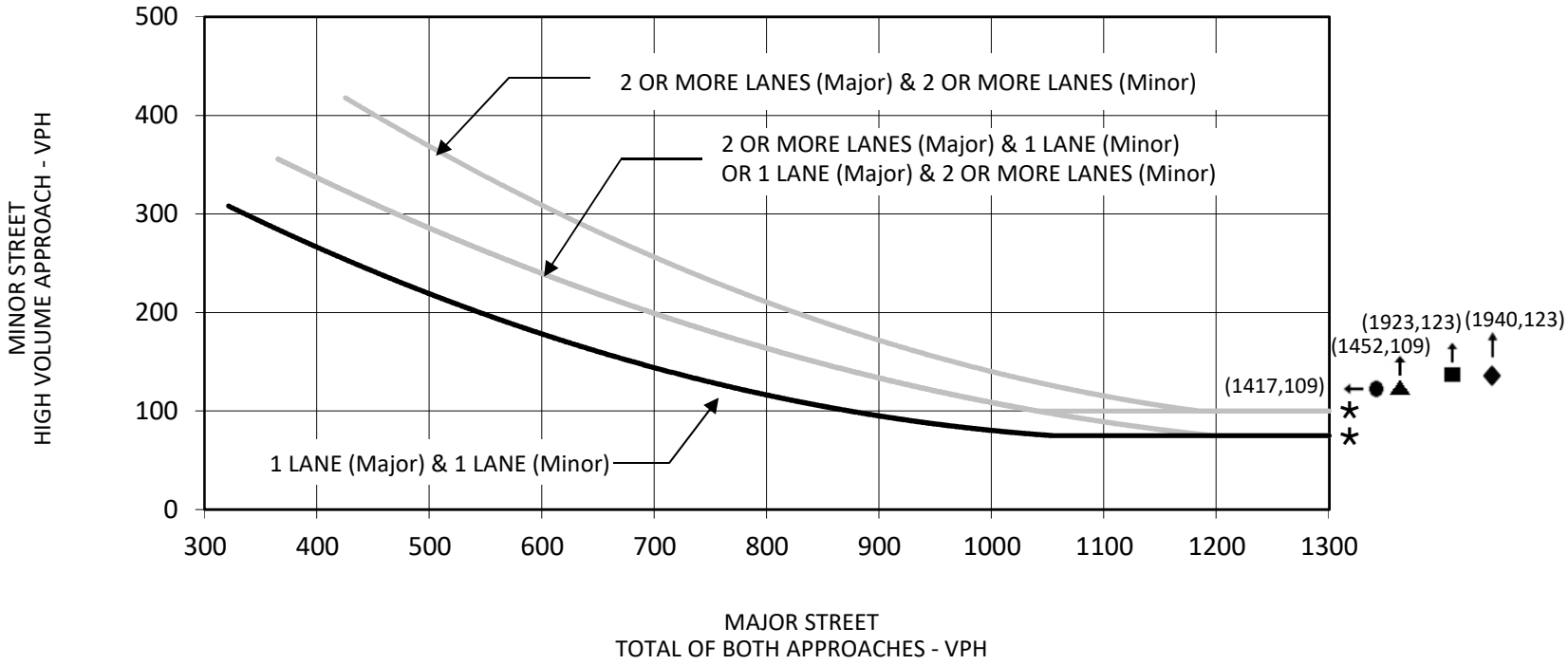
# WARRANT 3, PEAK HOUR (70% FACTOR)

**(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)**




* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 9-2

● No Project AM Peak Hour

▲ With Project AM Peak Hour

■ No Project PM Peak Hour

◆ With Project PM Peak Hour

*Transwestern Building 1*

*Focused Traffic Impact Analysis*

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Opening Year (2021) Conditions Peak Hour Warrant

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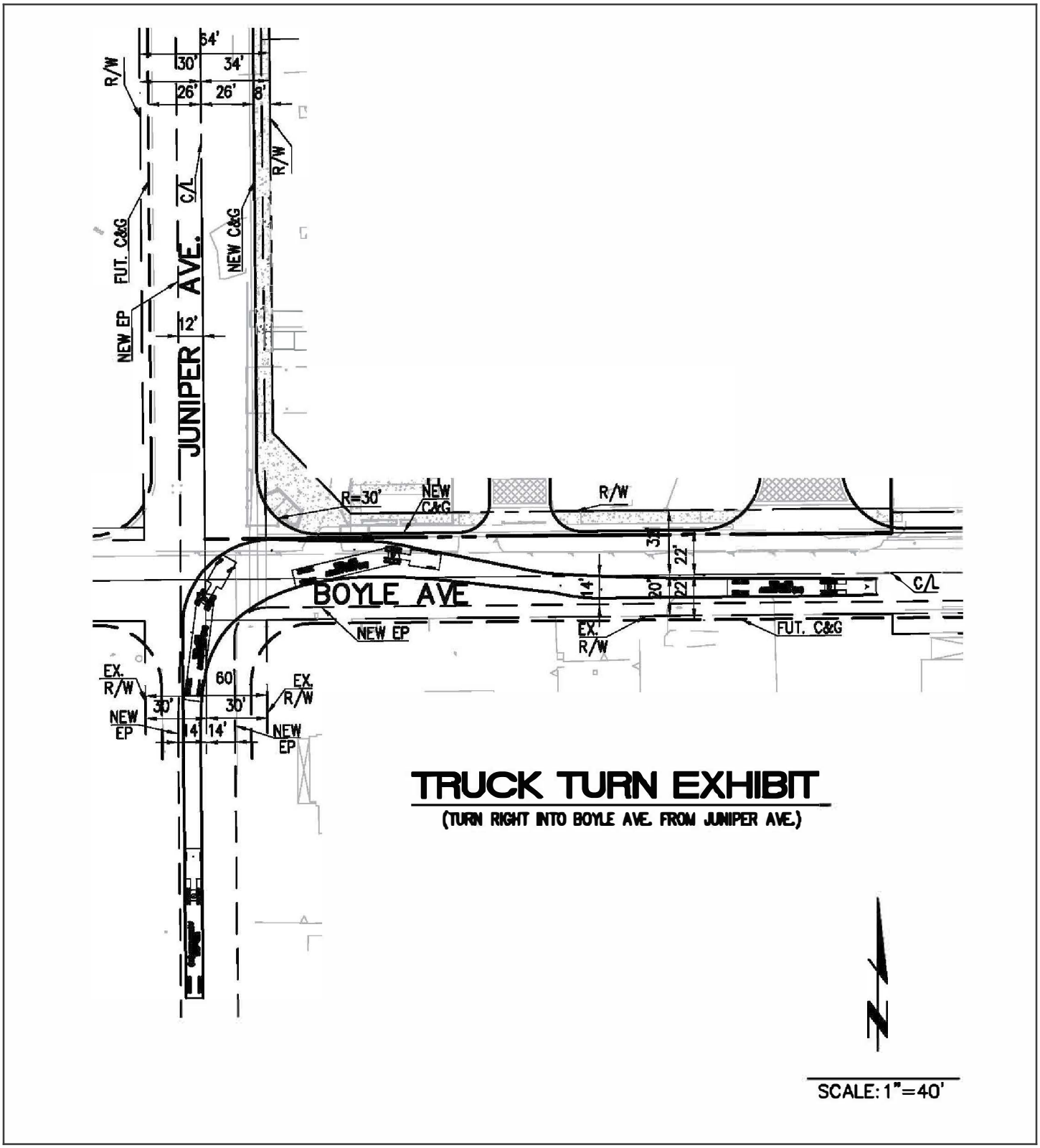
# 10.0 SITE CIRCULATION ANALYSIS

Since the project will be accessed by significant number of trucks, adequacy of turning radii at the study intersections for truck ingress/egress was analyzed. Truck turning templates were obtained from the ITE Turning Vehicle Templates Manual. For the truck turning figures, WB-67 templates were used as a conservative approach. Ingress and egress movements for WB-67 trucks at the intersection of Juniper Avenue/Boyle Avenue are illustrated in Figures 10-1 and 10-2, respectively. Figure 10-3 illustrates both the ingress and egress truck turning movements at the intersection of Juniper Avenue/Slover Avenue. As illustrated in these figures, the trucks will have adequate turning radii for both ingress and egress movements at the intersections of Juniper Avenue/Boyle Avenue and Juniper Avenue/Slover Avenue. Additionally, adequate space is available on-site for the trucks to park during loading and unloading operations.

## 10.1 LIST OF CHAPTER 10.0 FIGURES

- Figure 10-1: Juniper Avenue/Boyle Avenue Truck Turn Exhibit – Inbound
- Figure 10-2: Juniper Avenue/Boyle Avenue Truck Turn Exhibit – Outbound
- Figure 10-3: Juniper Avenue/Slover Avenue Truck Turn Exhibit – Inbound and Outbound




LSA

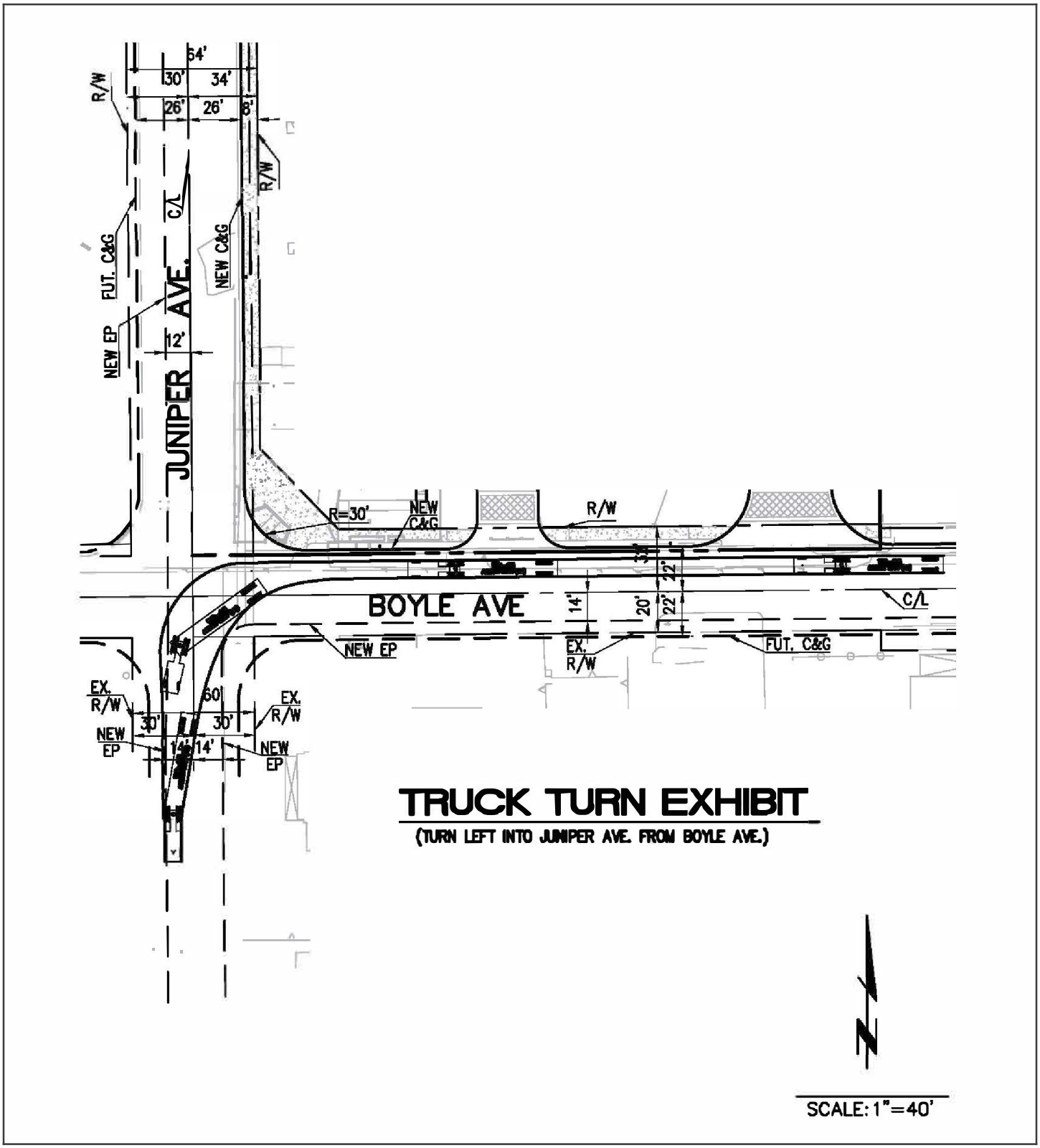
FIGURE 10-1

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Juniper Avenue/Boyle Avenue Truck Turn Exhibit - Inbound

SOURCE: Transwestern Development Company, May 2020

I:\CFN1702.24\Reports\Traffic\fig10-1_Truck_Turning_In.ai (05/19/2020)




LSA

FIGURE 10-2

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Juniper Avenue/Boyle Avenue Truck Turn Exhibit - Outbound

SOURCE: Transwestern Development Company, May 2020

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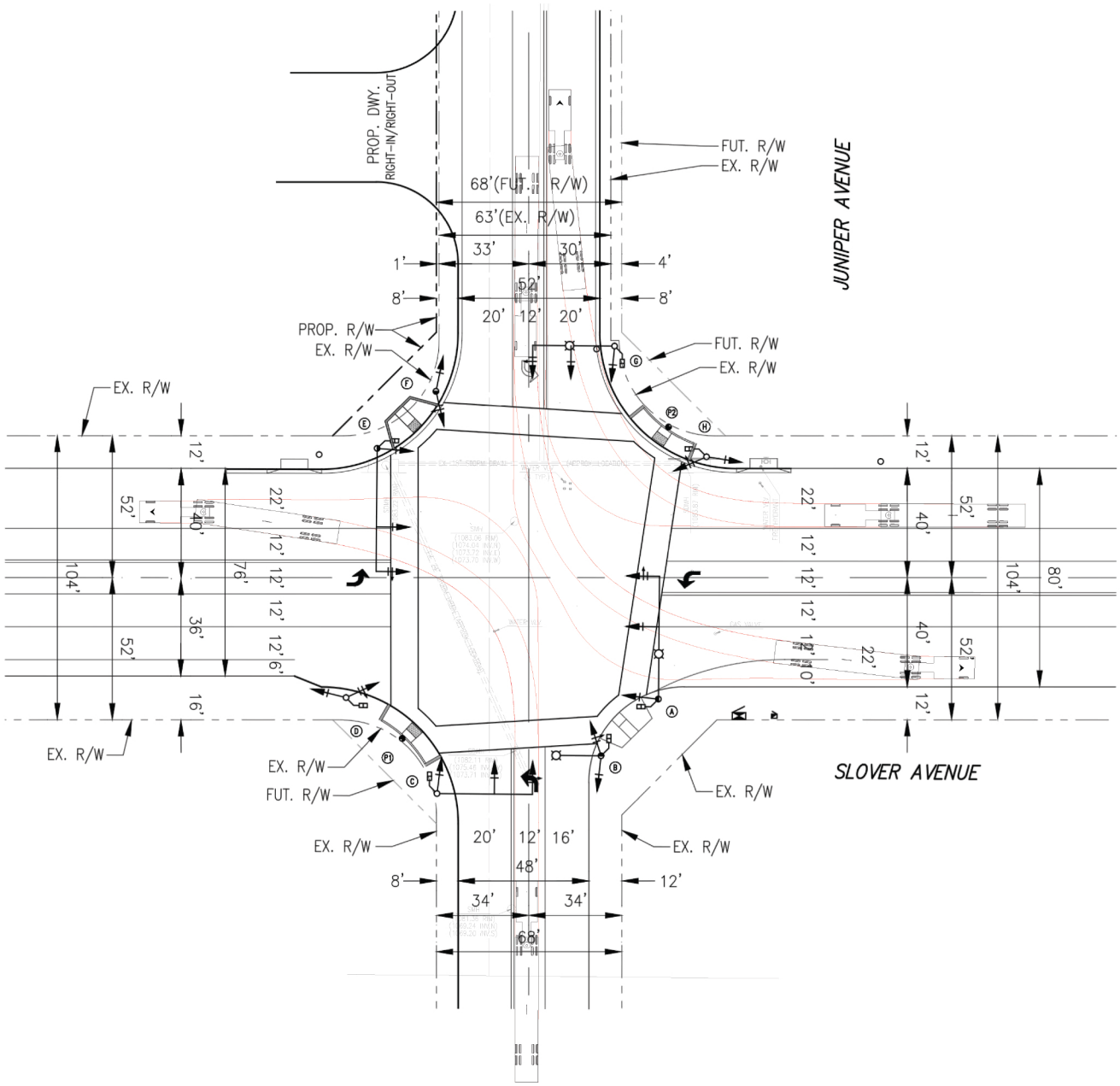


LSA

FIGURE 10-3

N

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Juniper Avenue/Slover Avenue Truck Turn Exhibit - Inbound and Outbound

SOURCE: Transwestern Development Company, May 2020

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# 11.0 SUMMARY AND CONCLUSIONS

The proposed Transwestern Building 1 Project consists of a 176,219 sf logistics/distribution warehouse building. The proposed project is forecast to generate 468 daily PCE trips, with 49 PCE trips occurring during the a.m. peak hour and 51 PCE trips occurring during the p.m. peak hour.

## 11.1 EXISTING CONDITIONS SUMMARY

Based on the of significance criteria as discussed in the Section 2.3 "Significance Threshold" of this report, a significant project impact occurs at the intersection of Juniper Avenue/Slover Avenue under existing conditions. All other intersections are forecast to operate at a satisfactory LOS under existing without and with project conditions. Also, the roadway segment is forecast to operate at a satisfactory LOS under existing without and with project conditions. With the implementation of the improvements listed in Table 8-A, this intersection is forecasted to operate at a satisfactory LOS.

## 11.2 OPENING YEAR (2021) CONDITIONS SUMMARY

Based on the of significance criteria as discussed in the Section 2.3 "Significance Threshold" of this report, a cumulative project impact occurs at the intersection of Juniper Avenue/Slover Avenue under opening year conditions. All other intersections are forecast to operate at a satisfactory LOS under opening year without and with project conditions. Also, the roadway segment is forecast to operate at a satisfactory LOS under opening year without and with project conditions. With the implementation of the improvements listed in Table 8-A, this intersection is forecast to operate at a satisfactory LOS.

## 11.3 RECOMMENDED IMPROVEMENTS AND FUNDING SOURCES AND MECHANISMS

Where there is a funding mechanism (fee program) for the recommended improvements, payment into the fee program would be considered sufficient project obligation to alleviate project impacts. Previously referenced Table 8-A summarizes the applicable funding mechanism for the recommended intersection improvements under existing and opening year (2021) with project conditions. The intersection of Juniper Avenue/Slover Avenue operates at a deficient LOS under existing and opening year without project conditions. As such, the project contributes to the existing and forecast deficiencies at this intersection.

Prior to issuance of an occupancy permit, the applicant shall construct the improvements required at the Juniper Avenue/Slover Avenue intersection to maintain a level of service C or better. As such, the City will add the intersection improvements to the 2021-2022 Measure I Nexus Study list and the Capital Project Needs Analysis (CPNA) project list and enter into a reimbursement agreement with the applicant to reimburse the cost of the improvements minus the fair share amount identified in the traffic study. The project's fair share has been calculated as a percentage of total growth from existing to opening year conditions, which is 18.42 percent.

## 11.4 SITE CIRCULATION SUMMARY

Since the project will be accessed by significant number of trucks, adequacy of turning radii for truck ingress/egress was analyzed for the intersections of Juniper Avenue/Boyle Avenue and Juniper Avenue/Slover Avenue. Based on the analysis, it was determined that these intersections have sufficient turning radii for inbound and outbound trucks. Additionally, adequate space is available on-site for the trucks to park during loading and unloading operations.

# APPENDIX A:

# SCOPING AGREEMENT

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

May 11, 2020

Mahmoud Khodr
Senior Traffic Engineer
City of Fontana
8353 Sierra Avenue
Fontana, California 92335

Subject: Scope of Work for the Transwestern Building 1 Project Focused Traffic Impact Analysis (LSA Project No. CFN1702.24)

Dear Mahmoud:

LSA is under contract to prepare a Focused Traffic Impact Analysis (TIA) for the proposed Transwestern Building 1 Project to be located at 16796 Boyle Avenue in the City of Fontana (City).

The project site is zoned General Industrial (M-2) with a General Industrial (I-G) land use designation in the Fontana General Plan. Therefore, the proposed project conforms to the City's anticipated development of the neighborhood. The proposed project would include a 176,219 square-foot logistics/distribution warehouse building. Figure 1 (all figures attached) illustrates the regional and project location. Figure 2 illustrates the conceptual site plan. As illustrated in Figure 2, access to the project will be provided through two full-access driveways on Boyle Avenue. The easterly driveway on Boyle Avenue is located at the end of the cul-de-sac.

LSA anticipates that the following scope of work will be required to conduct the traffic impact analysis for the proposed project.

## SCOPE OF WORK

### Project Trip Generation

The trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (10th edition) for Land Use 150 – "Warehousing." The resulting trips were converted to trucks and passenger vehicles based on the South Coast Air Quality Management District (SCAQMD) requirements for warehousing projects. As such, 31 percent of project traffic will be trucks. Based on the *City of Fontana Draft Traffic Impact Analysis Guidelines*, all truck trips were converted to passenger car equivalents (PCEs) using a 2.0 PCE factor for 2-axle trucks, 2.5 for 3-axle trucks, and 3.0 for 4- and more axle trucks. As shown in Table A, the project is anticipated to generate 468 passenger car equivalent (PCE) daily trips, with 49 PCE trips occurring in the a.m. peak hour and 51 PCE trips occurring in the p.m. peak hour.


1500 Iowa Avenue, Suite 200, Riverside, California 92507 951.781.9310 www.lsa.net

Generalized trip distribution patterns were developed based on the location of the proposed project in relation to surrounding land uses and the regional roadway network. Since trucks typically have different travel patterns than passenger vehicles, two separate trip distributions were developed. Figure 4 illustrates the project passenger vehicle trip distribution at study intersections. Figure 5 illustrates the project truck trip distribution at study intersections.

The project trip assignment is the product of the project trip generation and the trip distribution percentages. Figure 6 illustrates the project passenger vehicle trip assignment. Figure 7 illustrates the project truck trip assignment (in PCEs). Figure 8 illustrates the total project trip assignment (in PCEs) for the proposed project.

## Study Intersection Analysis

Based on the project's location, the TIA for the proposed project will be prepared to meet the requirements of the disclosure of potential impacts and mitigation measures pursuant to the California Environmental Quality Act (CEQA) and the City's TIA guidelines. Based on the City's TIA guidelines, the study area shall generally include any intersection on which the proposed project will add 50 or more peak hour trips or other intersections where addition of project trips may create significant impact. Based on our preliminary understanding of the project study area, the following intersections are being proposed for analysis:

1. Juniper Avenue/Boyle Avenue;
2. Juniper Avenue/Slover Avenue; and
3. Project Driveway/Boyle Avenue.

It should be noted that the second project driveway is located at the end of the Boyle Avenue cul-de-sac. For purposes of the focused TIA, the second project driveway has not been included in the list of intersections for the analysis.

Figure 3 illustrates the study area intersections.

All study intersections will be analyzed during the a.m. and p.m. peak hours. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. while the p.m. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m. In accordance with City requirements, intersection levels of service (LOS) will be calculated using the *Highway Capacity Manual 6* (HCM 6) analysis methodologies and using Synchro 10 software.

## Roadway Segment Analysis

A roadway segment analysis will be conducted based on daily traffic volumes. Roadway segments with more than 50 peak hour project trips or where the ultimate street cross-sections are not constructed will be analyzed. The LOS analysis will be conducted using vehicle-to-capacity ratios as outlined in the City's General Plan. The following roadway segment will be included in the analysis:

1. Slover Avenue, between Juniper Avenue and Sierra Avenue.

## Analysis Scenarios

The TIA will be prepared to meet the requirements of the City. The project opening year is anticipated to be 2021. LSA proposes to analyze a.m. and p.m. peak hour traffic operations at the study area intersections for the following scenarios:

- Existing Conditions;
- Existing plus Project Conditions;
- Opening Year without Project Conditions; and
- Opening Year with Project Conditions.

## Volume Development and Analysis Methodology

Traffic volumes for existing year traffic conditions are typically developed using existing count data collected at study intersections. Due to the current school and office closures statewide due to COVID-19, new traffic counts will not reflect realistic traffic conditions at the study intersections. Therefore, LSA will consult with City staff and traffic counters to obtain historic traffic counts at all study intersections. LSA proposes to apply an annual growth rate to the historic counts to develop existing traffic volumes. The growth rate will be developed using growth factors obtained from San Bernardino County Transportation Analysis Model (SBTAM).

Opening year traffic conditions will be developed by applying a 2 percent per annum growth rate to existing traffic volumes and adding approved and pending trips from other cumulative projects in the vicinity to the existing plus project volumes. LSA has contacted the City's Planning Department to obtain information regarding cumulative projects that needs to be included in the analysis. The list of cumulative projects to be considered for the analysis has been included in Table B. Cumulative project locations are illustrated in Figure 9.

Existing and opening year with project volumes will be developed by adding project traffic to the corresponding without project scenarios.

As previously stated, the TIA will analyze study intersections during the a.m. and p.m. peak hours. Intersection LOS will be calculated using HCM 6 analysis methodologies by using the Synchro 10 software.

## Project Impact Assessment and Mitigation Measures

Levels of service without the project will be compared to levels of service with the project for all analysis scenarios to determine potential project impacts. Determination of significant project impacts will be made based on the LOS standards and significance threshold criteria as applicable for the City.

Mitigation measures will be recommended at locations operating at an unsatisfactory LOS or where the project causes significant impacts. Mitigation measures may include addition of intersection turn

lanes, and signalization. The LOS with mitigation will be calculated and summarized along with a comparison of the LOS without mitigation.

### Signal Warrant Analysis

A signal warrant analysis would be conducted at unsignalized intersections if a signal is recommended as a mitigation measure. Peak hour approach volumes for the study intersections will be examined to determine whether signalization may be warranted per the criteria defined in the California supplement of the Manual on Uniform Traffic Control Devices (CA-MUTCD).

### DIF/Fair Share Contributions

LSA will evaluate whether the mitigation measures identified in the TIA are included as part of the San Bernardino County Transportation Authority (SBCTA) Nexus Study or the City's Development Impact Fees (DIF). If it is determined that the improvement is not covered through the Nexus Study or DIF programs, the project's fair share contribution will be calculated based on the project traffic as a percentage of total growth from existing to project opening year conditions.

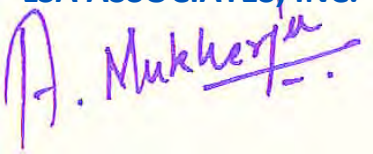
### Site Circulation Analysis

Since the project will be accessed by significant number of trucks, adequacy of turning radii at the study intersections for truck ingress/egress will be analyzed. LSA will use truck turning templates to determine if trucks will have adequate turning radii for both ingress and egress movements at the intersections of Juniper Avenue/Boyle Avenue and Juniper Avenue/Slover Avenue.

Should you have any questions, please do not hesitate to contact me at (951) 781-9310 or email me at Ambarish.Mukherjee@lsa.net.

Sincerely,

**LSA ASSOCIATES, INC.**



Ambarish Mukherjee, AICP, PE
Principal

Attachments:

Table A: Project Trip Generation
Table B: Cumulative Projects
Figure 1: Regional and Project Location
Figure 2: Conceptual Site Plan
Figure 3: Study Area Intersections

Figure 4: Project Trip Distribution – Passenger Vehicles
Figure 5: Project Trip Distribution – Trucks
Figure 6: Project Trip Assignment – Passenger Vehicles
Figure 7: Project Trip Assignment – Trucks
Figure 8: Total Project Trip Assignment
Figure 9: Cumulative Project Locations

# TABLES

LSA

## Table A - Project Trip Generation

| Land Uses | Units | A.M. Peak Hour In | A.M. Peak Hour Out | A.M. Peak Hour Total | P.M. Peak Hour In | P.M. Peak Hour Out | P.M. Peak Hour Total | Daily |
|---|---|---|---|---|---|---|---|---|
| **Warehouse[1]** | | | | | | | | |
| | 176.22 TSF | | | | | | | |
| Trips/Unit (Cars) | | 0.089 | 0.028 | 0.117 | 0.033 | 0.098 | 0.131 | 1.201 |
| Trips/Unit (2-Axle Trucks) | | 0.009 | 0.003 | 0.012 | 0.004 | 0.009 | 0.013 | 0.118 |
| Trips/Unit (3-Axle Trucks) | | 0.007 | 0.002 | 0.009 | 0.003 | 0.007 | 0.010 | 0.096 |
| Trips/Unit (4+ Axle Trucks) | | 0.025 | 0.007 | 0.032 | 0.010 | 0.026 | 0.036 | 0.325 |
| Trips/Unit (Total) | | 0.130 | 0.040 | 0.170 | 0.050 | 0.140 | 0.190 | 1.740 |
| Trip Generation (Cars) | | 16 | 5 | 21 | 6 | 17 | 23 | 212 |
| Trip Generation (2-Axle Trucks) | | 2 | 0 | 2 | 1 | 1 | 2 | 21 |
| Trip Generation (3-Axle Trucks) | | 1 | 1 | 2 | 1 | 1 | 2 | 17 |
| Trip Generation (4+ Axle Trucks) | | 4 | 2 | 6 | 2 | 4 | 6 | 57 |
| Trip Generation (Total) | | 23 | 8 | 31 | 10 | 23 | 33 | 307 |
| Trip Generation (Cars) | | 16 | 5 | 21 | 6 | 17 | 23 | 212 |
| PCE Trip Generation (2-Axle Trucks) | | 4 | 0 | 4 | 2 | 2 | 4 | 42 |
| PCE Trip Generation (3-Axle Trucks) | | 3 | 3 | 6 | 3 | 3 | 6 | 43 |
| PCE Trip Generation (4+ Axle Trucks) | | 12 | 6 | 18 | 6 | 12 | 18 | 171 |
| **PCE Trip Generation (Total)** | | **35** | **14** | **49** | **17** | **34** | **51** | **468** |

**Notes:**

TSF = thousand square-feet

[1] The trip generation was developed based on the Institute of Transportation Engineers (ITE)*Trip Generation Manual* (10th edition) rates for Land Use 150 – "Warehousing." The resulting trips were converted to trucks and passenger vehicles based on the South Coast Air Quality Management District (SCAQMD) recommendations for warehousing projects. As such, 31 percent of project traffic will be trucks. Based on Vehicle Mix from the SCAQMD,*Warehouse Truck Trip Study Data Results and Usage* , dated December 2014, the truck mix was considered as 18.7% 4-axle, 5.5% 3-axle, and 6.8% 2-axle trucks. Based on the City of Fontana*Draft Traffic Impact Analysis Guidelines* , all truck trips were converted to passenger car equivalents (PCEs) using a 2.0 PCE factor for 2-axle trucks, 2.5 for 3-axle trucks, and 3.0 for 4- and more axle trucks.

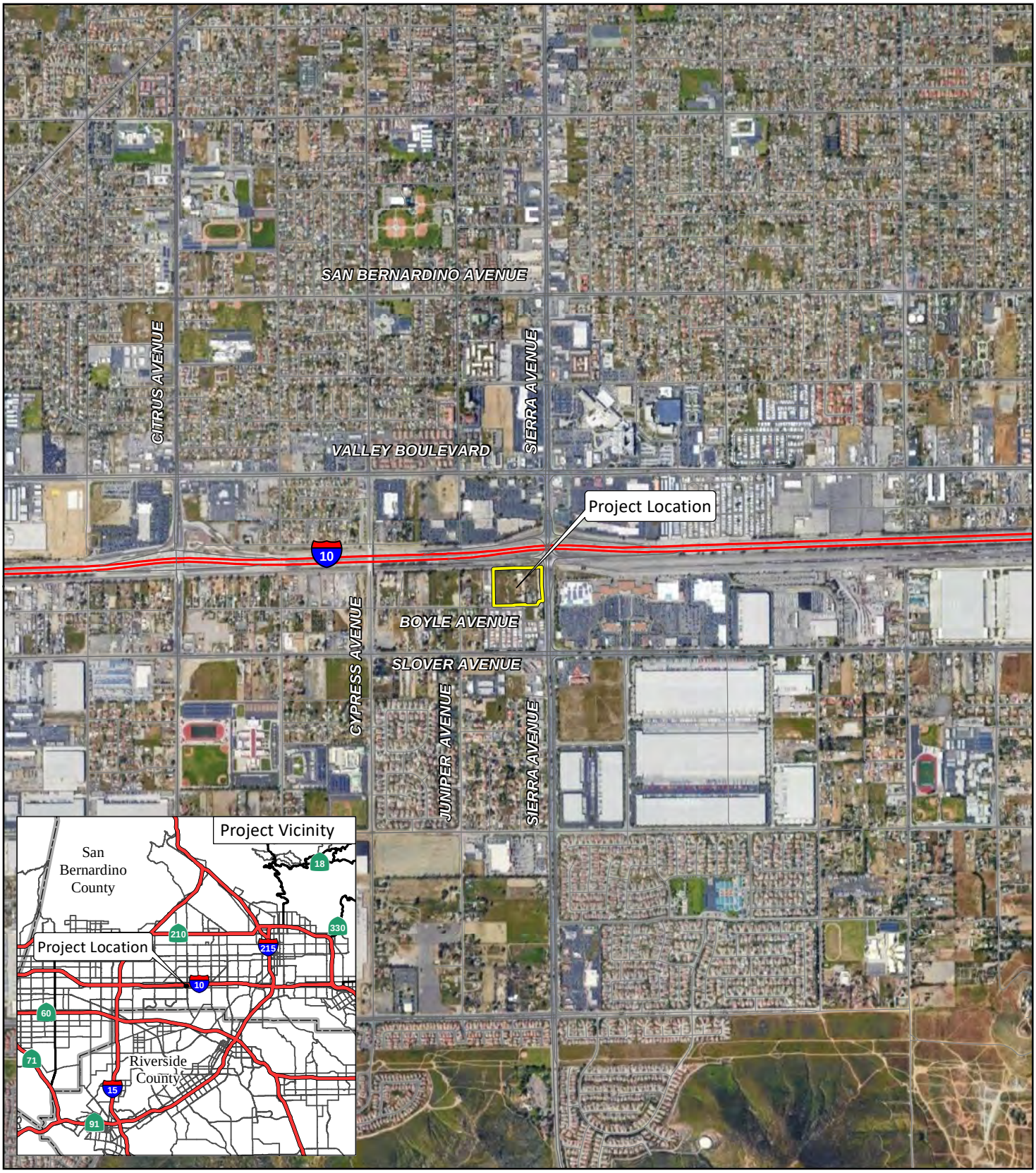
LSA

**Table B - Cumulative Projects**

| Project No. | Project Name | Address | City | Project Description | Building Total Square Feet/Dwelling Units/Other |
|---|---|---|---|---|---|
| 1 | Warehouse | 16262 Boyle Avenue | Fontana | Warehouse | 88.98 TSF |
| 2 | Warehouse | 16346 Boyle Avenue | Fontana | Warehouse | 94.22 TSF |
| 3 | Truck Repair Center | 16374 Slover Avenue | Fontana | Truck Repair Center | 5.46 TSF |
| 4 | Southwest Fontana Logistics Center | 11263 Oleander Avenue | Fontana | Logistics Center | 1,628.94 TSF warehouse |
| 5 | Warehouse | 16609 Slover Avenue | Fontana | Warehouse | 133 TSF |
| 6 | Southwest Fontana Logistics Center Sports Park | 16679 Santa Ana Avenue | Fontana | Sports Park | 18.2 AC |
| 7 | Transwestern Building 2 | 16748 Boyle Avenue | Fontana | Warehouse | 76.56 TSF |
| 8 | Hotel | Southeast Corner of Juniper Avenue and Slover Avenue | Fontana | Hotel | 104 RM |
| 9 | Warehouse | 11259 Juniper Avenue | Fontana | Warehouse | 754.41 TSF |
| 10 | Coffee Shop | 9610 Sierra Avenue | Fontana | Coffee and dount shop with Drive-Through | 7.55 TSF |
| 11 | JLL Retail | 9610 Sierra Avenue | Fontana | Commercial/Retail | 59.39 TSF |
| 12 | Townplace Suites Hotel | 10530 Sierra Avenue | Fontana | Hotel | 116 RM |
| 13 | Quick Quack Car Wash | 11141 Sierra Avenue | Fontana | Self-service Car Wash | 3.58 TSF |
| 14 | Tire Shop | 17256 Slover Avenue | Fontana | Tire Shop | 7.85 TSF |
| 15 | West Valley Logistics Center | West of Locust Avenue, South of Jurupa Avenue | Fontana | Logistics Center | 3470.00 TSF |
| 16 | Warehouse | 16726 Slover Avenue | Fontana | Warehouse | 41.00 TSF |

**Notes:**
DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms; AC = Acres

# FIGURES




LSA

FIGURE 1

N

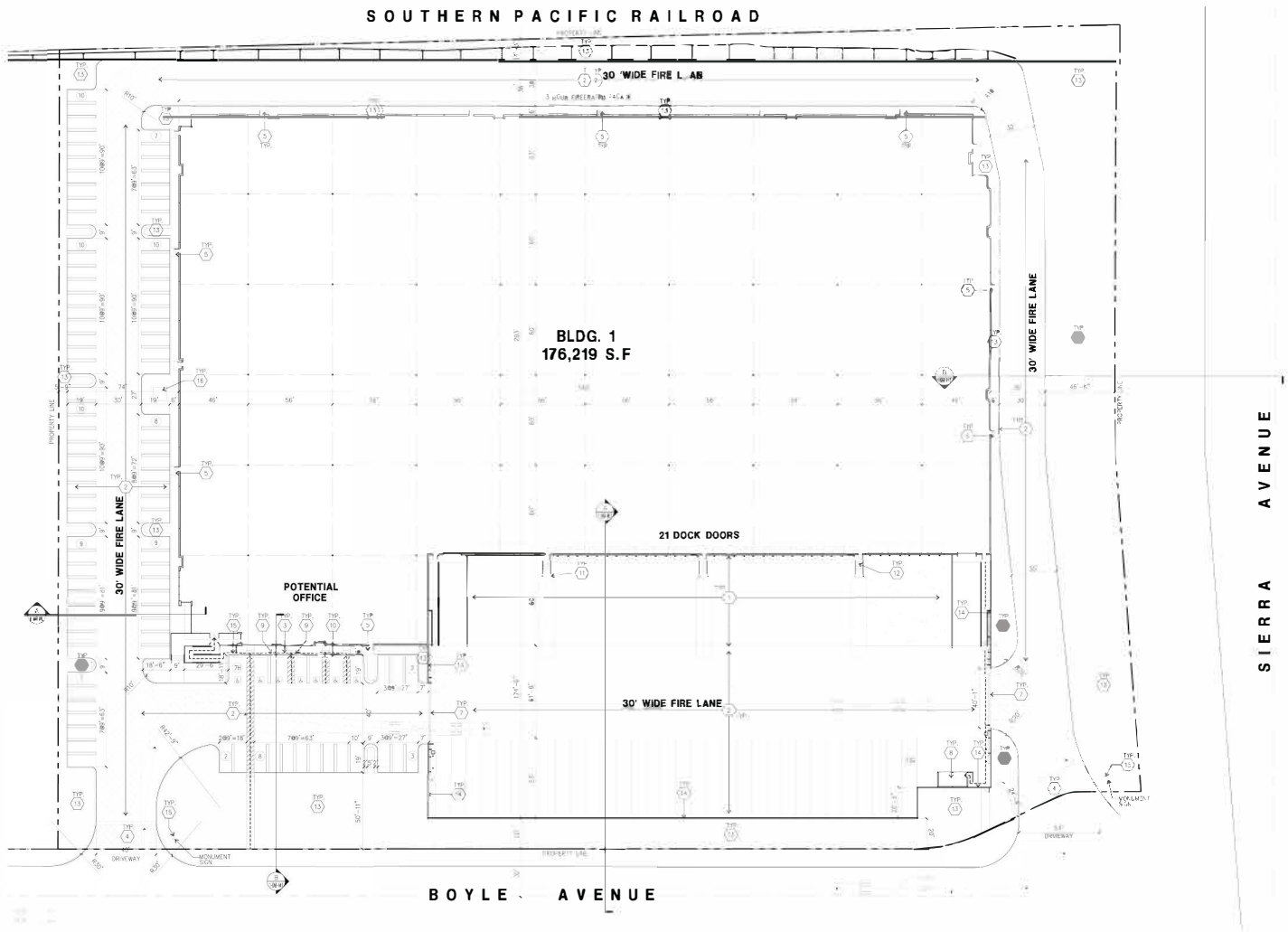
0 1000 2000
FEET

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Regional and Project Location

SOURCE: ESRI Streetmap, 2013; Google Earth, 2018.

I:\CFN1702.24\Reports\Traffic\fig1-1_RegLoc.mxd (5/30/2020)




LSA

FIGURE 2

N

0 60 120

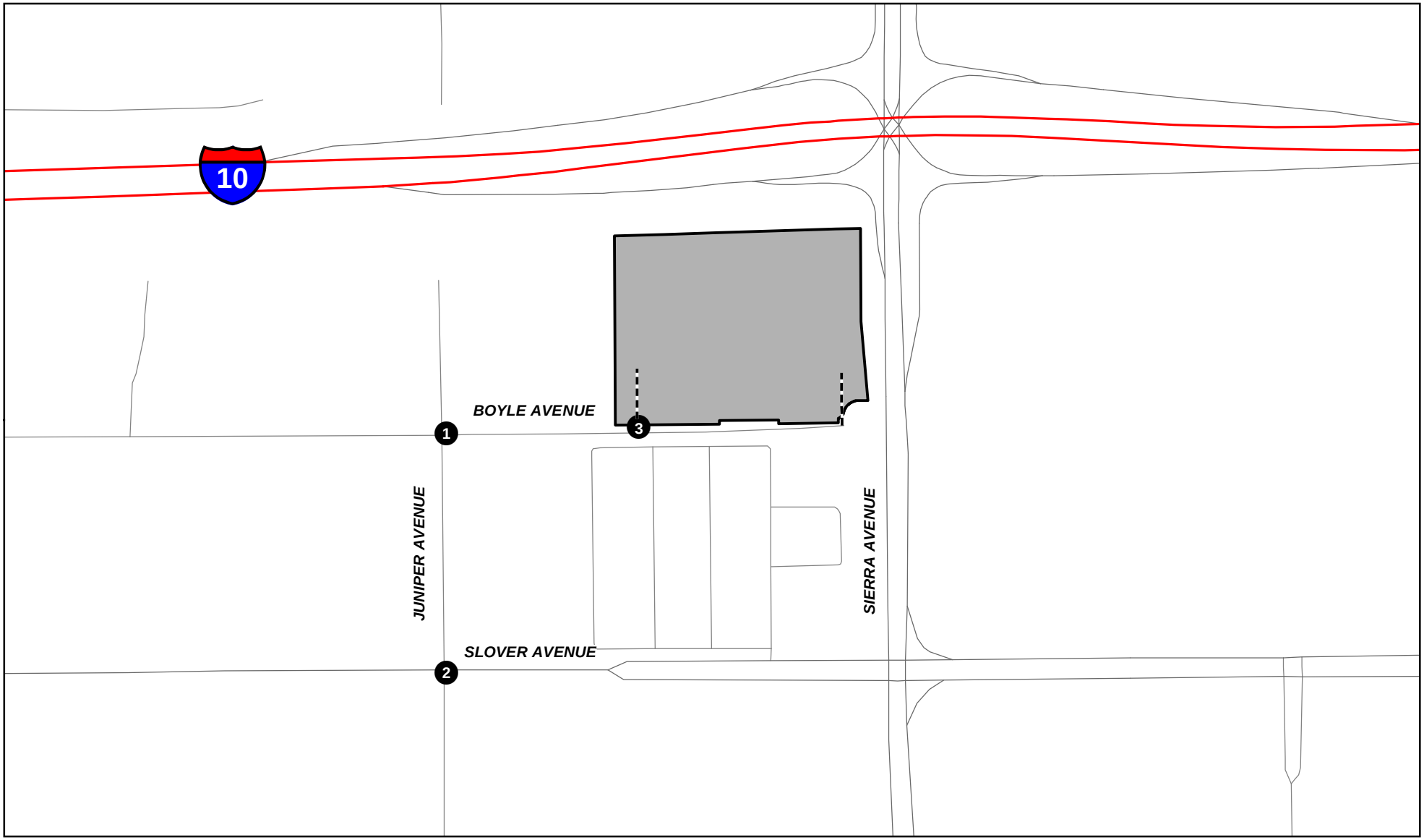
FEET

SOURCE: HPA Architecture, March 2020

I:\CFN2002\Reports\Traffic\fig2_SitePlan.ai (03/30/2020)

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Conceptual Site Plan




LSA

FIGURE 3

LEGEND

Project Site

Project Driveway

Study Intersection

N

0 200 400

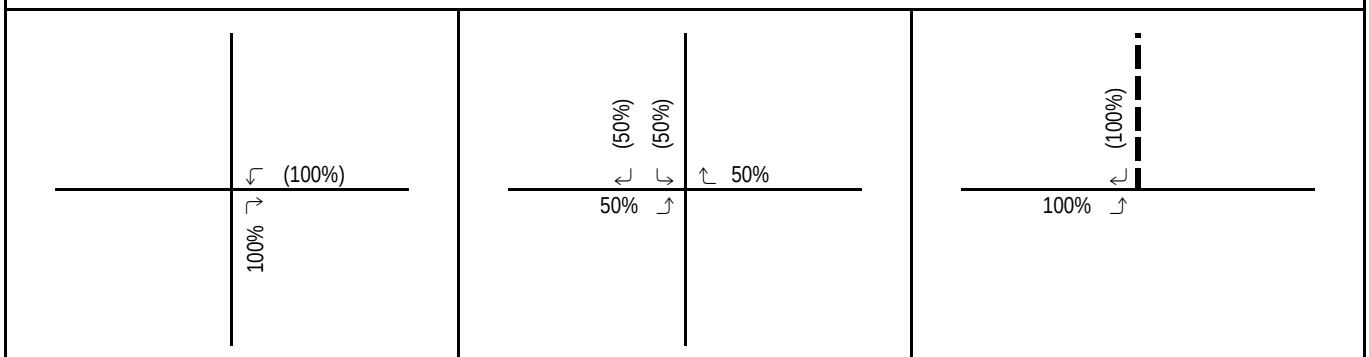
FEET

SOURCE: ESRI Streetmap, 2013.

I:\CFN1702.24\Reports\Traffic\fig1-3_Intersections.mxd (5/30/2020)

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Study Area Intersections




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

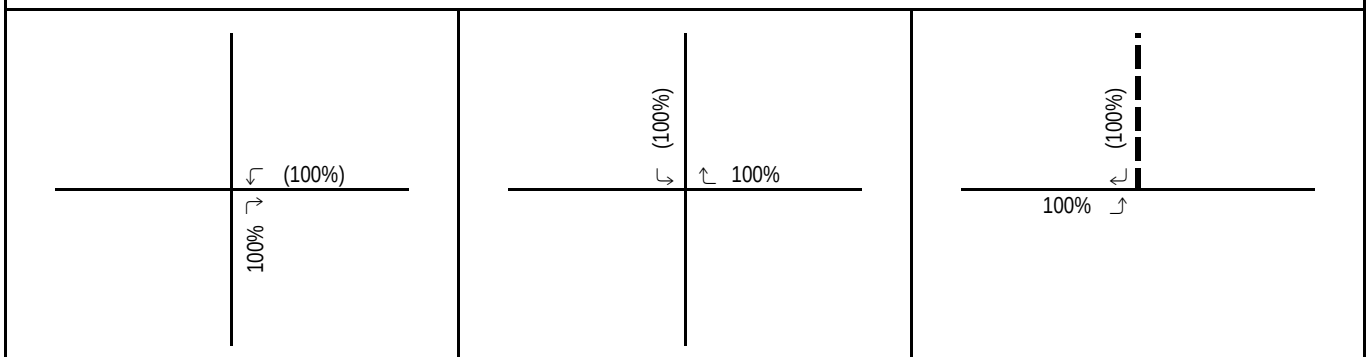
LSA

FIGURE 4

XXX% (YYY%)
Inbound% (Outbound%) Distribution
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Project Trip Distribution - Passenger Vehicles




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

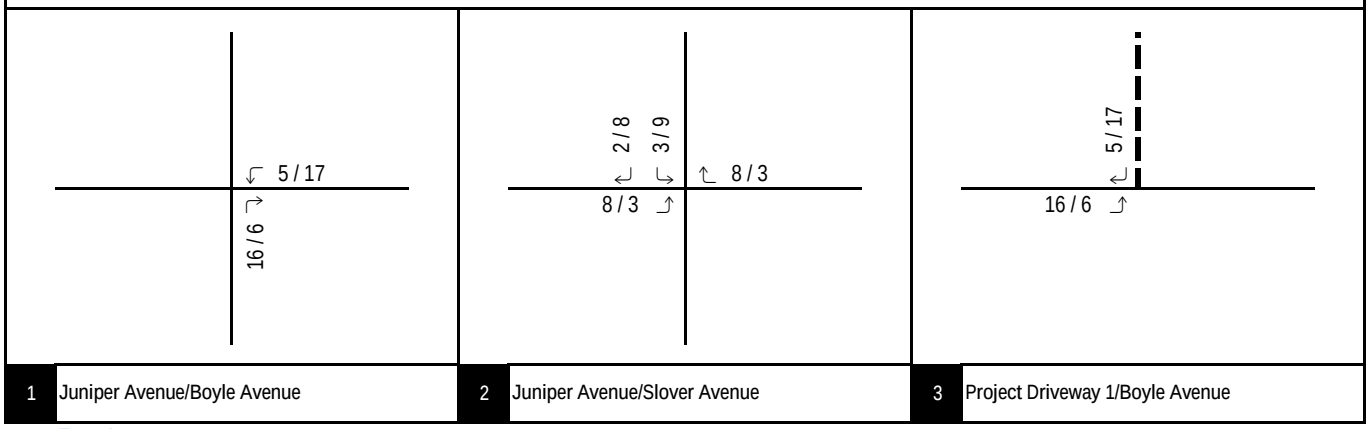
LSA

FIGURE 5

XXX% (YYY%)
Inbound% (Outbound%) Distribution
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Project Trip Distribution - Trucks



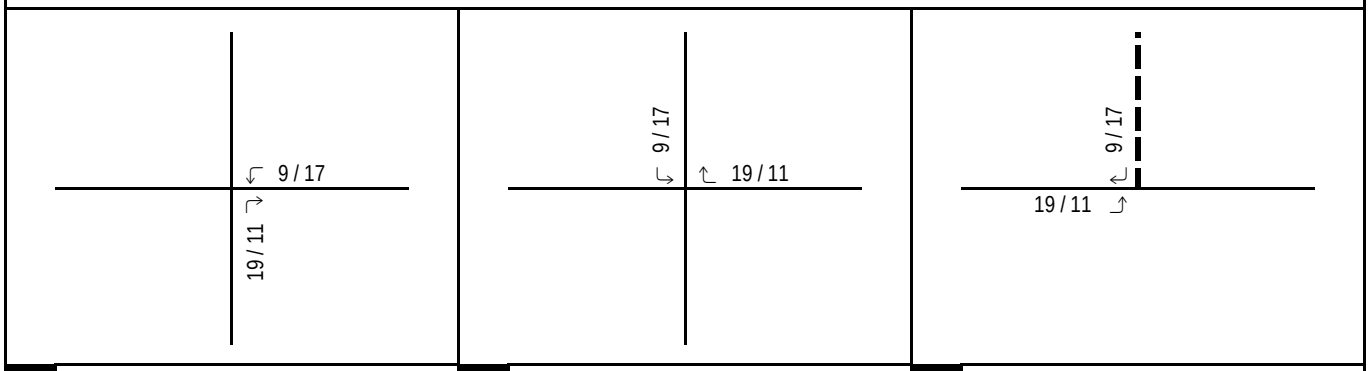

LSA

FIGURE 6

XX / YY
AM / PM Peak Hour Trips
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Project Trip Assignment - Passenger Vehicles




| | | | | | |
|---|---|---|---|---|---|
| 1 | Juniper Avenue/Boyle Avenue | 2 | Juniper Avenue/Slover Avenue | 3 | Project Driveway 1/Boyle Avenue |

LSA

FIGURE 7

XX / YY
AM / PM Peak Hour PCE Trips
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Project Trip Assignment - Trucks

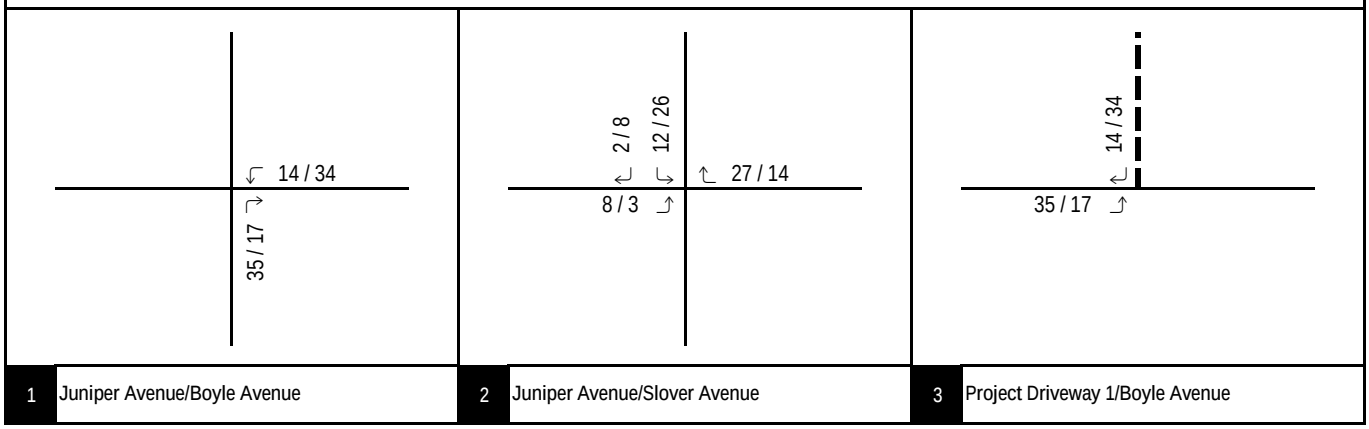



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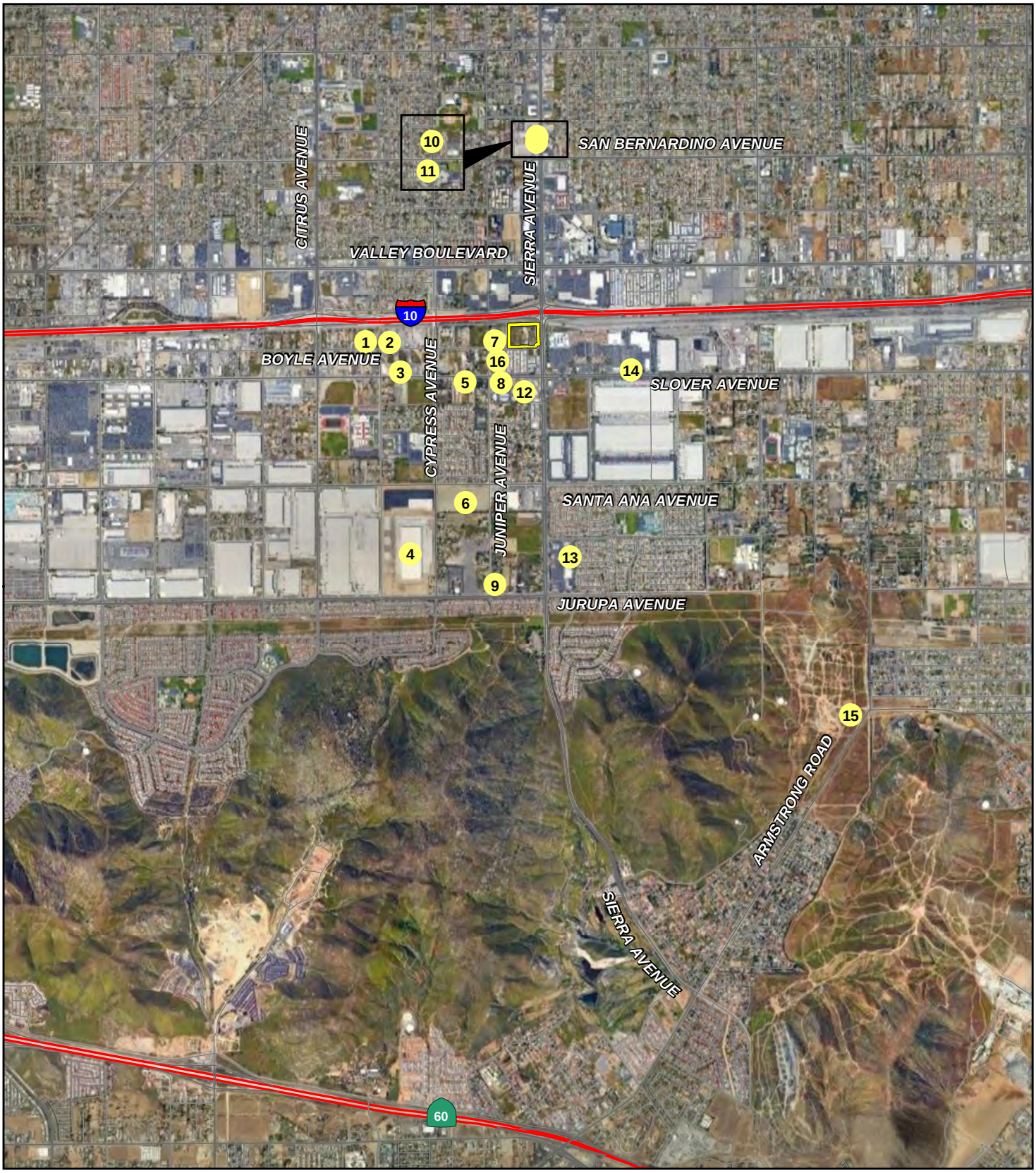
FIGURE 8

XX / YY
AM / PM Peak Hour PCE Trips
Project Driveway

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Total Project Trip Assignment




LSA

LEGEND

Project Location

Cumulative Project

N

0 1650 3300

FEET

FIGURE 9

*Transwestern Building 1*
*Focused Traffic Impact Analysis*

Cumulative Project Locations

SOURCE: ESRI Streetmap, 2013; Google Earth, 2018.

I:\CFN1702.24\Reports\Traffic\fig9_Cumul_Proj.mxd (5/16/2020)

# APPENDIX B:

# TRAFFIC COUNT SHEETS

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

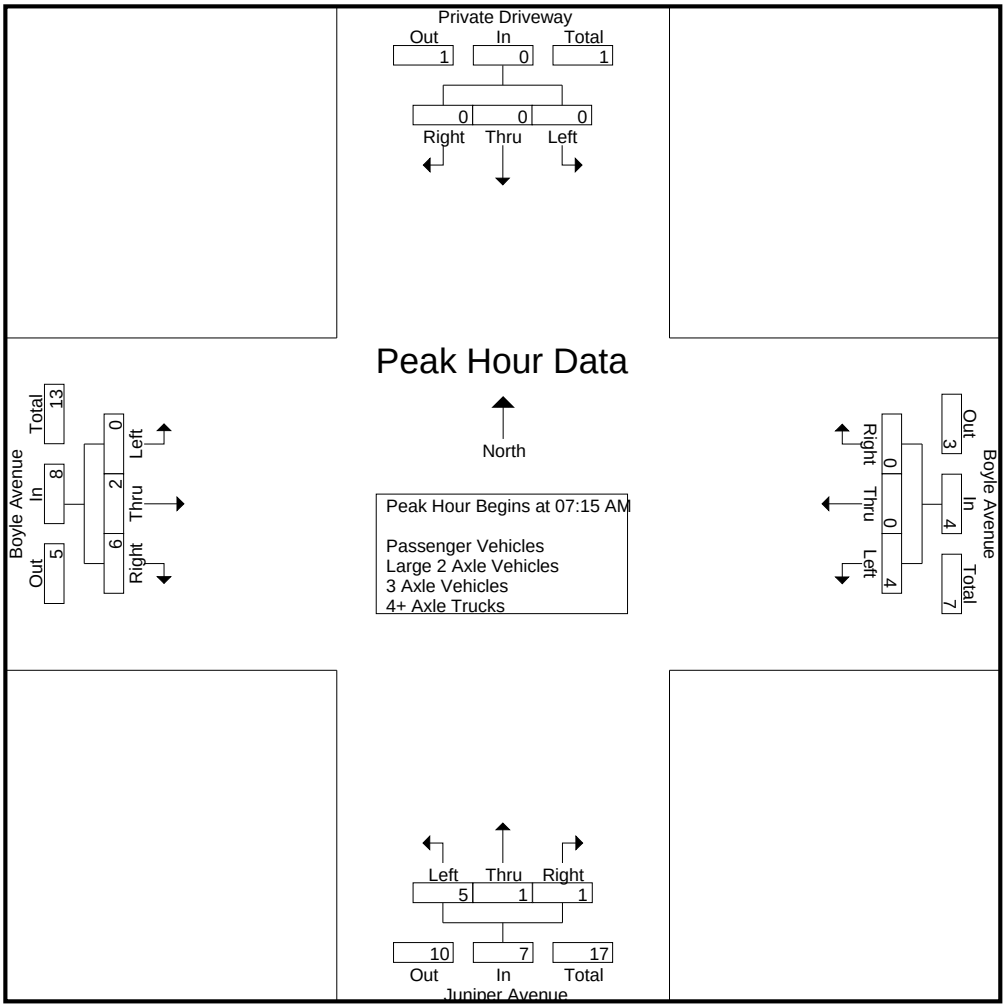
| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 07:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 3 | 0 | 0 | 2 | 2 | 6 |
| 07:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 07:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 2 | 1 | 3 | 6 |
| Total | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 5 | 1 | 1 | 7 | 0 | 2 | 4 | 6 | 16 |
| 08:00 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 5 |
| 08:15 AM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 08:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 2 | 5 |
| 08:45 AM | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 |
| Total | 0 | 1 | 0 | 1 | 4 | 0 | 0 | 4 | 2 | 1 | 4 | 7 | 0 | 0 | 4 | 4 | 16 |
| Grand Total | 0 | 1 | 0 | 1 | 7 | 0 | 0 | 7 | 7 | 2 | 5 | 14 | 0 | 2 | 8 | 10 | 32 |
| Apprch % | 0 | 100 | 0 | | 100 | 0 | 0 | | 50 | 14.3 | 35.7 | | 0 | 20 | 80 | | |
| Total % | 0 | 3.1 | 0 | 3.1 | 21.9 | 0 | 0 | 21.9 | 21.9 | 6.2 | 15.6 | 43.8 | 0 | 6.2 | 25 | 31.2 | |
| Passenger Vehicles | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 7 | 1 | 2 | 10 | 0 | 2 | 8 | 10 | 23 |
| % Passenger Vehicles | 0 | 0 | 0 | 0 | 42.9 | 0 | 0 | 42.9 | 100 | 50 | 40 | 71.4 | 0 | 100 | 100 | 100 | 71.9 |
| Large 2 Axle Vehicles | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 |
| % Large 2 Axle Vehicles | 0 | 100 | 0 | 100 | 14.3 | 0 | 0 | 14.3 | 0 | 0 | 20 | 7.1 | 0 | 0 | 0 | 0 | 9.4 |
| 3 Axle Vehicles | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 4 |
| % 3 Axle Vehicles | 0 | 0 | 0 | 0 | 28.6 | 0 | 0 | 28.6 | 0 | 50 | 20 | 14.3 | 0 | 0 | 0 | 0 | 12.5 |
| 4+ Axle Trucks | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| % 4+ Axle Trucks | 0 | 0 | 0 | 0 | 14.3 | 0 | 0 | 14.3 | 0 | 0 | 20 | 7.1 | 0 | 0 | 0 | 0 | 6.2 |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | |
| 07:15 AM | 0 | 0 | 0 | 0 | **1** | 0 | 0 | **1** | 1 | **1** | **1** | **3** | 0 | 0 | **2** | 2 | **6** |
| 07:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 07:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | **2** | 0 | 0 | 2 | 0 | **2** | 1 | **3** | 6 |
| 08:00 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 5 |
| Total Volume | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 5 | 1 | 1 | 7 | 0 | 2 | 6 | 8 | 19 |
| % App. Total | 0 | 0 | 0 | | 100 | 0 | 0 | | 71.4 | 14.3 | 14.3 | | 0 | 25 | 75 | | |
| PHF | .000 | .000 | .000 | .000 | 1.00 | .000 | .000 | 1.00 | .625 | .250 | .250 | .583 | .000 | .250 | .750 | .667 | .792 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 07:30 AM | | | | 07:15 AM | | | | 07:45 AM | | | | 07:15 AM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | 0 | 0 | **1** | 0 | 0 | **1** | **2** | 0 | 0 | **2** | 0 | 0 | **2** | 2 |
| +15 mins. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 1 |
| +30 mins. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | **1** | 1 | 2 | 0 | **2** | 1 | **3** |
| +45 mins. | 0 | **1** | 0 | **1** | 1 | 0 | 0 | 1 | 0 | 0 | **2** | 2 | 0 | 0 | 2 | 2 |
| Total Volume | 0 | 1 | 0 | 1 | 4 | 0 | 0 | 4 | 4 | 1 | 3 | 8 | 0 | 2 | 6 | 8 |
| % App. Total | 0 | 100 | 0 | | 100 | 0 | 0 | | 50 | 12.5 | 37.5 | | 0 | 25 | 75 | |
| PHF | .000 | .250 | .000 | .250 | 1.000 | .000 | .000 | 1.000 | .500 | .250 | .375 | 1.000 | .000 | .250 | .750 | .667 |

Counts Unlimited
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Corona, CA 92878
(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- Passenger Vehicles

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 07:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 2 | 2 | 5 |
| 07:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 07:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 2 | 1 | 3 | 6 |
| Total | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 5 | 0 | 1 | 6 | 0 | 2 | 4 | 6 | 15 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 4 |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 2 | 3 |
| 08:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 4 | 0 | 0 | 4 | 4 | 8 |
| Grand Total | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 7 | 1 | 2 | 10 | 0 | 2 | 8 | 10 | 23 |
| Apprch % | 0 | 0 | 0 | | 100 | 0 | 0 | | 70 | 10 | 20 | | 0 | 20 | 80 | | |
| Total % | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 13 | 30.4 | 4.3 | 8.7 | 43.5 | 0 | 8.7 | 34.8 | 43.5 | |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | |
| 07:15 AM | 0 | 0 | 0 | 0 | **1** | 0 | 0 | **1** | 1 | 0 | **1** | **2** | 0 | 0 | **2** | 2 | 5 |
| 07:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 07:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | **2** | 0 | 0 | 2 | 0 | **2** | 1 | **3** | **6** |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 4 |
| Total Volume | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 5 | 0 | 1 | 6 | 0 | 2 | 6 | 8 | 17 |
| % App. Total | 0 | 0 | 0 | | 100 | 0 | 0 | | 83.3 | 0 | 16.7 | | 0 | 25 | 75 | | |
| PHF | .000 | .000 | .000 | .000 | .750 | .000 | .000 | .750 | .625 | .000 | .250 | .750 | .000 | .250 | .750 | .667 | .708 |

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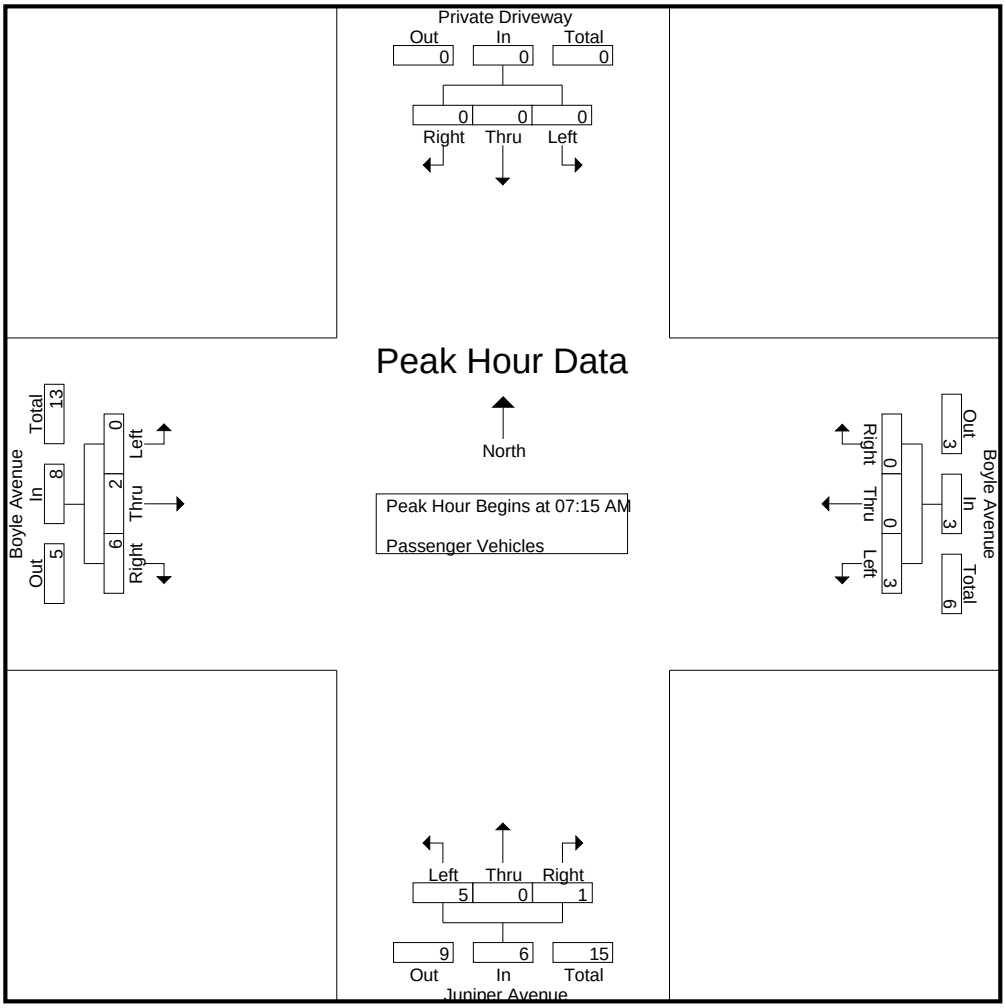
City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | 0 | 0 | **1** | 0 | 0 | **1** | 1 | 0 | **1** | **2** | 0 | 0 | **2** | 2 |
| +15 mins. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| +30 mins. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | **2** | 0 | 0 | 2 | 0 | **2** | 1 | **3** |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 |
| Total Volume | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 5 | 0 | 1 | 6 | 0 | 2 | 6 | 8 |
| % App. Total | 0 | 0 | 0 | | 100 | 0 | 0 | | 83.3 | 0 | 16.7 | | 0 | 25 | 75 | |
| PHF | .000 | .000 | .000 | .000 | .750 | .000 | .000 | .750 | .625 | .000 | .250 | .750 | .000 | .250 | .750 | .667 |

Counts Unlimited
PO Box 1178
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(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- Large 2 Axle Vehicles

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 08:15 AM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 |
| Grand Total | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 |
| Apprch % | 0 | 100 | 0 | | 100 | 0 | 0 | | 0 | 0 | 100 | | 0 | 0 | 0 | | |
| Total % | 0 | 33.3 | 0 | 33.3 | 33.3 | 0 | 0 | 33.3 | 0 | 0 | 33.3 | 33.3 | 0 | 0 | 0 | 0 | |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 AM | 0 | 0 | 0 | 0 | **1** | 0 | 0 | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Total Volume | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| % App. Total | 0 | 0 | 0 | | 100 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | |
| PHF | .000 | .000 | .000 | .000 | .250 | .000 | .000 | .250 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .250 |

Counts Unlimited
PO Box 1178
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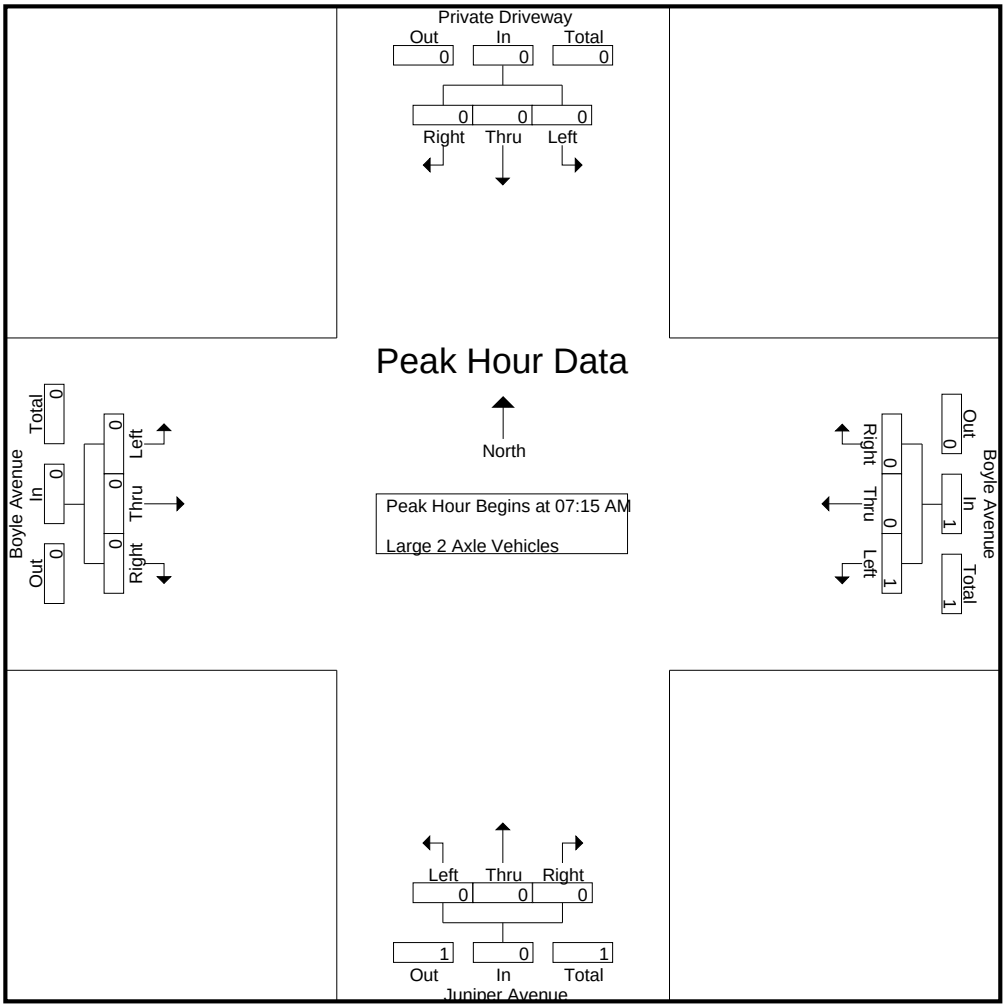
City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | **1** | 0 | 0 | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 100 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | |
| PHF | .000 | .000 | .000 | .000 | .250 | .000 | .000 | .250 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |

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(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- 3 Axle Vehicles

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 08:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Total | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 |
| Grand Total | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 4 |
| Apprch % | 0 | 0 | 0 | | 100 | 0 | 0 | | 0 | 50 | 50 | | 0 | 0 | 0 | | |
| Total % | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 50 | 0 | 25 | 25 | 50 | 0 | 0 | 0 | 0 | |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | 0 | **1** | 0 | 0 | 0 | 0 | **1** |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| % App. Total | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 100 | 0 | | 0 | 0 | 0 | | |
| PHF | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .250 | .000 | .250 | .000 | .000 | .000 | .000 | .250 |

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City of Fontana
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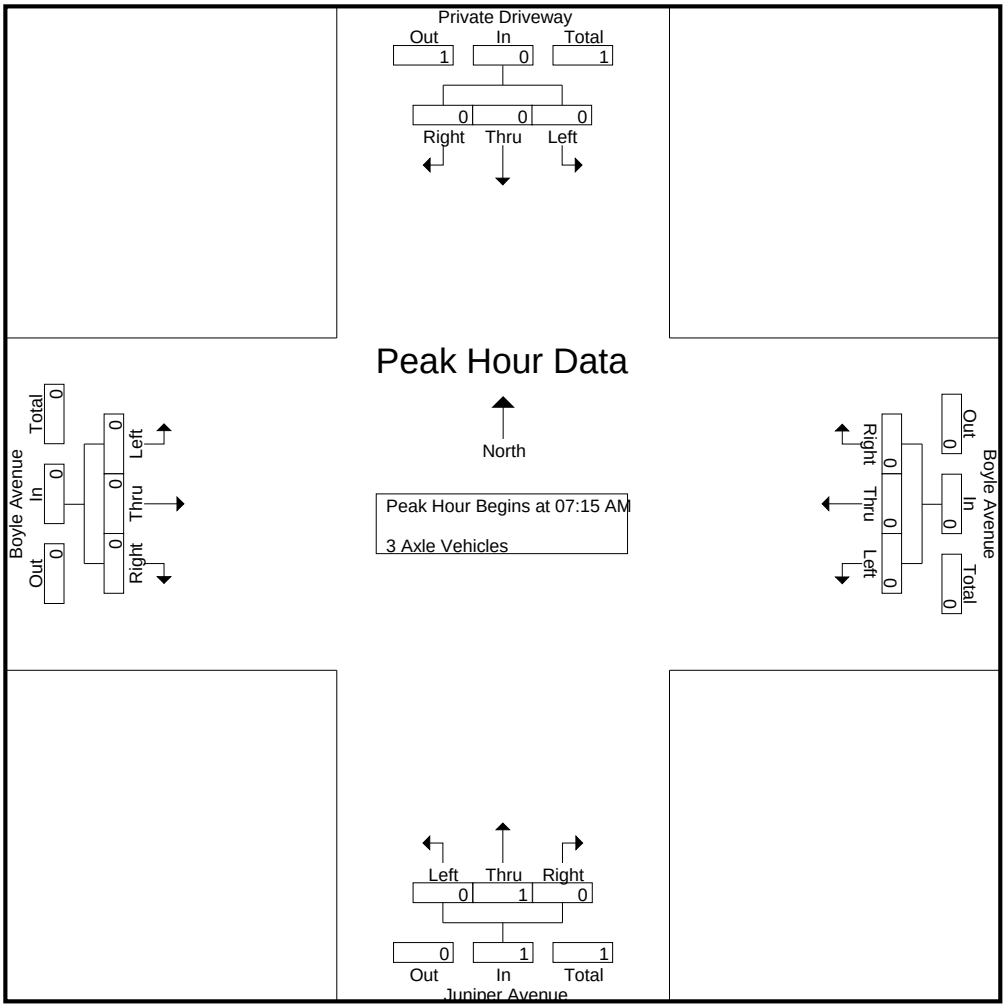
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | 0 | **1** | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 100 | 0 | | 0 | 0 | 0 | |
| PHF | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .250 | .000 | .250 | .000 | .000 | .000 | .000 |

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City of Fontana
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E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- 4+ Axle Trucks

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 08:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Grand Total | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Apprch % | 0 | 0 | 0 | | 100 | 0 | 0 | | 0 | 0 | 100 | | 0 | 0 | 0 | | |
| Total % | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 50 | 0 | 0 | 0 | 0 | |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | |
| PHF | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |

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City of Fontana
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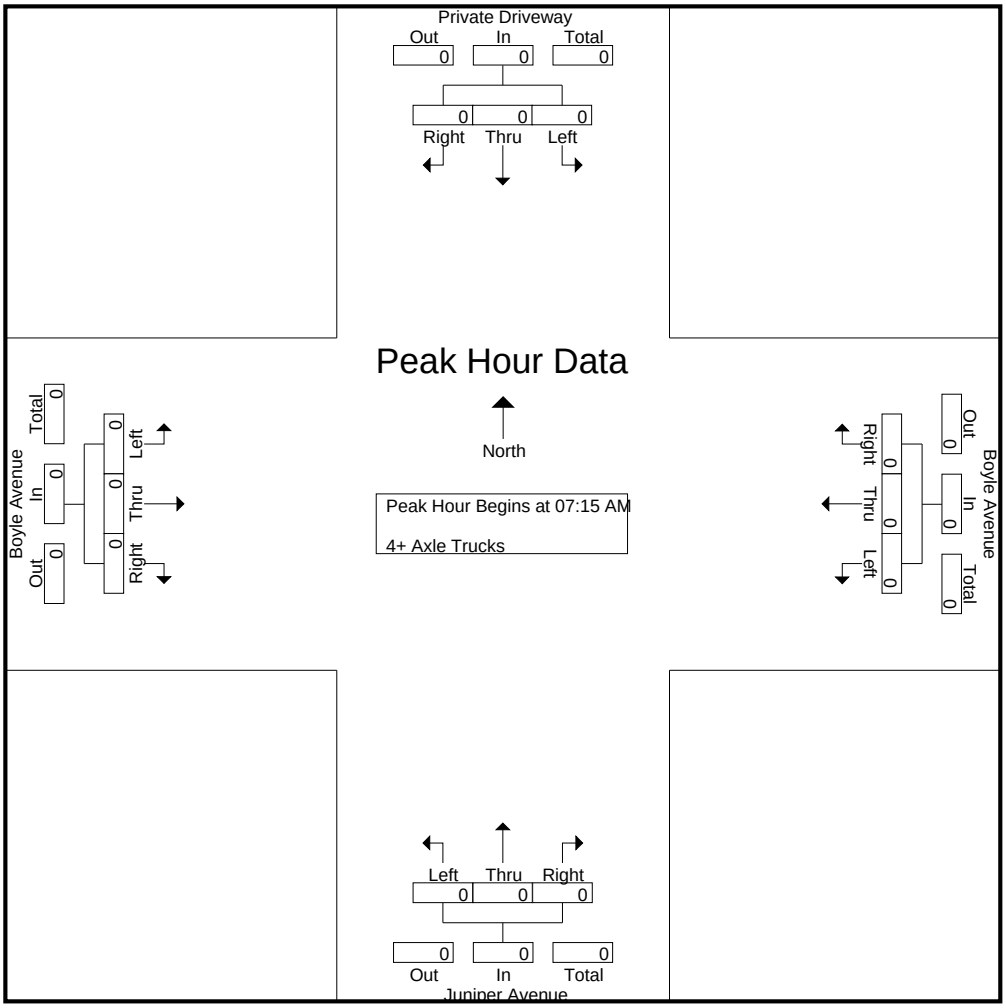
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle AM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | |
| PHF | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |

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City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 6 | 0 | 0 | 1 | 1 | 8 |
| 04:15 PM | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 2 | 2 | 5 | 0 | 0 | 2 | 2 | 9 |
| 04:30 PM | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 6 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 2 | 0 | 2 | 4 | 0 | 0 | 4 | 4 | 4 | 6 | 14 | 0 | 0 | 4 | 4 | 24 |
| 05:00 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 3 | 6 | 0 | 0 | 1 | 1 | 9 |
| 05:15 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 5 | 0 | 4 | 9 | 0 | 0 | 2 | 2 | 13 |
| 05:30 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 2 | 5 |
| 05:45 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 1 | 5 | 0 | 1 | 1 | 2 | 9 |
| Total | 0 | 4 | 0 | 4 | 3 | 0 | 0 | 3 | 10 | 4 | 8 | 22 | 0 | 1 | 6 | 7 | 36 |
| Grand Total | 0 | 6 | 0 | 6 | 7 | 0 | 0 | 7 | 14 | 8 | 14 | 36 | 0 | 1 | 10 | 11 | 60 |
| Apprch % | 0 | 100 | 0 | | 100 | 0 | 0 | | 38.9 | 22.2 | 38.9 | | 0 | 9.1 | 90.9 | | |
| Total % | 0 | 10 | 0 | 10 | 11.7 | 0 | 0 | 11.7 | 23.3 | 13.3 | 23.3 | 60 | 0 | 1.7 | 16.7 | 18.3 | |
| Passenger Vehicles | 0 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 14 | 3 | 13 | 30 | 0 | 1 | 10 | 11 | 53 |
| % Passenger Vehicles | 0 | 100 | 0 | 100 | 85.7 | 0 | 0 | 85.7 | 100 | 37.5 | 92.9 | 83.3 | 0 | 100 | 100 | 100 | 88.3 |
| Large 2 Axle Vehicles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Large 2 Axle Vehicles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 Axle Vehicles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % 3 Axle Vehicles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4+ Axle Trucks | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 5 | 1 | 6 | 0 | 0 | 0 | 0 | 7 |
| % 4+ Axle Trucks | 0 | 0 | 0 | 0 | 14.3 | 0 | 0 | 14.3 | 0 | 62.5 | 7.1 | 16.7 | 0 | 0 | 0 | 0 | 11.7 |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | **1** | 0 | **1** | **1** | 0 | 0 | **1** | 1 | **2** | 3 | 6 | 0 | 0 | 1 | 1 | 9 |
| 05:15 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | **5** | 0 | **4** | **9** | 0 | 0 | **2** | **2** | **13** |
| 05:30 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 2 | 5 |
| 05:45 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 1 | 5 | 0 | **1** | 1 | 2 | 9 |
| Total Volume | 0 | 4 | 0 | 4 | 3 | 0 | 0 | 3 | 10 | 4 | 8 | 22 | 0 | 1 | 6 | 7 | 36 |
| % App. Total | 0 | 100 | 0 | | 100 | 0 | 0 | | 45.5 | 18.2 | 36.4 | | 0 | 14.3 | 85.7 | | |
| PHF | .000 | 1.00 | .000 | 1.00 | .750 | .000 | .000 | .750 | .500 | .500 | .500 | .611 | .000 | .250 | .750 | .875 | .692 |

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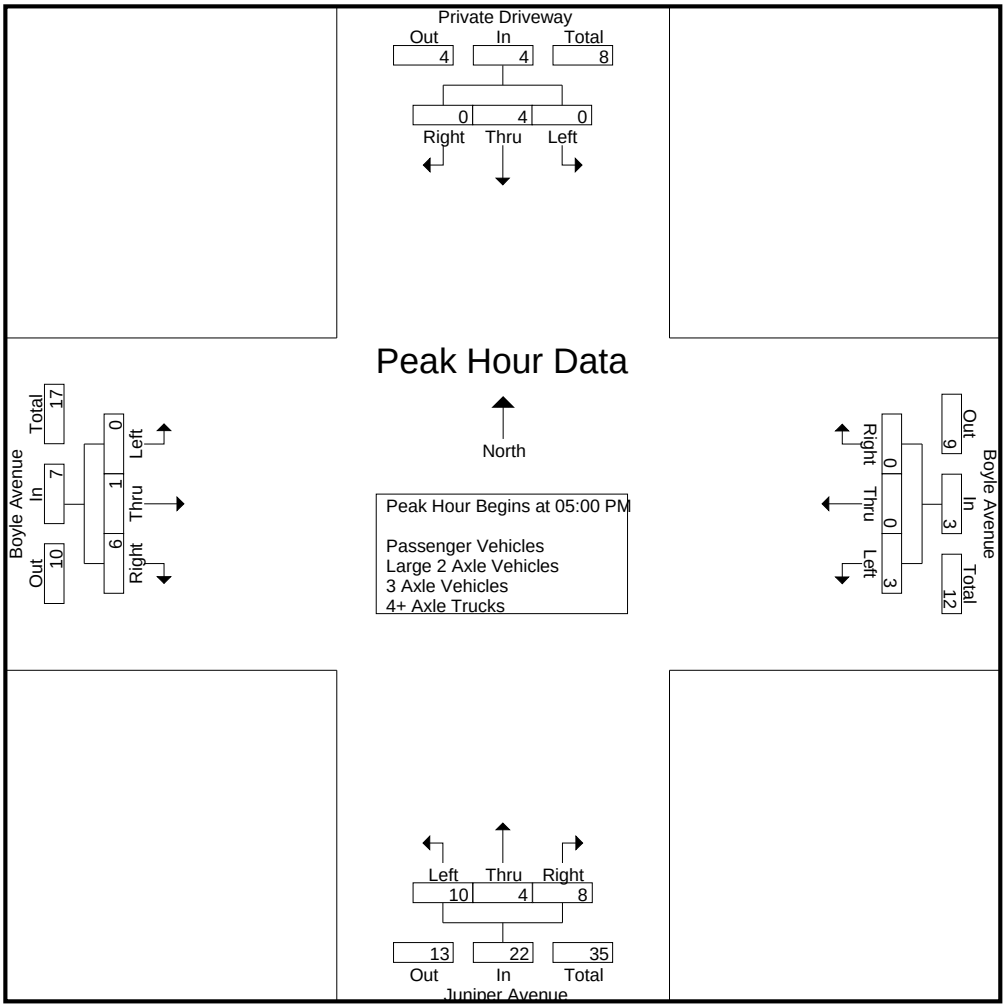
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 04:15 PM | | | | 05:00 PM | | | | 05:00 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | **1** | 0 | **1** | **2** | 0 | 0 | **2** | 1 | **2** | 3 | 6 | 0 | 0 | 1 | 1 |
| +15 mins. | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 2 | **5** | 0 | **4** | **9** | 0 | 0 | **2** | **2** |
| +30 mins. | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 2 |
| +45 mins. | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 1 | 5 | 0 | **1** | 1 | 2 |
| Total Volume | 0 | 4 | 0 | 4 | 5 | 0 | 0 | 5 | 10 | 4 | 8 | 22 | 0 | 1 | 6 | 7 |
| % App. Total | 0 | 100 | 0 | | 100 | 0 | 0 | | 45.5 | 18.2 | 36.4 | | 0 | 14.3 | 85.7 | |
| PHF | .000 | 1.000 | .000 | 1.000 | .625 | .000 | .000 | .625 | .500 | .500 | .500 | .611 | .000 | .250 | .750 | .875 |

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E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- Passenger Vehicles

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 5 | 0 | 0 | 1 | 1 | 7 |
| 04:15 PM | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 2 | 3 | 0 | 0 | 2 | 2 | 7 |
| 04:30 PM | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 5 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 2 | 0 | 2 | 4 | 0 | 0 | 4 | 4 | 0 | 6 | 10 | 0 | 0 | 4 | 4 | 20 |
| 05:00 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 4 | 0 | 0 | 1 | 1 | 7 |
| 05:15 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 5 | 0 | 4 | 9 | 0 | 0 | 2 | 2 | 13 |
| 05:30 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 2 | 5 |
| 05:45 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 5 | 0 | 1 | 1 | 2 | 8 |
| Total | 0 | 4 | 0 | 4 | 2 | 0 | 0 | 2 | 10 | 3 | 7 | 20 | 0 | 1 | 6 | 7 | 33 |
| Grand Total | 0 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 14 | 3 | 13 | 30 | 0 | 1 | 10 | 11 | 53 |
| Apprch % | 0 | 100 | 0 | | 100 | 0 | 0 | | 46.7 | 10 | 43.3 | | 0 | 9.1 | 90.9 | | |
| Total % | 0 | 11.3 | 0 | 11.3 | 11.3 | 0 | 0 | 11.3 | 26.4 | 5.7 | 24.5 | 56.6 | 0 | 1.9 | 18.9 | 20.8 | |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | **1** | 0 | **1** | **1** | 0 | 0 | **1** | 1 | **1** | 2 | 4 | 0 | 0 | 1 | 1 | 7 |
| 05:15 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | **5** | 0 | **4** | **9** | 0 | 0 | **2** | **2** | **13** |
| 05:30 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 2 | 5 |
| 05:45 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 5 | 0 | **1** | 1 | 2 | 8 |
| Total Volume | 0 | 4 | 0 | 4 | 2 | 0 | 0 | 2 | 10 | 3 | 7 | 20 | 0 | 1 | 6 | 7 | 33 |
| % App. Total | 0 | 100 | 0 | | 100 | 0 | 0 | | 50 | 15 | 35 | | 0 | 14.3 | 85.7 | | |
| PHF | .000 | 1.00 | .000 | 1.00 | .500 | .000 | .000 | .500 | .500 | .750 | .438 | .556 | .000 | .250 | .750 | .875 | .635 |

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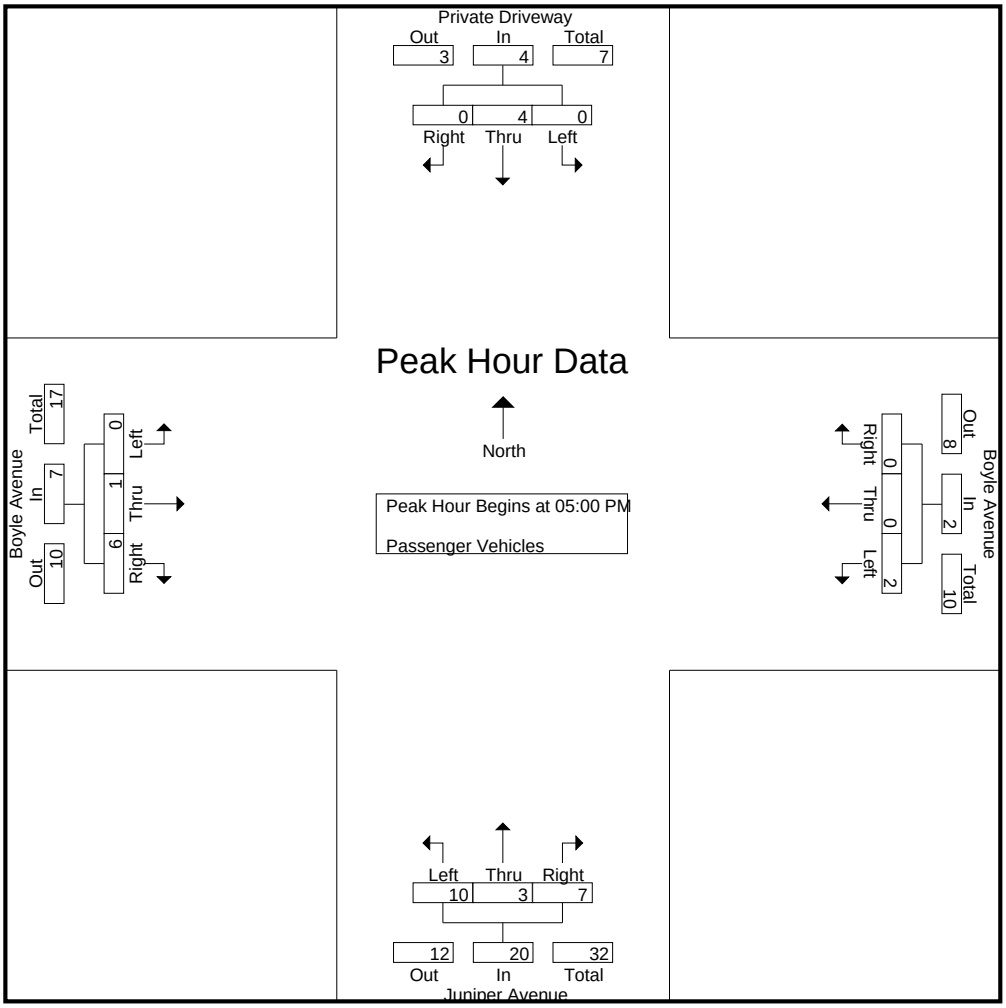
File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 05:00 PM | | | | 05:00 PM | | | | 05:00 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | **1** | 0 | **1** | **1** | 0 | 0 | **1** | 1 | **1** | 2 | 4 | 0 | 0 | 1 | 1 |
| +15 mins. | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | **5** | 0 | **4** | **9** | 0 | 0 | **2** | **2** |
| +30 mins. | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 2 |
| +45 mins. | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 5 | 0 | **1** | 1 | 2 |
| Total Volume | 0 | 4 | 0 | 4 | 2 | 0 | 0 | 2 | 10 | 3 | 7 | 20 | 0 | 1 | 6 | 7 |
| % App. Total | 0 | 100 | 0 | | 100 | 0 | 0 | | 50 | 15 | 35 | | 0 | 14.3 | 85.7 | |
| PHF | .000 | 1.000 | .000 | 1.000 | .500 | .000 | .000 | .500 | .500 | .750 | .438 | .556 | .000 | .250 | .750 | .875 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- Large 2 Axle Vehicles

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Apprch % | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | |
| Total % | | | | | | | | | | | | | | | | | |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | |
| PHF | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |

Counts Unlimited
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Corona, CA 92878
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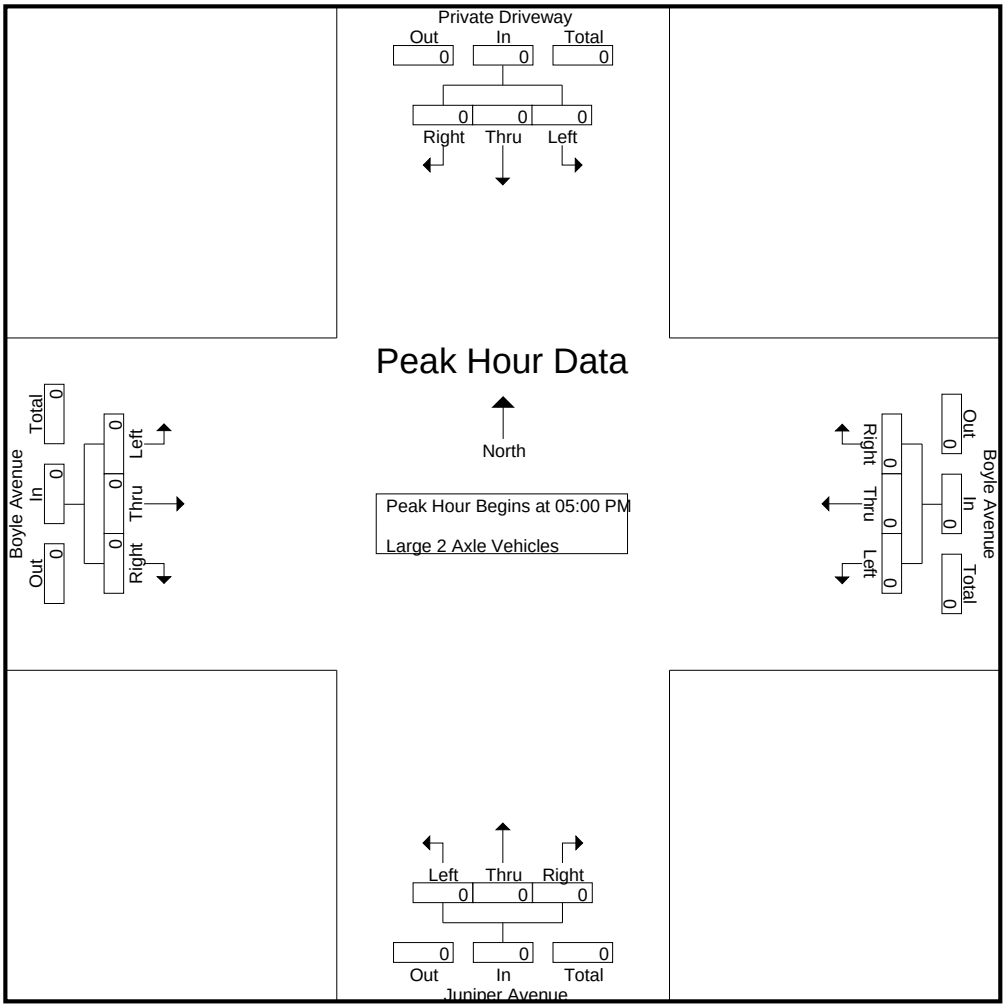
City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 05:00 PM | | | | 05:00 PM | | | | 05:00 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | |
| PHF | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- 3 Axle Vehicles

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Apprch % | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | |
| Total % | | | | | | | | | | | | | | | | | |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | |
| PHF | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |

Counts Unlimited
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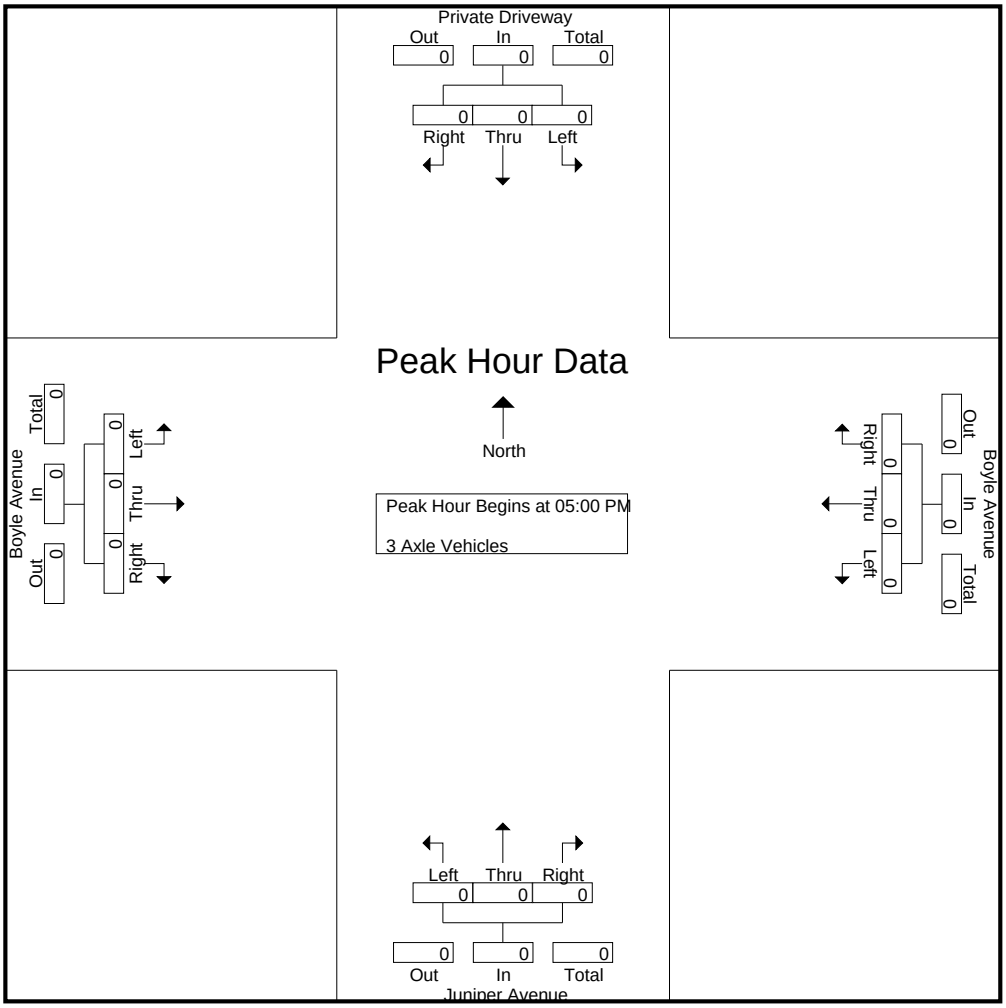
Corona, CA 92878
(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 05:00 PM | | | | 05:00 PM | | | | 05:00 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | |
| PHF | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 1

Groups Printed- 4+ Axle Trucks

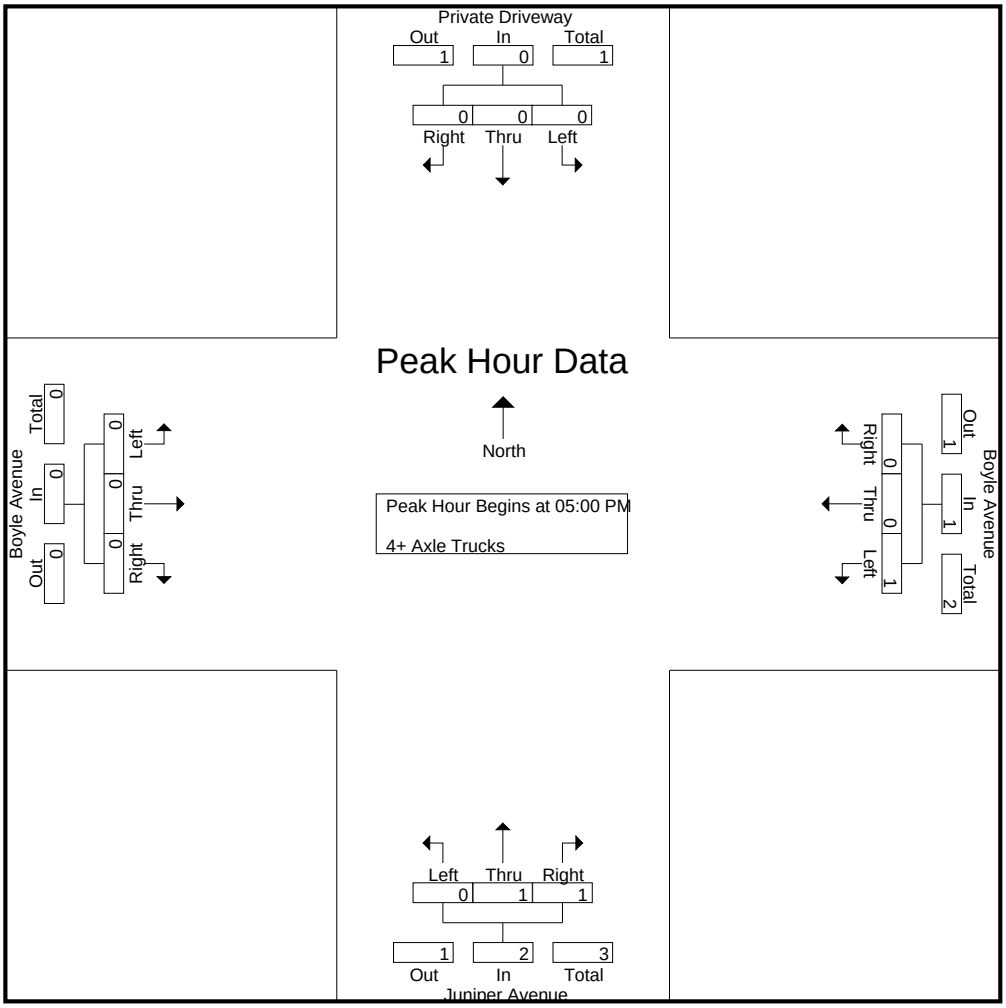
| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 04:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 4 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 2 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| Grand Total | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 5 | 1 | 6 | 0 | 0 | 0 | 0 | 7 |
| Apprch % | 0 | 0 | 0 | | 100 | 0 | 0 | | 0 | 83.3 | 16.7 | | 0 | 0 | 0 | | |
| Total % | 0 | 0 | 0 | 0 | 14.3 | 0 | 0 | 14.3 | 0 | 71.4 | 14.3 | 85.7 | 0 | 0 | 0 | 0 | |

| | Private Driveway Southbound | | | | Boyle Avenue Westbound | | | | Juniper Avenue Northbound | | | | Boyle Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | **1** | **2** | 0 | 0 | 0 | 0 | **2** |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 0 | 0 | 0 | **1** | 0 | 0 | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total Volume | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| % App. Total | 0 | 0 | 0 | | 100 | 0 | 0 | | 0 | 50 | 50 | | 0 | 0 | 0 | | |
| PHF | .000 | .000 | .000 | .000 | .250 | .000 | .000 | .250 | .000 | .250 | .250 | .250 | .000 | .000 | .000 | .000 | .375 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue
Weather: Clear

File Name : FON_Juniper_Boyle PM
Site Code : 00320215
Start Date : 5/13/2020
Page No : 2




Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 05:00 PM | | | | 05:00 PM | | | | 05:00 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | **1** | **2** | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | **1** | 0 | 0 | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 0 | 0 | | 100 | 0 | 0 | | 0 | 50 | 50 | | 0 | 0 | 0 | |
| PHF | .000 | .000 | .000 | .000 | .250 | .000 | .000 | .250 | .000 | .250 | .250 | .250 | .000 | .000 | .000 | .000 |

Location: Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue

Date: 5/13/2020
Day: Wednesday

**PEDESTRIANS**

| | North Leg<br>Private Driveway | East Leg<br>Boyle Avenue | South Leg<br>Juniper Avenue | West Leg<br>Boyle Avenue | |
|---|---|---|---|---|---|
| | Pedestrians | Pedestrians | Pedestrians | Pedestrians | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 |
| TOTAL VOLUMES: | 0 | 0 | 0 | 0 | 0 |

| | North Leg<br>Private Driveway | East Leg<br>Boyle Avenue | South Leg<br>Juniper Avenue | West Leg<br>Boyle Avenue | |
|---|---|---|---|---|---|
| | Pedestrians | Pedestrians | Pedestrians | Pedestrians | |
| 4:00 PM | 0 | 1 | 0 | 0 | 1 |
| 4:15 PM | 0 | 1 | 0 | 0 | 1 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 1 | 1 |
| 5:15 PM | 1 | 0 | 0 | 1 | 2 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 |
| TOTAL VOLUMES: | 1 | 2 | 0 | 2 | 5 |

Location: Fontana
N/S: Juniper Avenue
E/W: Boyle Avenue

Date: 5/13/2020
Day: Wednesday

**BICYCLES**

| | Southbound Private Driveway | | | Westbound Boyle Avenue | | | Northbound Juniper Avenue | | | Eastbound Boyle Avenue | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 4 |
| 7:15 AM | 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 |
| 7:45 AM | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL VOLUMES: | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 6 |

| | Southbound Private Driveway | | | Westbound Boyle Avenue | | | Northbound Juniper Avenue | | | Eastbound Boyle Avenue | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 4:00 PM | 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 |
| 4:30 PM | 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 |
| 5:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 5:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL VOLUMES: | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 6 |

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *Juniper Ave and Slover Ave , Fontana*

Date: 4/4/2017

Day: Tuesday

Project #: 17-6057-015

City: Fontana

| | |
|---|---|
| AM Peak Hour | 700 AM |
| NOON Peak Hour | |
| PM Peak Hour | 445 PM |

### Peak Hour Summary

### Southbound Approach

Juniper Ave

| | Lanes 0 | 1 | 0 | | |
|---|---|---|---|---|---|
| AM | 12 | 2 | 7 | 10 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 13 | 5 | 10 | 22 | PM |

### Eastbound Approach

Slover Ave

| Lanes | AM | NOON | PM |
|---|---|---|---|
| | 599 | 0 | 537 |
| 1 | 6 | 0 | 9 |
| 2 | 429 | 0 | 786 |
| 0 | 20 | 0 | 55 |

### Westbound Approach

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 3 | 0 | 13 |
| 2 | 560 | 0 | 496 |
| 1 | 61 | 0 | 58 |
| | 488 | 0 | 865 |

### CONTROL

2-Way Stop(NB/SB)

| Count Periods | Start | End |
|---|---|---|
| AM | 7:00 AM | 9:00 AM |
| NOON | NONE | NONE |
| PM | 4:00 PM | 6:00 PM |

### Northbound Approach

| | | | | |
|---|---|---|---|---|
| AM | 83 | 27 | 1 | 52 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 118 | 28 | 0 | 69 |
| Lanes | | 0 | 1 | 0 |

## Total Ins & Outs

| | North Leg | | |
|---|---|---|---|
| AM | 21 | 10 | AM |
| NOON | 0 | 0 | NOON |
| PM | 28 | 22 | PM |

| West Leg | | | East Leg | | |
|---|---|---|---|---|---|
| AM | NOON | PM | AM | NOON | PM |
| 599 | 0 | 537 | 624 | 0 | 567 |
| 455 | 0 | 850 | 488 | 0 | 865 |

| | South Leg | |
|---|---|---|
| AM | 83 | 80 |
| NOON | 0 | 0 |
| PM | 118 | 97 |

## Total Volume Per Leg

| | North Leg | | |
|---|---|---|---|
| AM | 31 | | AM |
| NOON | 0 | | NOON |
| PM | 50 | | PM |

| West Leg | | | East Leg | | |
|---|---|---|---|---|---|
| AM | NOON | PM | AM | NOON | PM |
| 1054 | 0 | 1387 | 1112 | 0 | 1432 |

| | South Leg |
|---|---|
| AM | 163 |
| NOON | 0 |
| PM | 215 |

Prepared by NDS/ATD

# VOLUME

Slover Ave Bet. Cypress Ave & Juniper Ave

**Day:** Tuesday
**Date:** 2/14/2017

**City:** Fontana
**Project #:** CA17_6016_032

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 0 | 6,789 | 6,273 | 13,062 |

| AM Period | NB | SB | EB | | WB | | TOTAL | | PM Period | NB | SB | EB | | WB | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00 | | | 6 | | 20 | | 26 | | 12:00 | | | 108 | | 96 | | 204 | |
| 00:15 | | | 4 | | 9 | | 13 | | 12:15 | | | 113 | | 88 | | 201 | |
| 00:30 | | | 8 | | 9 | | 17 | | 12:30 | | | 107 | | 106 | | 213 | |
| 00:45 | | | 7 | 25 | 5 | 43 | 12 | 68 | 12:45 | | | 105 | 433 | 96 | 386 | 201 | 819 |
| 01:00 | | | 5 | | 7 | | 12 | | 13:00 | | | 94 | | 105 | | 199 | |
| 01:15 | | | 4 | | 9 | | 13 | | 13:15 | | | 119 | | 108 | | 227 | |
| 01:30 | | | 9 | | 7 | | 16 | | 13:30 | | | 103 | | 87 | | 190 | |
| 01:45 | | | 5 | 23 | 6 | 29 | 11 | 52 | 13:45 | | | 135 | 451 | 80 | 380 | 215 | 831 |
| 02:00 | | | 3 | | 8 | | 11 | | 14:00 | | | 115 | | 100 | | 215 | |
| 02:15 | | | 5 | | 5 | | 10 | | 14:15 | | | 125 | | 86 | | 211 | |
| 02:30 | | | 5 | | 8 | | 13 | | 14:30 | | | 128 | | 126 | | 254 | |
| 02:45 | | | 4 | 17 | 8 | 29 | 12 | 46 | 14:45 | | | 150 | 518 | 104 | 416 | 254 | 934 |
| 03:00 | | | 6 | | 7 | | 13 | | 15:00 | | | 168 | | 103 | | 271 | |
| 03:15 | | | 17 | | 8 | | 25 | | 15:15 | | | 136 | | 107 | | 243 | |
| 03:30 | | | 12 | | 14 | | 26 | | 15:30 | | | 181 | | 136 | | 317 | |
| 03:45 | | | 9 | 44 | 10 | 39 | 19 | 83 | 15:45 | | | 195 | 680 | 127 | 473 | 322 | 1153 |
| 04:00 | | | 19 | | 16 | | 35 | | 16:00 | | | 177 | | 131 | | 308 | |
| 04:15 | | | 11 | | 25 | | 36 | | 16:15 | | | 197 | | 124 | | 321 | |
| 04:30 | | | 14 | | 33 | | 47 | | 16:30 | | | 178 | | 120 | | 298 | |
| 04:45 | | | 17 | 61 | 28 | 102 | 45 | 163 | 16:45 | | | 218 | 770 | 121 | 496 | 339 | 1266 |
| 05:00 | | | 15 | | 27 | | 42 | | 17:00 | | | 213 | | 135 | | 348 | |
| 05:15 | | | 20 | | 33 | | 53 | | 17:15 | | | 220 | | 141 | | 361 | |
| 05:30 | | | 25 | | 65 | | 90 | | 17:30 | | | 204 | | 152 | | 356 | |
| 05:45 | | | 33 | 93 | 61 | 186 | 94 | 279 | 17:45 | | | 171 | 808 | 130 | 558 | 301 | 1366 |
| 06:00 | | | 36 | | 62 | | 98 | | 18:00 | | | 135 | | 124 | | 259 | |
| 06:15 | | | 32 | | 75 | | 107 | | 18:15 | | | 117 | | 105 | | 222 | |
| 06:30 | | | 56 | | 82 | | 138 | | 18:30 | | | 85 | | 114 | | 199 | |
| 06:45 | | | 50 | 174 | 86 | 305 | 136 | 479 | 18:45 | | | 68 | 405 | 82 | 425 | 150 | 830 |
| 07:00 | | | 47 | | 66 | | 113 | | 19:00 | | | 81 | | 83 | | 164 | |
| 07:15 | | | 51 | | 54 | | 105 | | 19:15 | | | 80 | | 85 | | 165 | |
| 07:30 | | | 71 | | 92 | | 163 | | 19:30 | | | 84 | | 74 | | 158 | |
| 07:45 | | | 73 | 242 | 96 | 308 | 169 | 550 | 19:45 | | | 52 | 297 | 61 | 303 | 113 | 600 |
| 08:00 | | | 77 | | 67 | | 144 | | 20:00 | | | 61 | | 51 | | 112 | |
| 08:15 | | | 65 | | 58 | | 123 | | 20:15 | | | 53 | | 63 | | 116 | |
| 08:30 | | | 64 | | 66 | | 130 | | 20:30 | | | 52 | | 59 | | 111 | |
| 08:45 | | | 73 | 279 | 82 | 273 | 155 | 552 | 20:45 | | | 47 | 213 | 46 | 219 | 93 | 432 |
| 09:00 | | | 65 | | 59 | | 124 | | 21:00 | | | 33 | | 68 | | 101 | |
| 09:15 | | | 59 | | 62 | | 121 | | 21:15 | | | 40 | | 51 | | 91 | |
| 09:30 | | | 66 | | 73 | | 139 | | 21:30 | | | 35 | | 45 | | 80 | |
| 09:45 | | | 79 | 269 | 57 | 251 | 136 | 520 | 21:45 | | | 27 | 135 | 36 | 200 | 63 | 335 |
| 10:00 | | | 70 | | 70 | | 140 | | 22:00 | | | 28 | | 38 | | 66 | |
| 10:15 | | | 89 | | 75 | | 164 | | 22:15 | | | 24 | | 31 | | 55 | |
| 10:30 | | | 95 | | 73 | | 168 | | 22:30 | | | 21 | | 25 | | 46 | |
| 10:45 | | | 73 | 327 | 79 | 297 | 152 | 624 | 22:45 | | | 17 | 90 | 15 | 109 | 32 | 199 |
| 11:00 | | | 105 | | 84 | | 189 | | 23:00 | | | 17 | | 34 | | 51 | |
| 11:15 | | | 99 | | 87 | | 186 | | 23:15 | | | 15 | | 18 | | 33 | |
| 11:30 | | | 82 | | 97 | | 179 | | 23:30 | | | 13 | | 21 | | 34 | |
| 11:45 | | | 91 | 377 | 96 | 364 | 187 | 741 | 23:45 | | | 13 | 58 | 9 | 82 | 22 | 140 |
| TOTALS | | | | 1931 | | 2226 | | 4157 | TOTALS | | | | 4858 | | 4047 | | 8905 |
| SPLIT % | | | | 46.5% | | 53.5% | | 31.8% | SPLIT % | | | | 54.6% | | 45.4% | | 68.2% |

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 0 | 6,789 | 6,273 | 13,062 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AM Peak Hour | | | 11:45 | 11:45 | 11:45 | PM Peak Hour | | | 16:45 | 17:00 | 16:45 |
| AM Pk Volume | | | 419 | 386 | 805 | PM Pk Volume | | | 855 | 558 | 1404 |
| Pk Hr Factor | | | 0.927 | 0.910 | 0.945 | Pk Hr Factor | | | 0.972 | 0.918 | 0.972 |
| 7 - 9 Volume | 0 | 0 | 521 | 581 | 1102 | 4 - 6 Volume | 0 | 0 | 1578 | 1054 | 2632 |
| 7 - 9 Peak Hour | | | 07:30 | 07:30 | 07:30 | 4 - 6 Peak Hour | | | 16:45 | 17:00 | 16:45 |
| 7 - 9 Pk Volume | 0 | 0 | 286 | 313 | 599 | 4 - 6 Pk Volume | 0 | 0 | 855 | 558 | 1404 |
| Pk Hr Factor | 0.000 | 0.000 | 0.929 | 0.815 | 0.886 | Pk Hr Factor | 0.000 | 0.000 | 0.972 | 0.918 | 0.972 |

Prepared by NDS/ATD

# VOLUME

Slover Ave Bet. Juniper Ave & Sierra Ave

**Day:** Tuesday
**Date:** 4/4/2017

**City:** Fontana
**Project #:** CA17_6058_014

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 0 | 8,455 | 8,004 | 16,459 |

| AM Period | NB | SB | EB | | WB | | TOTAL | | PM Period | NB | SB | EB | | WB | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00 | | | 10 | | 19 | | 29 | | 12:00 | | | 139 | | 113 | | 252 | |
| 00:15 | | | 18 | | 21 | | 39 | | 12:15 | | | 126 | | 138 | | 264 | |
| 00:30 | | | 12 | | 16 | | 28 | | 12:30 | | | 103 | | 127 | | 230 | |
| 00:45 | | | 11 | 51 | 18 | 74 | 29 | 125 | 12:45 | | | 121 | 489 | 111 | 489 | 232 | 978 |
| 01:00 | | | 8 | | 11 | | 19 | | 13:00 | | | 114 | | 120 | | 234 | |
| 01:15 | | | 7 | | 16 | | 23 | | 13:15 | | | 127 | | 111 | | 238 | |
| 01:30 | | | 12 | | 13 | | 25 | | 13:30 | | | 132 | | 114 | | 246 | |
| 01:45 | | | 4 | 31 | 14 | 54 | 18 | 85 | 13:45 | | | 113 | 486 | 110 | 455 | 223 | 941 |
| 02:00 | | | 3 | | 7 | | 10 | | 14:00 | | | 119 | | 138 | | 257 | |
| 02:15 | | | 8 | | 10 | | 18 | | 14:15 | | | 116 | | 135 | | 251 | |
| 02:30 | | | 4 | | 9 | | 13 | | 14:30 | | | 171 | | 164 | | 335 | |
| 02:45 | | | 6 | 21 | 14 | 40 | 20 | 61 | 14:45 | | | 311 | 717 | 164 | 601 | 475 | 1318 |
| 03:00 | | | 7 | | 13 | | 20 | | 15:00 | | | 214 | | 181 | | 395 | |
| 03:15 | | | 14 | | 11 | | 25 | | 15:15 | | | 198 | | 140 | | 338 | |
| 03:30 | | | 8 | | 20 | | 28 | | 15:30 | | | 193 | | 158 | | 351 | |
| 03:45 | | | 16 | 45 | 7 | 51 | 23 | 96 | 15:45 | | | 226 | 831 | 155 | 634 | 381 | 1465 |
| 04:00 | | | 13 | | 11 | | 24 | | 16:00 | | | 206 | | 148 | | 354 | |
| 04:15 | | | 14 | | 16 | | 30 | | 16:15 | | | 233 | | 126 | | 359 | |
| 04:30 | | | 20 | | 28 | | 48 | | 16:30 | | | 192 | | 153 | | 345 | |
| 04:45 | | | 29 | 76 | 25 | 80 | 54 | 156 | 16:45 | | | 213 | 844 | 142 | 569 | 355 | 1413 |
| 05:00 | | | 13 | | 36 | | 49 | | 17:00 | | | 225 | | 151 | | 376 | |
| 05:15 | | | 17 | | 49 | | 66 | | 17:15 | | | 228 | | 142 | | 370 | |
| 05:30 | | | 37 | | 47 | | 84 | | 17:30 | | | 207 | | 154 | | 361 | |
| 05:45 | | | 40 | 107 | 68 | 200 | 108 | 307 | 17:45 | | | 195 | 855 | 149 | 596 | 344 | 1451 |
| 06:00 | | | 52 | | 64 | | 116 | | 18:00 | | | 161 | | 129 | | 290 | |
| 06:15 | | | 56 | | 67 | | 123 | | 18:15 | | | 136 | | 99 | | 235 | |
| 06:30 | | | 77 | | 95 | | 172 | | 18:30 | | | 112 | | 126 | | 238 | |
| 06:45 | | | 94 | 279 | 124 | 350 | 218 | 629 | 18:45 | | | 102 | 511 | 105 | 459 | 207 | 970 |
| 07:00 | | | 118 | | 157 | | 275 | | 19:00 | | | 110 | | 101 | | 211 | |
| 07:15 | | | 124 | | 202 | | 326 | | 19:15 | | | 107 | | 86 | | 193 | |
| 07:30 | | | 141 | | 136 | | 277 | | 19:30 | | | 73 | | 100 | | 173 | |
| 07:45 | | | 96 | 479 | 133 | 628 | 229 | 1107 | 19:45 | | | 88 | 378 | 107 | 394 | 195 | 772 |
| 08:00 | | | 89 | | 111 | | 200 | | 20:00 | | | 92 | | 95 | | 187 | |
| 08:15 | | | 86 | | 95 | | 181 | | 20:15 | | | 60 | | 81 | | 141 | |
| 08:30 | | | 86 | | 89 | | 175 | | 20:30 | | | 51 | | 69 | | 120 | |
| 08:45 | | | 94 | 355 | 93 | 388 | 187 | 743 | 20:45 | | | 41 | 244 | 58 | 303 | 99 | 547 |
| 09:00 | | | 89 | | 74 | | 163 | | 21:00 | | | 62 | | 76 | | 138 | |
| 09:15 | | | 112 | | 85 | | 197 | | 21:15 | | | 38 | | 64 | | 102 | |
| 09:30 | | | 93 | | 94 | | 187 | | 21:30 | | | 59 | | 77 | | 136 | |
| 09:45 | | | 94 | 388 | 102 | 355 | 196 | 743 | 21:45 | | | 40 | 199 | 61 | 278 | 101 | 477 |
| 10:00 | | | 104 | | 75 | | 179 | | 22:00 | | | 39 | | 51 | | 90 | |
| 10:15 | | | 86 | | 69 | | 155 | | 22:15 | | | 30 | | 36 | | 66 | |
| 10:30 | | | 98 | | 96 | | 194 | | 22:30 | | | 25 | | 36 | | 61 | |
| 10:45 | | | 107 | 395 | 87 | 327 | 194 | 722 | 22:45 | | | 16 | 110 | 35 | 158 | 51 | 268 |
| 11:00 | | | 107 | | 87 | | 194 | | 23:00 | | | 22 | | 18 | | 40 | |
| 11:15 | | | 118 | | 108 | | 226 | | 23:15 | | | 20 | | 30 | | 50 | |
| 11:30 | | | 138 | | 119 | | 257 | | 23:30 | | | 23 | | 25 | | 48 | |
| 11:45 | | | 123 | 486 | 113 | 427 | 236 | 913 | 23:45 | | | 13 | 78 | 21 | 94 | 34 | 172 |
| TOTALS | | | | 2713 | | 2974 | | 5687 | TOTALS | | | | 5742 | | 5030 | | 10772 |
| SPLIT % | | | | 47.7% | | 52.3% | | 34.6% | SPLIT % | | | | 53.3% | | 46.7% | | 65.4% |

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 0 | 8,455 | 8,004 | 16,459 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AM Peak Hour | | | 11:30 | 07:00 | 07:00 | PM Peak Hour | | | 14:45 | 14:30 | 14:45 |
| AM Pk Volume | | | 526 | 628 | 1107 | PM Pk Volume | | | 916 | 649 | 1559 |
| Pk Hr Factor | | | 0.946 | 0.777 | 0.849 | Pk Hr Factor | | | 0.736 | 0.896 | 0.821 |
| 7 - 9 Volume | 0 | 0 | 834 | 1016 | 1850 | 4 - 6 Volume | 0 | 0 | 1699 | 1165 | 2864 |
| 7 - 9 Peak Hour | | | 07:00 | 07:00 | 07:00 | 4 - 6 Peak Hour | | | 16:45 | 17:00 | 16:45 |
| 7 - 9 Pk Volume | 0 | 0 | 479 | 628 | 1107 | 4 - 6 Pk Volume | 0 | 0 | 873 | 596 | 1462 |
| Pk Hr Factor | 0.000 | 0.000 | 0.849 | 0.777 | 0.849 | Pk Hr Factor | 0.000 | 0.000 | 0.957 | 0.968 | 0.972 |

# Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Fontana
N/S: Juniper Avenue
E/W: Slover Avenue
24 Hour Entering Volume Count

FON002EW
Site Code: 043-19313A

| Start Time | 23-May-19 Thu | Eastbound Morning | Eastbound Afternoon | Hour Totals Morning | Hour Totals Afternoon | Westbound Morning | Westbound Afternoon | Hour Totals Morning | Hour Totals Afternoon | Combined Totals Morning | Combined Totals Afternoon |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | | 27 | 87 | | | 53 | 85 | | | | |
| 12:15 | | 23 | 90 | | | 36 | 81 | | | | |
| 12:30 | | 23 | 83 | | | 27 | 77 | | | | |
| 12:45 | | 17 | 103 | 90 | 363 | 26 | 98 | 142 | 341 | 232 | 704 |
| 01:00 | | 17 | 115 | | | 19 | 109 | | | | |
| 01:15 | | 28 | 99 | | | 19 | 96 | | | | |
| 01:30 | | 17 | 119 | | | 16 | 121 | | | | |
| 01:45 | | 14 | 123 | 76 | 456 | 15 | 153 | 69 | 479 | 145 | 935 |
| 02:00 | | 7 | 143 | | | 11 | 148 | | | | |
| 02:15 | | 5 | 214 | | | 15 | 141 | | | | |
| 02:30 | | 15 | 152 | | | 7 | 106 | | | | |
| 02:45 | | 9 | 136 | 36 | 645 | 4 | 141 | 37 | 536 | 73 | 1181 |
| 03:00 | | 5 | 105 | | | 12 | 112 | | | | |
| 03:15 | | 7 | 126 | | | 11 | 122 | | | | |
| 03:30 | | 11 | 121 | | | 12 | 121 | | | | |
| 03:45 | | 8 | 100 | 31 | 452 | 6 | 94 | 41 | 449 | 72 | 901 |
| 04:00 | | 5 | 124 | | | 8 | 117 | | | | |
| 04:15 | | 5 | 144 | | | 10 | 115 | | | | |
| 04:30 | | 8 | 147 | | | 17 | 102 | | | | |
| 04:45 | | 9 | 191 | 27 | 606 | 8 | 133 | 43 | 467 | 70 | 1073 |
| 05:00 | | 6 | 159 | | | 13 | 147 | | | | |
| 05:15 | | 11 | 179 | | | 13 | 160 | | | | |
| 05:30 | | 14 | **205** | | | 11 | 153 | | | | |
| 05:45 | | 12 | **212** | 43 | 755 | 11 | **185** | 48 | 645 | 91 | 1400 |
| 06:00 | | 13 | **191** | | | 31 | **160** | | | | |
| 06:15 | | 11 | **185** | | | 29 | **175** | | | | |
| 06:30 | | 16 | 199 | | | 45 | **155** | | | | |
| 06:45 | | 15 | 193 | 55 | 768 | 28 | 146 | 133 | 636 | 188 | 1404 |
| 07:00 | | 18 | 176 | | | 61 | 158 | | | | |
| 07:15 | | 22 | 176 | | | 75 | 137 | | | | |
| 07:30 | | 33 | 162 | | | 84 | 119 | | | | |
| 07:45 | | 32 | 160 | 105 | 674 | 57 | 104 | 277 | 518 | 382 | 1192 |
| 08:00 | | 44 | 128 | | | 64 | 105 | | | | |
| 08:15 | | 38 | 111 | | | 103 | 79 | | | | |
| 08:30 | | **95** | 132 | | | **157** | 86 | | | | |
| 08:45 | | **106** | 136 | 283 | 507 | **164** | 108 | 488 | 378 | 771 | 885 |
| 09:00 | | **148** | 147 | | | **194** | 107 | | | | |
| 09:15 | | **122** | 116 | | | **135** | 88 | | | | |
| 09:30 | | 83 | 77 | | | 115 | 78 | | | | |
| 09:45 | | 73 | 64 | 426 | 404 | 92 | 75 | 536 | 348 | 962 | 752 |
| 10:00 | | 102 | 66 | | | 94 | 89 | | | | |
| 10:15 | | 87 | 62 | | | 91 | 90 | | | | |
| 10:30 | | 80 | 63 | | | 94 | 66 | | | | |
| 10:45 | | 92 | 51 | 361 | 242 | 87 | 74 | 366 | 319 | 727 | 561 |
| 11:00 | | 88 | 41 | | | 92 | 39 | | | | |
| 11:15 | | 69 | 47 | | | 76 | 57 | | | | |
| 11:30 | | 76 | 32 | | | 77 | 50 | | | | |
| 11:45 | | 87 | 34 | 320 | 154 | 77 | 45 | 322 | 191 | 642 | 345 |
| Total | | 1853 | 6026 | 1853 | 6026 | 2502 | 5307 | 2502 | 5307 | 4355 | 11333 |
| Combined Total | | 7879 | | 7879 | | 7809 | | 7809 | | 15688 | |
| AM Peak | - | 08:30 | - | - | - | 08:30 | - | - | - | - | - |
| Vol. | - | 471 | - | - | - | 650 | - | - | - | - | - |
| P.H.F. | | 0.796 | | | | 0.838 | | | | | |
| PM Peak | - | - | 05:30 | - | - | - | 05:45 | - | - | - | - |
| Vol. | - | - | 793 | - | - | - | 675 | - | - | - | - |
| P.H.F. | | | 0.935 | | | | 0.912 | | | | |
| Percentage | | 23.5% | 76.5% | | | 32.0% | 68.0% | | | | |
| ADT/AADT | | ADT 15,688 | | AADT 15,688 | | | | | | | |

# Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Fontana
N/S: Juniper Avenue
E/W: Slover Avenue
24 Hour Entering Volume Count

FON002NS
Site Code: 043-19313A

| Start Time | 23-May-19 Thu | Northbound Morning | Northbound Afternoon | Hour Totals Morning | Hour Totals Afternoon | Southbound Morning | Southbound Afternoon | Hour Totals Morning | Hour Totals Afternoon | Combined Totals Morning | Combined Totals Afternoon |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | | 3 | 18 | | | 1 | 2 | | | | |
| 12:15 | | 5 | 17 | | | 4 | 3 | | | | |
| 12:30 | | 6 | 27 | | | 2 | 5 | | | | |
| 12:45 | | 5 | 28 | 19 | 90 | 3 | 3 | 10 | 13 | 29 | 103 |
| 01:00 | | 6 | 18 | | | 2 | 5 | | | | |
| 01:15 | | 2 | 18 | | | 0 | 3 | | | | |
| 01:30 | | 1 | 29 | | | 1 | 1 | | | | |
| 01:45 | | 4 | 26 | 13 | 91 | 0 | 3 | 3 | 12 | 16 | 103 |
| 02:00 | | 1 | 24 | | | 1 | 4 | | | | |
| 02:15 | | 3 | 23 | | | 1 | 3 | | | | |
| 02:30 | | 1 | 22 | | | 0 | 4 | | | | |
| 02:45 | | 1 | 30 | 6 | 99 | 0 | 2 | 2 | 13 | 8 | 112 |
| 03:00 | | 1 | 30 | | | 0 | 2 | | | | |
| 03:15 | | 2 | 20 | | | 0 | 6 | | | | |
| 03:30 | | 1 | 24 | | | 0 | 1 | | | | |
| 03:45 | | 0 | 19 | 4 | 93 | 0 | 1 | 0 | 10 | 4 | 103 |
| 04:00 | | 0 | 13 | | | 1 | 3 | | | | |
| 04:15 | | 1 | 21 | | | 0 | 4 | | | | |
| 04:30 | | 0 | 21 | | | 1 | 3 | | | | |
| 04:45 | | 3 | 17 | 4 | 72 | 0 | **7** | 2 | 17 | 6 | 89 |
| 05:00 | | 2 | 16 | | | 0 | **7** | | | | |
| 05:15 | | 0 | 23 | | | 0 | **4** | | | | |
| 05:30 | | 4 | 25 | | | 1 | **9** | | | | |
| 05:45 | | 6 | 17 | 12 | 81 | 1 | 3 | 2 | 23 | 14 | 104 |
| 06:00 | | 4 | 30 | | | 2 | 5 | | | | |
| 06:15 | | 4 | 24 | | | 6 | 3 | | | | |
| 06:30 | | 5 | **25** | | | 3 | 5 | | | | |
| 06:45 | | 11 | **26** | 24 | 105 | 3 | 2 | 14 | 15 | 38 | 120 |
| 07:00 | | 4 | **31** | | | 4 | 3 | | | | |
| 07:15 | | 6 | **27** | | | 3 | 4 | | | | |
| 07:30 | | 2 | 16 | | | 3 | 1 | | | | |
| 07:45 | | 8 | 20 | 20 | 94 | 3 | 3 | 13 | 11 | 33 | 105 |
| 08:00 | | 4 | 21 | | | 7 | 2 | | | | |
| 08:15 | | 16 | 16 | | | 4 | 4 | | | | |
| 08:30 | | 14 | 17 | | | 1 | 3 | | | | |
| 08:45 | | **23** | 27 | 57 | 81 | 3 | 12 | 15 | 21 | 72 | 102 |
| 09:00 | | **25** | 19 | | | **6** | 3 | | | | |
| 09:15 | | **20** | 20 | | | **3** | 2 | | | | |
| 09:30 | | **25** | 20 | | | **6** | 3 | | | | |
| 09:45 | | 17 | 14 | 87 | 73 | **5** | 3 | 20 | 11 | 107 | 84 |
| 10:00 | | 14 | 20 | | | 3 | 3 | | | | |
| 10:15 | | 22 | 15 | | | 4 | 5 | | | | |
| 10:30 | | 17 | 25 | | | 3 | 5 | | | | |
| 10:45 | | 29 | 24 | 82 | 84 | 2 | 4 | 12 | 17 | 94 | 101 |
| 11:00 | | 16 | 13 | | | 4 | 0 | | | | |
| 11:15 | | 17 | 7 | | | 2 | 1 | | | | |
| 11:30 | | 25 | 8 | | | 2 | 3 | | | | |
| 11:45 | | 18 | 2 | 76 | 30 | 6 | 1 | 14 | 5 | 90 | 35 |
| Total | | 404 | 993 | 404 | 993 | 107 | 168 | 107 | 168 | 511 | 1161 |
| Combined Total | | 1397 | | 1397 | | 275 | | 275 | | 1672 | |
| AM Peak | - | 08:45 | - | - | - | 09:00 | - | - | - | - | - |
| Vol. | - | 93 | - | - | - | 20 | - | - | - | - | - |
| P.H.F. | | 0.930 | | | | 0.833 | | | | | |
| PM Peak | - | - | 06:30 | - | - | - | 04:45 | - | - | - | - |
| Vol. | - | - | 109 | - | - | - | 27 | - | - | - | - |
| P.H.F. | | | 0.879 | | | | 0.750 | | | | |
| Percentage | | 28.9% | 71.1% | | | 38.9% | 61.1% | | | | |
| ADT/AADT | | ADT 1,672 | | AADT 1,672 | | | | | | | |

# APPENDIX C:

# VOLUME DEVELOPMENT WORKSHEETS

LSA

## Table C-1 - Existing Peak Hour PCE Volume Summary

| | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | Existing Without Project | Net Project Trips | Existing With Project | Existing Without Project | Net Project Trips | Existing With Project |
| **1 Juniper Avenue/Boyle Avenue** | | | | | | |
| NBL | 7 | 0 | 7 | 12 | 0 | 12 |
| NBT | 3 | 0 | 3 | 7 | 0 | 7 |
| NBR | 1 | 35 | 36 | 11 | 17 | 28 |
| SBL | 0 | 0 | 0 | 0 | 0 | 0 |
| SBT | 0 | 0 | 0 | 9 | 0 | 9 |
| SBR | 0 | 0 | 0 | 0 | 0 | 0 |
| EBL | 0 | 0 | 0 | 0 | 0 | 0 |
| EBT | 4 | 0 | 4 | 2 | 0 | 2 |
| EBR | 13 | 0 | 13 | 13 | 0 | 13 |
| WBL | 10 | 14 | 24 | 10 | 34 | 44 |
| WBT | 0 | 0 | 0 | 0 | 0 | 0 |
| WBR | 0 | 0 | 0 | 0 | 0 | 0 |
| North Leg | | | | | | |
| Approach | 0 | 0 | 0 | 9 | 0 | 9 |
| Departure | 3 | 0 | 3 | 7 | 0 | 7 |
| Total | 3 | 0 | 3 | 16 | 0 | 16 |
| South Leg | | | | | | |
| Approach | 11 | 35 | 46 | 30 | 17 | 47 |
| Departure | 23 | 14 | 37 | 32 | 34 | 66 |
| Total | 34 | 49 | 83 | 62 | 51 | 113 |
| East Leg | | | | | | |
| Approach | 10 | 14 | 24 | 10 | 34 | 44 |
| Departure | 5 | 35 | 40 | 13 | 17 | 30 |
| Total | 15 | 49 | 64 | 23 | 51 | 74 |
| West Leg | | | | | | |
| Approach | 17 | 0 | 17 | 15 | 0 | 15 |
| Departure | 7 | 0 | 7 | 12 | 0 | 12 |
| Total | 24 | 0 | 24 | 27 | 0 | 27 |
| Total Approaches | | | | | | |
| Approach | 38 | 49 | 87 | 64 | 51 | 115 |
| Departure | 38 | 49 | 87 | 64 | 51 | 115 |
| Total | 76 | 98 | 174 | 128 | 102 | 230 |

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## Table C-1 - Existing Peak Hour PCE Volume Summary

| | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | Existing Without Project | Net Project Trips | Existing With Project | Existing Without Project | Net Project Trips | Existing With Project |
| **2 Juniper Avenue/Slover Avenue** | | | | | | |
| NBL | 34 | 0 | 34 | 33 | 0 | 33 |
| NBT | 1 | 0 | 1 | 0 | 0 | 0 |
| NBR | 66 | 0 | 66 | 83 | 0 | 83 |
| SBL | 14 | 12 | 26 | 11 | 26 | 37 |
| SBT | 2 | 0 | 2 | 6 | 0 | 6 |
| SBR | 8 | 2 | 10 | 14 | 8 | 22 |
| EBL | 6 | 8 | 14 | 9 | 3 | 12 |
| EBT | 482 | 0 | 482 | 830 | 0 | 830 |
| EBR | 21 | 0 | 21 | 55 | 0 | 55 |
| WBL | 65 | 0 | 65 | 76 | 0 | 76 |
| WBT | 635 | 0 | 635 | 682 | 0 | 682 |
| WBR | 3 | 27 | 30 | 19 | 14 | 33 |
| North Leg | | | | | | |
| Approach | 24 | 14 | 38 | 31 | 34 | 65 |
| Departure | 10 | 35 | 45 | 28 | 17 | 45 |
| Total | 34 | 49 | 83 | 59 | 51 | 110 |
| South Leg | | | | | | |
| Approach | 101 | 0 | 101 | 116 | 0 | 116 |
| Departure | 88 | 0 | 88 | 137 | 0 | 137 |
| Total | 189 | 0 | 189 | 253 | 0 | 253 |
| East Leg | | | | | | |
| Approach | 703 | 27 | 730 | 777 | 14 | 791 |
| Departure | 562 | 12 | 574 | 924 | 26 | 950 |
| Total | 1,265 | 39 | 1,304 | 1,701 | 40 | 1,741 |
| West Leg | | | | | | |
| Approach | 509 | 8 | 517 | 894 | 3 | 897 |
| Departure | 677 | 2 | 679 | 729 | 8 | 737 |
| Total | 1,186 | 10 | 1,196 | 1,623 | 11 | 1,634 |
| Total Approaches | | | | | | |
| Approach | 1,337 | 49 | 1,386 | 1,818 | 51 | 1,869 |
| Departure | 1,337 | 49 | 1,386 | 1,818 | 51 | 1,869 |
| Total | 2,674 | 98 | 2,772 | 3,636 | 102 | 3,738 |

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## Table C-1 - Existing Peak Hour PCE Volume Summary

| | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | Existing Without Project | Net Project Trips | Existing With Project | Existing Without Project | Net Project Trips | Existing With Project |
| **3 Project Driveway 1/Boyle Avenue** | | | | | | |
| NBL | 0 | 0 | 0 | 0 | 0 | 0 |
| NBT | 0 | 0 | 0 | 0 | 0 | 0 |
| NBR | 0 | 0 | 0 | 0 | 0 | 0 |
| SBL | 0 | 0 | 0 | 0 | 0 | 0 |
| SBT | 0 | 0 | 0 | 0 | 0 | 0 |
| SBR | 0 | 14 | 14 | 0 | 34 | 34 |
| EBL | 0 | 35 | 35 | 0 | 17 | 17 |
| EBT | 5 | 0 | 5 | 13 | 0 | 13 |
| EBR | 0 | 0 | 0 | 0 | 0 | 0 |
| WBL | 0 | 0 | 0 | 0 | 0 | 0 |
| WBT | 10 | 0 | 10 | 10 | 0 | 10 |
| WBR | 0 | 0 | 0 | 0 | 0 | 0 |
| North Leg | | | | | | |
| Approach | 0 | 14 | 14 | 0 | 34 | 34 |
| Departure | 0 | 35 | 35 | 0 | 17 | 17 |
| Total | 0 | 49 | 49 | 0 | 51 | 51 |
| South Leg | | | | | | |
| Approach | 0 | 0 | 0 | 0 | 0 | 0 |
| Departure | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 |
| East Leg | | | | | | |
| Approach | 10 | 0 | 10 | 10 | 0 | 10 |
| Departure | 5 | 0 | 5 | 13 | 0 | 13 |
| Total | 15 | 0 | 15 | 23 | 0 | 23 |
| West Leg | | | | | | |
| Approach | 5 | 35 | 40 | 13 | 17 | 30 |
| Departure | 10 | 14 | 24 | 10 | 34 | 44 |
| Total | 15 | 49 | 64 | 23 | 51 | 74 |
| Total Approaches | | | | | | |
| Approach | 15 | 49 | 64 | 23 | 51 | 74 |
| Departure | 15 | 49 | 64 | 23 | 51 | 74 |
| Total | 30 | 98 | 128 | 46 | 102 | 148 |

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## Table C-2 - Opening Year (2021) Peak Hour PCE Volume Summary

| | | AM Peak Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | Existing (2020) PCE | 2020-2021 Growth | Cumulative Project Trips | OY Without Project | Net Project Trips | OY With Project |
| **1** | **Juniper Avenue/Boyle Avenue** | | | | | | |
| NBL | | 7 | 0 | 0 | 7 | 0 | 7 |
| NBT | | 3 | 0 | 5 | 8 | 0 | 8 |
| NBR | | 1 | 0 | 13 | 14 | 35 | 49 |
| SBL | | 0 | 0 | 0 | 0 | 0 | 0 |
| SBT | | 0 | 0 | 0 | 0 | 0 | 0 |
| SBR | | 0 | 0 | 0 | 0 | 0 | 0 |
| EBL | | 0 | 0 | 0 | 0 | 0 | 0 |
| EBT | | 4 | 0 | 0 | 4 | 0 | 4 |
| EBR | | 13 | 0 | 0 | 13 | 0 | 13 |
| WBL | | 10 | 0 | 2 | 12 | 14 | 26 |
| WBT | | 0 | 0 | 0 | 0 | 0 | 0 |
| WBR | | 0 | 0 | 0 | 0 | 0 | 0 |
| North Leg | | | | | | | |
| | Approach | 0 | 0 | 0 | 0 | 0 | 0 |
| | Departure | 3 | 0 | 5 | 8 | 0 | 8 |
| | Total | 3 | 0 | 5 | 8 | 0 | 8 |
| South Leg | | | | | | | |
| | Approach | 11 | 0 | 18 | 29 | 35 | 64 |
| | Departure | 23 | 0 | 2 | 25 | 14 | 39 |
| | Total | 34 | 0 | 20 | 54 | 49 | 103 |
| East Leg | | | | | | | |
| | Approach | 10 | 0 | 2 | 12 | 14 | 26 |
| | Departure | 5 | 0 | 13 | 18 | 35 | 53 |
| | Total | 15 | 0 | 15 | 30 | 49 | 79 |
| West Leg | | | | | | | |
| | Approach | 17 | 0 | 0 | 17 | 0 | 17 |
| | Departure | 7 | 0 | 0 | 7 | 0 | 7 |
| | Total | 24 | 0 | 0 | 24 | 0 | 24 |
| Total Approaches | | | | | | | |
| | Approach | 38 | 0 | 20 | 58 | 49 | 107 |
| | Departure | 38 | 0 | 20 | 58 | 49 | 107 |
| | Total | 76 | 0 | 40 | 116 | 98 | 214 |

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## Table C-2 - Opening Year (2021) Peak Hour PCE Volume Summary

| | | AM Peak Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | Existing (2020) PCE | 2020-2021 Growth | Cumulative Project Trips | OY Without Project | Net Project Trips | OY With Project |
| **2** | **Juniper Avenue/Slover Avenue** | | | | | | |
| NBL | | 34 | 3 | 0 | 37 | 0 | 37 |
| NBT | | 1 | 0 | 0 | 1 | 0 | 1 |
| NBR | | 66 | 5 | 0 | 71 | 0 | 71 |
| SBL | | 14 | 0 | 2 | 16 | 12 | 28 |
| SBT | | 2 | 0 | 0 | 2 | 0 | 2 |
| SBR | | 8 | 0 | 2 | 10 | 2 | 12 |
| EBL | | 6 | 0 | 5 | 11 | 8 | 19 |
| EBT | | 482 | 8 | 71 | 561 | 0 | 561 |
| EBR | | 21 | 0 | 0 | 21 | 0 | 21 |
| WBL | | 65 | 1 | 0 | 66 | 0 | 66 |
| WBT | | 635 | 13 | 87 | 735 | 0 | 735 |
| WBR | | 3 | 0 | 20 | 23 | 27 | 50 |
| North Leg | | | | | | | |
| | Approach | 24 | 0 | 4 | 28 | 14 | 42 |
| | Departure | 10 | 0 | 25 | 35 | 35 | 70 |
| | Total | 34 | 0 | 29 | 63 | 49 | 112 |
| South Leg | | | | | | | |
| | Approach | 101 | 8 | 0 | 109 | 0 | 109 |
| | Departure | 88 | 1 | 0 | 89 | 0 | 89 |
| | Total | 189 | 9 | 0 | 198 | 0 | 198 |
| East Leg | | | | | | | |
| | Approach | 703 | 14 | 107 | 824 | 27 | 851 |
| | Departure | 562 | 13 | 73 | 648 | 12 | 660 |
| | Total | 1,265 | 27 | 180 | 1,472 | 39 | 1,511 |
| West Leg | | | | | | | |
| | Approach | 509 | 8 | 76 | 593 | 8 | 601 |
| | Departure | 677 | 16 | 89 | 782 | 2 | 784 |
| | Total | 1,186 | 24 | 165 | 1,375 | 10 | 1,385 |
| Total Approaches | | | | | | | |
| | Approach | 1,337 | 30 | 187 | 1,554 | 49 | 1,603 |
| | Departure | 1,337 | 30 | 187 | 1,554 | 49 | 1,603 |
| | Total | 2,674 | 60 | 374 | 3,108 | 98 | 3,206 |

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## Table C-2 - Opening Year (2021) Peak Hour PCE Volume Summary

| | AM Peak Hour | | | | | |
|---|---|---|---|---|---|---|
| | Existing (2020) PCE | 2020-2021 Growth | Cumulative Project Trips | OY Without Project | Net Project Trips | OY With Project |
| **3 Project Driveway 1/Boyle Avenue** | | | | | | |
| NBL | 0 | 0 | 0 | 0 | 0 | 0 |
| NBT | 0 | 0 | 0 | 0 | 0 | 0 |
| NBR | 0 | 0 | 0 | 0 | 0 | 0 |
| SBL | 0 | 0 | 0 | 0 | 0 | 0 |
| SBT | 0 | 0 | 0 | 0 | 0 | 0 |
| SBR | 0 | 0 | 0 | 0 | 14 | 14 |
| EBL | 0 | 0 | 0 | 0 | 35 | 35 |
| EBT | 5 | 0 | 0 | 5 | 0 | 5 |
| EBR | 0 | 0 | 0 | 0 | 0 | 0 |
| WBL | 0 | 0 | 0 | 0 | 0 | 0 |
| WBT | 10 | 0 | 0 | 10 | 0 | 10 |
| WBR | 0 | 0 | 0 | 0 | 0 | 0 |
| North Leg | | | | | | |
| Approach | 0 | 0 | 0 | 0 | 14 | 14 |
| Departure | 0 | 0 | 0 | 0 | 35 | 35 |
| Total | 0 | 0 | 0 | 0 | 49 | 49 |
| South Leg | | | | | | |
| Approach | 0 | 0 | 0 | 0 | 0 | 0 |
| Departure | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 |
| East Leg | | | | | | |
| Approach | 10 | 0 | 0 | 10 | 0 | 10 |
| Departure | 5 | 0 | 0 | 5 | 0 | 5 |
| Total | 15 | 0 | 0 | 15 | 0 | 15 |
| West Leg | | | | | | |
| Approach | 5 | 0 | 0 | 5 | 35 | 40 |
| Departure | 10 | 0 | 0 | 10 | 14 | 24 |
| Total | 15 | 0 | 0 | 15 | 49 | 64 |
| Total Approaches | | | | | | |
| Approach | 15 | 0 | 0 | 15 | 49 | 64 |
| Departure | 15 | 0 | 0 | 15 | 49 | 64 |
| Total | 30 | 0 | 0 | 30 | 98 | 128 |

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## Table C-2 - Opening Year (2021) Peak Hour PCE Volume Summary

| | PM Peak Hour | | | | | |
|---|---|---|---|---|---|---|
| | Existing (2020) PCE | 2020-2021 Growth | Cumulative Project Trips | OY Without Project | Net Project Trips | OY With Project |
| **1 Juniper Avenue/Boyle Avenue** | | | | | | |
| NBL | 12 | 0 | 0 | 12 | 0 | 12 |
| NBT | 7 | 0 | 1 | 8 | 0 | 8 |
| NBR | 11 | 0 | 5 | 16 | 17 | 33 |
| SBL | 0 | 0 | 0 | 0 | 0 | 0 |
| SBT | 9 | 0 | 10 | 19 | 0 | 19 |
| SBR | 0 | 0 | 0 | 0 | 0 | 0 |
| EBL | 0 | 0 | 0 | 0 | 0 | 0 |
| EBT | 2 | 0 | 0 | 2 | 0 | 2 |
| EBR | 13 | 0 | 0 | 13 | 0 | 13 |
| WBL | 10 | 0 | 8 | 18 | 34 | 52 |
| WBT | 0 | 0 | 0 | 0 | 0 | 0 |
| WBR | 0 | 0 | 0 | 0 | 0 | 0 |
| North Leg | | | | | | |
| Approach | 9 | 0 | 10 | 19 | 0 | 19 |
| Departure | 7 | 0 | 1 | 8 | 0 | 8 |
| Total | 16 | 0 | 11 | 27 | 0 | 27 |
| South Leg | | | | | | |
| Approach | 30 | 0 | 6 | 36 | 17 | 53 |
| Departure | 32 | 0 | 18 | 50 | 34 | 84 |
| Total | 62 | 0 | 24 | 86 | 51 | 137 |
| East Leg | | | | | | |
| Approach | 10 | 0 | 8 | 18 | 34 | 52 |
| Departure | 13 | 0 | 5 | 18 | 17 | 35 |
| Total | 23 | 0 | 13 | 36 | 51 | 87 |
| West Leg | | | | | | |
| Approach | 15 | 0 | 0 | 15 | 0 | 15 |
| Departure | 12 | 0 | 0 | 12 | 0 | 12 |
| Total | 27 | 0 | 0 | 27 | 0 | 27 |
| Total Approaches | | | | | | |
| Approach | 64 | 0 | 24 | 88 | 51 | 139 |
| Departure | 64 | 0 | 24 | 88 | 51 | 139 |
| Total | 128 | 0 | 48 | 176 | 102 | 278 |

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## Table C-2 - Opening Year (2021) Peak Hour PCE Volume Summary

| | | PM Peak Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | Existing (2020) PCE | 2020-2021 Growth | Cumulative Project Trips | OY Without Project | Net Project Trips | OY With Project |
| **2** | **Juniper Avenue/Slover Avenue** | | | | | | |
| NBL | | 33 | 2 | 0 | 35 | 0 | 35 |
| NBT | | 0 | 0 | 0 | 0 | 0 | 0 |
| NBR | | 83 | 5 | 0 | 88 | 0 | 88 |
| SBL | | 11 | 0 | 22 | 33 | 26 | 59 |
| SBT | | 6 | 0 | 0 | 6 | 0 | 6 |
| SBR | | 14 | 0 | 5 | 19 | 8 | 27 |
| EBL | | 9 | 0 | 2 | 11 | 3 | 14 |
| EBT | | 830 | 0 | 93 | 923 | 0 | 923 |
| EBR | | 55 | 0 | 0 | 55 | 0 | 55 |
| WBL | | 76 | 7 | 0 | 83 | 0 | 83 |
| WBT | | 682 | 65 | 77 | 824 | 0 | 824 |
| WBR | | 19 | 2 | 6 | 27 | 14 | 41 |
| North Leg | | | | | | | |
| | Approach | 31 | 0 | 27 | 58 | 34 | 92 |
| | Departure | 28 | 2 | 8 | 38 | 17 | 55 |
| | Total | 59 | 2 | 35 | 96 | 51 | 147 |
| South Leg | | | | | | | |
| | Approach | 116 | 7 | 0 | 123 | 0 | 123 |
| | Departure | 137 | 7 | 0 | 144 | 0 | 144 |
| | Total | 253 | 14 | 0 | 267 | 0 | 267 |
| East Leg | | | | | | | |
| | Approach | 777 | 74 | 83 | 934 | 14 | 948 |
| | Departure | 924 | 5 | 115 | 1,044 | 26 | 1,070 |
| | Total | 1,701 | 79 | 198 | 1,978 | 40 | 2,018 |
| West Leg | | | | | | | |
| | Approach | 894 | 0 | 95 | 989 | 3 | 992 |
| | Departure | 729 | 67 | 82 | 878 | 8 | 886 |
| | Total | 1,623 | 67 | 177 | 1,867 | 11 | 1,878 |
| Total Approaches | | | | | | | |
| | Approach | 1,818 | 81 | 205 | 2,104 | 51 | 2,155 |
| | Departure | 1,818 | 81 | 205 | 2,104 | 51 | 2,155 |
| | Total | 3,636 | 162 | 410 | 4,208 | 102 | 4,310 |

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## Table C-2 - Opening Year (2021) Peak Hour PCE Volume Summary

| | PM Peak Hour | | | | | |
|---|---|---|---|---|---|---|
| | Existing (2020) PCE | 2020-2021 Growth | Cumulative Project Trips | OY Without Project | Net Project Trips | OY With Project |
| **3 Project Driveway 1/Boyle Avenue** | | | | | | |
| NBL | 0 | 0 | 0 | 0 | 0 | 0 |
| NBT | 0 | 0 | 0 | 0 | 0 | 0 |
| NBR | 0 | 0 | 0 | 0 | 0 | 0 |
| SBL | 0 | 0 | 0 | 0 | 0 | 0 |
| SBT | 0 | 0 | 0 | 0 | 0 | 0 |
| SBR | 0 | 0 | 0 | 0 | 34 | 34 |
| EBL | 0 | 0 | 0 | 0 | 17 | 17 |
| EBT | 13 | 0 | 0 | 13 | 0 | 13 |
| EBR | 0 | 0 | 0 | 0 | 0 | 0 |
| WBL | 0 | 0 | 0 | 0 | 0 | 0 |
| WBT | 10 | 0 | 0 | 10 | 0 | 10 |
| WBR | 0 | 0 | 0 | 0 | 0 | 0 |
| North Leg | | | | | | |
| Approach | 0 | 0 | 0 | 0 | 34 | 34 |
| Departure | 0 | 0 | 0 | 0 | 17 | 17 |
| Total | 0 | 0 | 0 | 0 | 51 | 51 |
| South Leg | | | | | | |
| Approach | 0 | 0 | 0 | 0 | 0 | 0 |
| Departure | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 |
| East Leg | | | | | | |
| Approach | 10 | 0 | 0 | 10 | 0 | 10 |
| Departure | 13 | 0 | 0 | 13 | 0 | 13 |
| Total | 23 | 0 | 0 | 23 | 0 | 23 |
| West Leg | | | | | | |
| Approach | 13 | 0 | 0 | 13 | 17 | 30 |
| Departure | 10 | 0 | 0 | 10 | 34 | 44 |
| Total | 23 | 0 | 0 | 23 | 51 | 74 |
| Total Approaches | | | | | | |
| Approach | 23 | 0 | 0 | 23 | 51 | 74 |
| Departure | 23 | 0 | 0 | 23 | 51 | 74 |
| Total | 46 | 0 | 0 | 46 | 102 | 148 |

# APPENDIX D:

# LEVEL OF SERVICE WORKSHEETS

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 4 | 13 | 10 | 0 | 0 | 7 | 3 | 1 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 4 | 13 | 10 | 0 | 0 | 7 | 3 | 1 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 5 | 16 | 13 | 0 | 0 | 9 | 4 | 1 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 0 | 21 | 0 | 0 | 39 | 39 | 13 | 42 | 47 | 0 |
| Stage 1 | - | - | - | - | - | - | 13 | 13 | - | 26 | 26 | - |
| Stage 2 | - | - | - | - | - | - | 26 | 26 | - | 16 | 21 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | - | - | - | 1608 | - | - | 971 | 857 | 1073 | 966 | 849 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 997 | 878 | - |
| Stage 2 | - | - | - | - | - | - | 997 | 878 | - | 1009 | 882 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | - | - | - | 1608 | - | - | - | 850 | 1073 | 955 | 842 | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | 850 | - | 955 | 842 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 997 | 871 | - |
| Stage 2 | - | - | - | - | - | - | 989 | 871 | - | 1004 | 882 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 7.3 | | 0 |
| HCM LOS | | | - | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | - | 1608 | - | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.008 | - | - | - |
| HCM Control Delay (s) | - | 0 | - | - | 7.3 | 0 | - | 0 |
| HCM Lane LOS | - | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | - | - | - | - | 0 | - | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 482 | 21 | 65 | 635 | 3 | 34 | 1 | 66 | 14 | 2 | 8 |
| Future Vol, veh/h | 6 | 482 | 21 | 65 | 635 | 3 | 34 | 1 | 66 | 14 | 2 | 8 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | - | 100 | - | 100 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 7 | 560 | 24 | 76 | 738 | 3 | 40 | 1 | 77 | 16 | 2 | 9 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 741 | 0 | 0 | 584 | 0 | 0 | 1108 | 1479 | 292 | 1185 | 1488 | 369 |
| Stage 1 | - | - | - | - | - | - | 586 | 586 | - | 890 | 890 | - |
| Stage 2 | - | - | - | - | - | - | 522 | 893 | - | 295 | 598 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 875 | - | - | 1001 | - | - | 167 | 127 | 710 | 147 | 125 | 634 |
| Stage 1 | - | - | - | - | - | - | 468 | 500 | - | 308 | 364 | - |
| Stage 2 | - | - | - | - | - | - | 511 | 363 | - | 695 | 494 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 875 | - | - | 1001 | - | - | 152 | 116 | 710 | 122 | 115 | 634 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 152 | 116 | - | 122 | 115 | - |
| Stage 1 | - | - | - | - | - | - | 464 | 496 | - | 306 | 336 | - |
| Stage 2 | - | - | - | - | - | - | 462 | 335 | - | 613 | 490 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0.8 | 23.4 | 31 |
| HCM LOS | | | C | D |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 311 | 875 | - | - | 1001 | - | - | 166 |
| HCM Lane V/C Ratio | 0.378 | 0.008 | - | - | 0.076 | - | - | 0.168 |
| HCM Control Delay (s) | 23.4 | 9.1 | - | - | 8.9 | - | - | 31 |
| HCM Lane LOS | C | A | - | - | A | - | - | D |
| HCM 95th %tile Q(veh) | 1.7 | 0 | - | - | 0.2 | - | - | 0.6 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 2 | 13 | 10 | 0 | 0 | 12 | 7 | 11 | 0 | 9 | 0 |
| Future Vol, veh/h | 0 | 2 | 13 | 10 | 0 | 0 | 12 | 7 | 11 | 0 | 9 | 0 |
| Conflicting Peds, #/hr | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 3 | 19 | 14 | 0 | 0 | 17 | 10 | 16 | 0 | 13 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 22 | 0 | 0 | 50 | 42 | 13 | 55 | 51 | 3 |
| Stage 1 | - | - | - | - | - | - | 13 | 13 | - | 29 | 29 | - |
| Stage 2 | - | - | - | - | - | - | 37 | 29 | - | 26 | 22 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1635 | - | - | 1607 | - | - | 955 | 854 | 1073 | 948 | 844 | 1087 |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 993 | 875 | - |
| Stage 2 | - | - | - | - | - | - | 984 | 875 | - | 997 | 881 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1633 | - | - | 1607 | - | - | 935 | 845 | 1073 | 919 | 836 | 1084 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 935 | 845 | - | 919 | 836 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 992 | 866 | - |
| Stage 2 | - | - | - | - | - | - | 959 | 866 | - | 971 | 881 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 7.3 | 8.9 | 9.4 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 956 | 1633 | - | - | 1607 | - | - | 836 |
| HCM Lane V/C Ratio | 0.045 | - | - | - | 0.009 | - | - | 0.016 |
| HCM Control Delay (s) | 8.9 | 0 | - | - | 7.3 | 0 | - | 9.4 |
| HCM Lane LOS | A | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 9 | 830 | 55 | 76 | 682 | 19 | 33 | 0 | 83 | 11 | 6 | 14 |
| Future Vol, veh/h | 9 | 830 | 55 | 76 | 682 | 19 | 33 | 0 | 83 | 11 | 6 | 14 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | - | 100 | - | 100 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 9 | 838 | 56 | 77 | 689 | 19 | 33 | 0 | 84 | 11 | 6 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 708 | 0 | 0 | 894 | 0 | 0 | 1386 | 1746 | 447 | 1280 | 1755 | 345 |
| Stage 1 | - | - | - | - | - | - | 884 | 884 | - | 843 | 843 | - |
| Stage 2 | - | - | - | - | - | - | 502 | 862 | - | 437 | 912 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 900 | - | - | 767 | - | - | 104 | 87 | 564 | 125 | 86 | 657 |
| Stage 1 | - | - | - | - | - | - | 311 | 366 | - | 329 | 382 | - |
| Stage 2 | - | - | - | - | - | - | 525 | 375 | - | 574 | 355 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 900 | - | - | 767 | - | - | 88 | 78 | 564 | 98 | 77 | 657 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 88 | 78 | - | 98 | 77 | - |
| Stage 1 | - | - | - | - | - | - | 308 | 362 | - | 326 | 344 | - |
| Stage 2 | - | - | - | - | - | - | 454 | 338 | - | 484 | 351 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 1 | 38 | 36 |
| HCM LOS | | | E | E |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 222 | 900 | - | - | 767 | - | - | 147 |
| HCM Lane V/C Ratio | 0.528 | 0.01 | - | - | 0.1 | - | - | 0.213 |
| HCM Control Delay (s) | 38 | 9 | - | - | 10.2 | - | - | 36 |
| HCM Lane LOS | E | A | - | - | B | - | - | E |
| HCM 95th %tile Q(veh) | 2.8 | 0 | - | - | 0.3 | - | - | 0.8 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 4 | 13 | 24 | 0 | 0 | 7 | 3 | 36 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 4 | 13 | 24 | 0 | 0 | 7 | 3 | 36 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 5 | 16 | 30 | 0 | 0 | 9 | 4 | 46 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 0 | 21 | 0 | 0 | 73 | 73 | 13 | 98 | 81 | 0 |
| Stage 1 | - | - | - | - | - | - | 13 | 13 | - | 60 | 60 | - |
| Stage 2 | - | - | - | - | - | - | 60 | 60 | - | 38 | 21 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | - | - | - | 1608 | - | - | 923 | 821 | 1073 | 889 | 813 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 957 | 849 | - |
| Stage 2 | - | - | - | - | - | - | 957 | 849 | - | 982 | 882 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | - | - | - | 1608 | - | - | - | 805 | 1073 | 836 | 798 | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | 805 | - | 836 | 798 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 957 | 833 | - |
| Stage 2 | - | - | - | - | - | - | 939 | 833 | - | 936 | 882 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 7.3 | | 0 |
| HCM LOS | | | - | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | - | 1608 | - | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.019 | - | - | - |
| HCM Control Delay (s) | - | 0 | - | - | 7.3 | 0 | - | 0 |
| HCM Lane LOS | - | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | - | - | - | - | 0.1 | - | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 14 | 482 | 21 | 65 | 635 | 30 | 34 | 1 | 66 | 26 | 2 | 10 |
| Future Vol, veh/h | 14 | 482 | 21 | 65 | 635 | 30 | 34 | 1 | 66 | 26 | 2 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | - | 100 | - | 100 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 16 | 560 | 24 | 76 | 738 | 35 | 40 | 1 | 77 | 30 | 2 | 12 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 773 | 0 | 0 | 584 | 0 | 0 | 1126 | 1529 | 292 | 1203 | 1506 | 369 |
| Stage 1 | - | - | - | - | - | - | 604 | 604 | - | 890 | 890 | - |
| Stage 2 | - | - | - | - | - | - | 522 | 925 | - | 313 | 616 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 851 | - | - | 1001 | - | - | 162 | 118 | 710 | 142 | 122 | 634 |
| Stage 1 | - | - | - | - | - | - | 457 | 491 | - | 308 | 364 | - |
| Stage 2 | - | - | - | - | - | - | 511 | 351 | - | 678 | 485 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 851 | - | - | 1001 | - | - | 145 | 107 | 710 | 117 | 111 | 634 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 145 | 107 | - | 117 | 111 | - |
| Stage 1 | - | - | - | - | - | - | 448 | 482 | - | 302 | 336 | - |
| Stage 2 | - | - | - | - | - | - | 460 | 324 | - | 592 | 476 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0.8 | 24.5 | 39.4 |
| HCM LOS | | | C | E |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 300 | 851 | - | - | 1001 | - | - | 148 |
| HCM Lane V/C Ratio | 0.391 | 0.019 | - | - | 0.076 | - | - | 0.299 |
| HCM Control Delay (s) | 24.5 | 9.3 | - | - | 8.9 | - | - | 39.4 |
| HCM Lane LOS | C | A | - | - | A | - | - | E |
| HCM 95th %tile Q(veh) | 1.8 | 0.1 | - | - | 0.2 | - | - | 1.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.8 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 35 | 5 | 10 | 0 | 0 | 14 |
| Future Vol, veh/h | 35 | 5 | 10 | 0 | 0 | 14 |
| 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 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 44 | 6 | 13 | 0 | 0 | 18 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 13 | 0 | - | 0 | 107 | 13 |
| Stage 1 | - | - | - | - | 13 | - |
| Stage 2 | - | - | - | - | 94 | - |
| Critical Hdwy | 4.1 | - | - | - | 6.4 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 | - |
| Follow-up Hdwy | 2.2 | - | - | - | 3.5 | 3.3 |
| Pot Cap-1 Maneuver | 1619 | - | - | - | 895 | 1073 |
| Stage 1 | - | - | - | - | 1015 | - |
| Stage 2 | - | - | - | - | 935 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1619 | - | - | - | 871 | 1073 |
| Mov Cap-2 Maneuver | - | - | - | - | 871 | - |
| Stage 1 | - | - | - | - | 988 | - |
| Stage 2 | - | - | - | - | 935 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 6.4 | 0 | 8.4 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1619 | - | - | - | 1073 |
| HCM Lane V/C Ratio | 0.027 | - | - | - | 0.017 |
| HCM Control Delay (s) | 7.3 | 0 | - | - | 8.4 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 2 | 13 | 44 | 0 | 0 | 12 | 7 | 28 | 0 | 9 | 0 |
| Future Vol, veh/h | 0 | 2 | 13 | 44 | 0 | 0 | 12 | 7 | 28 | 0 | 9 | 0 |
| Conflicting Peds, #/hr | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 3 | 19 | 64 | 0 | 0 | 17 | 10 | 41 | 0 | 13 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 22 | 0 | 0 | 150 | 142 | 13 | 167 | 151 | 3 |
| Stage 1 | - | - | - | - | - | - | 13 | 13 | - | 129 | 129 | - |
| Stage 2 | - | - | - | - | - | - | 137 | 129 | - | 38 | 22 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1635 | - | - | 1607 | - | - | 822 | 753 | 1073 | 802 | 744 | 1087 |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 880 | 793 | - |
| Stage 2 | - | - | - | - | - | - | 871 | 793 | - | 982 | 881 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1633 | - | - | 1607 | - | - | 784 | 722 | 1073 | 739 | 713 | 1084 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 784 | 722 | - | 739 | 713 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 879 | 760 | - |
| Stage 2 | - | - | - | - | - | - | 820 | 760 | - | 934 | 881 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 7.3 | 9.2 | 10.1 |
| HCM LOS | | | A | B |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 920 | 1633 | - | - | 1607 | - | - | 713 |
| HCM Lane V/C Ratio | 0.074 | - | - | - | 0.04 | - | - | 0.018 |
| HCM Control Delay (s) | 9.2 | 0 | - | - | 7.3 | 0 | - | 10.1 |
| HCM Lane LOS | A | A | - | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0.1 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 12 | 830 | 55 | 76 | 682 | 33 | 33 | 0 | 83 | 37 | 6 | 22 |
| Future Vol, veh/h | 12 | 830 | 55 | 76 | 682 | 33 | 33 | 0 | 83 | 37 | 6 | 22 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | - | 100 | - | 100 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 12 | 838 | 56 | 77 | 689 | 33 | 33 | 0 | 84 | 37 | 6 | 22 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 722 | 0 | 0 | 894 | 0 | 0 | 1392 | 1766 | 447 | 1286 | 1761 | 345 |
| Stage 1 | - | - | - | - | - | - | 890 | 890 | - | 843 | 843 | - |
| Stage 2 | - | - | - | - | - | - | 502 | 876 | - | 443 | 918 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 889 | - | - | 767 | - | - | 103 | 85 | 564 | 124 | 85 | 657 |
| Stage 1 | - | - | - | - | - | - | 308 | 364 | - | 329 | 382 | - |
| Stage 2 | - | - | - | - | - | - | 525 | 369 | - | 569 | 353 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 889 | - | - | 767 | - | - | 85 | 75 | 564 | 96 | 75 | 657 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 85 | 75 | - | 96 | 75 | - |
| Stage 1 | - | - | - | - | - | - | 304 | 359 | - | 325 | 344 | - |
| Stage 2 | - | - | - | - | - | - | 448 | 332 | - | 478 | 348 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 1 | 39.5 | 58.1 |
| HCM LOS | | | E | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 217 | 889 | - | - | 767 | - | - | 130 |
| HCM Lane V/C Ratio | 0.54 | 0.014 | - | - | 0.1 | - | - | 0.505 |
| HCM Control Delay (s) | 39.5 | 9.1 | - | - | 10.2 | - | - | 58.1 |
| HCM Lane LOS | E | A | - | - | B | - | - | F |
| HCM 95th %tile Q(veh) | 2.9 | 0 | - | - | 0.3 | - | - | 2.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.6 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 17 | 13 | 10 | 0 | 0 | 34 |
| Future Vol, veh/h | 17 | 13 | 10 | 0 | 0 | 34 |
| 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 | 69 | 69 | 69 | 69 | 69 | 69 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 25 | 19 | 14 | 0 | 0 | 49 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 14 | 0 | - | 0 | 83 | 14 |
| Stage 1 | - | - | - | - | 14 | - |
| Stage 2 | - | - | - | - | 69 | - |
| Critical Hdwy | 4.1 | - | - | - | 6.4 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 | - |
| Follow-up Hdwy | 2.2 | - | - | - | 3.5 | 3.3 |
| Pot Cap-1 Maneuver | 1617 | - | - | - | 924 | 1072 |
| Stage 1 | - | - | - | - | 1014 | - |
| Stage 2 | - | - | - | - | 959 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1617 | - | - | - | 909 | 1072 |
| Mov Cap-2 Maneuver | - | - | - | - | 909 | - |
| Stage 1 | - | - | - | - | 998 | - |
| Stage 2 | - | - | - | - | 959 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.1 | 0 | 8.5 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1617 | - | - | - | 1072 |
| HCM Lane V/C Ratio | 0.015 | - | - | - | 0.046 |
| HCM Control Delay (s) | 7.3 | 0 | - | - | 8.5 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 4 | 13 | 12 | 0 | 0 | 7 | 8 | 14 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 4 | 13 | 12 | 0 | 0 | 7 | 8 | 14 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 5 | 16 | 15 | 0 | 0 | 9 | 10 | 18 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 0 | 21 | 0 | 0 | 43 | 43 | 13 | 57 | 51 | 0 |
| Stage 1 | - | - | - | - | - | - | 13 | 13 | - | 30 | 30 | - |
| Stage 2 | - | - | - | - | - | - | 30 | 30 | - | 27 | 21 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | - | - | - | 1608 | - | - | 965 | 853 | 1073 | 945 | 844 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 992 | 874 | - |
| Stage 2 | - | - | - | - | - | - | 992 | 874 | - | 996 | 882 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | - | - | - | 1608 | - | - | - | 845 | 1073 | 915 | 836 | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | 845 | - | 915 | 836 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 992 | 866 | - |
| Stage 2 | - | - | - | - | - | - | 983 | 866 | - | 968 | 882 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 7.3 | | 0 |
| HCM LOS | | | - | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | - | 1608 | - | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.009 | - | - | - |
| HCM Control Delay (s) | - | 0 | - | - | 7.3 | 0 | - | 0 |
| HCM Lane LOS | - | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | - | - | - | - | 0 | - | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 11 | 561 | 21 | 66 | 735 | 23 | 37 | 1 | 71 | 16 | 2 | 10 |
| Future Vol, veh/h | 11 | 561 | 21 | 66 | 735 | 23 | 37 | 1 | 71 | 16 | 2 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | - | 100 | - | 100 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 13 | 652 | 24 | 77 | 855 | 27 | 43 | 1 | 83 | 19 | 2 | 12 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 882 | 0 | 0 | 676 | 0 | 0 | 1273 | 1726 | 338 | 1362 | 1711 | 428 |
| Stage 1 | - | - | - | - | - | - | 690 | 690 | - | 1009 | 1009 | - |
| Stage 2 | - | - | - | - | - | - | 583 | 1036 | - | 353 | 702 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 775 | - | - | 925 | - | - | 126 | 90 | 664 | 109 | 92 | 581 |
| Stage 1 | - | - | - | - | - | - | 406 | 449 | - | 261 | 320 | - |
| Stage 2 | - | - | - | - | - | - | 470 | 311 | - | 642 | 443 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 775 | - | - | 925 | - | - | 112 | 81 | 664 | 87 | 83 | 581 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 112 | 81 | - | 87 | 83 | - |
| Stage 1 | - | - | - | - | - | - | 399 | 441 | - | 257 | 293 | - |
| Stage 2 | - | - | - | - | - | - | 419 | 285 | - | 551 | 435 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.2 | 0.7 | 35.1 | 44.1 |
| HCM LOS | | | E | E |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 242 | 775 | - | - | 925 | - | - | 124 |
| HCM Lane V/C Ratio | 0.524 | 0.017 | - | - | 0.083 | - | - | 0.263 |
| HCM Control Delay (s) | 35.1 | 9.7 | - | - | 9.2 | - | - | 44.1 |
| HCM Lane LOS | E | A | - | - | A | - | - | E |
| HCM 95th %tile Q(veh) | 2.8 | 0.1 | - | - | 0.3 | - | - | 1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 2 | 13 | 18 | 0 | 0 | 12 | 8 | 16 | 0 | 19 | 0 |
| Future Vol, veh/h | 0 | 2 | 13 | 18 | 0 | 0 | 12 | 8 | 16 | 0 | 19 | 0 |
| Conflicting Peds, #/hr | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 3 | 19 | 26 | 0 | 0 | 17 | 12 | 23 | 0 | 28 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 22 | 0 | 0 | 81 | 66 | 13 | 83 | 75 | 3 |
| Stage 1 | - | - | - | - | - | - | 13 | 13 | - | 53 | 53 | - |
| Stage 2 | - | - | - | - | - | - | 68 | 53 | - | 30 | 22 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1635 | - | - | 1607 | - | - | 912 | 829 | 1073 | 909 | 819 | 1087 |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 965 | 855 | - |
| Stage 2 | - | - | - | - | - | - | 947 | 855 | - | 992 | 881 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1633 | - | - | 1607 | - | - | 876 | 815 | 1073 | 868 | 805 | 1084 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 876 | 815 | - | 868 | 805 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 964 | 840 | - |
| Stage 2 | - | - | - | - | - | - | 900 | 840 | - | 958 | 881 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 7.3 | 9.1 | 9.6 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 937 | 1633 | - | - | 1607 | - | - | 805 |
| HCM Lane V/C Ratio | 0.056 | - | - | - | 0.016 | - | - | 0.034 |
| HCM Control Delay (s) | 9.1 | 0 | - | - | 7.3 | 0 | - | 9.6 |
| HCM Lane LOS | A | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 11 | 923 | 55 | 83 | 824 | 27 | 35 | 0 | 88 | 33 | 6 | 19 |
| Future Vol, veh/h | 11 | 923 | 55 | 83 | 824 | 27 | 35 | 0 | 88 | 33 | 6 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | - | 100 | - | 100 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 11 | 932 | 56 | 84 | 832 | 27 | 35 | 0 | 89 | 33 | 6 | 19 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 859 | 0 | 0 | 988 | 0 | 0 | 1569 | 2009 | 494 | 1488 | 2010 | 416 |
| Stage 1 | - | - | - | - | - | - | 982 | 982 | - | 1000 | 1000 | - |
| Stage 2 | - | - | - | - | - | - | 587 | 1027 | - | 488 | 1010 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 791 | - | - | 708 | - | - | 76 | 60 | 526 | 88 | 60 | 591 |
| Stage 1 | - | - | - | - | - | - | 271 | 330 | - | 264 | 324 | - |
| Stage 2 | - | - | - | - | - | - | 468 | 314 | - | 535 | 320 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 791 | - | - | 708 | - | - | 60 | 52 | 526 | 66 | 52 | 591 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 60 | 52 | - | 66 | 52 | - |
| Stage 1 | - | - | - | - | - | - | 267 | 325 | - | 260 | 285 | - |
| Stage 2 | - | - | - | - | - | - | 391 | 277 | - | 438 | 316 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 1 | 74.7 | 100.2 |
| HCM LOS | | | F | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 164 | 791 | - | - | 708 | - | - | 90 |
| HCM Lane V/C Ratio | 0.758 | 0.014 | - | - | 0.118 | - | - | 0.651 |
| HCM Control Delay (s) | 74.7 | 9.6 | - | - | 10.8 | - | - | 100.2 |
| HCM Lane LOS | F | A | - | - | B | - | - | F |
| HCM 95th %tile Q(veh) | 4.8 | 0 | - | - | 0.4 | - | - | 3.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 4 | 13 | 26 | 0 | 0 | 7 | 8 | 49 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 4 | 13 | 26 | 0 | 0 | 7 | 8 | 49 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 5 | 16 | 33 | 0 | 0 | 9 | 10 | 62 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 0 | 21 | 0 | 0 | 79 | 79 | 13 | 115 | 87 | 0 |
| Stage 1 | - | - | - | - | - | - | 13 | 13 | - | 66 | 66 | - |
| Stage 2 | - | - | - | - | - | - | 66 | 66 | - | 49 | 21 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | - | - | - | 1608 | - | - | 914 | 815 | 1073 | 867 | 807 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 950 | 844 | - |
| Stage 2 | - | - | - | - | - | - | 950 | 844 | - | 969 | 882 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | - | - | - | 1608 | - | - | - | 798 | 1073 | 796 | 790 | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | 798 | - | 796 | 790 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 950 | 826 | - |
| Stage 2 | - | - | - | - | - | - | 930 | 826 | - | 903 | 882 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 7.3 | | 0 |
| HCM LOS | | | - | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | - | 1608 | - | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.02 | - | - | - |
| HCM Control Delay (s) | - | 0 | - | - | 7.3 | 0 | - | 0 |
| HCM Lane LOS | - | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | - | - | - | - | 0.1 | - | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 19 | 561 | 21 | 66 | 735 | 50 | 37 | 1 | 71 | 28 | 2 | 12 |
| Future Vol, veh/h | 19 | 561 | 21 | 66 | 735 | 50 | 37 | 1 | 71 | 28 | 2 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | - | 100 | - | 100 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 22 | 652 | 24 | 77 | 855 | 58 | 43 | 1 | 83 | 33 | 2 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 913 | 0 | 0 | 676 | 0 | 0 | 1291 | 1775 | 338 | 1380 | 1729 | 428 |
| Stage 1 | - | - | - | - | - | - | 708 | 708 | - | 1009 | 1009 | - |
| Stage 2 | - | - | - | - | - | - | 583 | 1067 | - | 371 | 720 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 755 | - | - | 925 | - | - | 123 | 84 | 664 | 105 | 89 | 581 |
| Stage 1 | - | - | - | - | - | - | 396 | 441 | - | 261 | 320 | - |
| Stage 2 | - | - | - | - | - | - | 470 | 301 | - | 627 | 435 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 755 | - | - | 925 | - | - | 108 | 75 | 664 | 83 | 79 | 581 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 108 | 75 | - | 83 | 79 | - |
| Stage 1 | - | - | - | - | - | - | 385 | 428 | - | 253 | 293 | - |
| Stage 2 | - | - | - | - | - | - | 417 | 276 | - | 532 | 422 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0.7 | 36.9 | 61.6 |
| HCM LOS | | | E | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 235 | 755 | - | - | 925 | - | - | 110 |
| HCM Lane V/C Ratio | 0.539 | 0.029 | - | - | 0.083 | - | - | 0.444 |
| HCM Control Delay (s) | 36.9 | 9.9 | - | - | 9.2 | - | - | 61.6 |
| HCM Lane LOS | E | A | - | - | A | - | - | F |
| HCM 95th %tile Q(veh) | 2.9 | 0.1 | - | - | 0.3 | - | - | 1.9 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.8 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 35 | 5 | 10 | 0 | 0 | 14 |
| Future Vol, veh/h | 35 | 5 | 10 | 0 | 0 | 14 |
| 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 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 44 | 6 | 13 | 0 | 0 | 18 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 13 | 0 | - | 0 | 107 | 13 |
| Stage 1 | - | - | - | - | 13 | - |
| Stage 2 | - | - | - | - | 94 | - |
| Critical Hdwy | 4.1 | - | - | - | 6.4 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 | - |
| Follow-up Hdwy | 2.2 | - | - | - | 3.5 | 3.3 |
| Pot Cap-1 Maneuver | 1619 | - | - | - | 895 | 1073 |
| Stage 1 | - | - | - | - | 1015 | - |
| Stage 2 | - | - | - | - | 935 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1619 | - | - | - | 871 | 1073 |
| Mov Cap-2 Maneuver | - | - | - | - | 871 | - |
| Stage 1 | - | - | - | - | 988 | - |
| Stage 2 | - | - | - | - | 935 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 6.4 | 0 | 8.4 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1619 | - | - | - | 1073 |
| HCM Lane V/C Ratio | 0.027 | - | - | - | 0.017 |
| HCM Control Delay (s) | 7.3 | 0 | - | - | 8.4 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 2 | 13 | 52 | 0 | 0 | 12 | 8 | 33 | 0 | 19 | 0 |
| Future Vol, veh/h | 0 | 2 | 13 | 52 | 0 | 0 | 12 | 8 | 33 | 0 | 19 | 0 |
| Conflicting Peds, #/hr | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 3 | 19 | 75 | 0 | 0 | 17 | 12 | 48 | 0 | 28 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 22 | 0 | 0 | 179 | 164 | 13 | 194 | 173 | 3 |
| Stage 1 | - | - | - | - | - | - | 13 | 13 | - | 151 | 151 | - |
| Stage 2 | - | - | - | - | - | - | 166 | 151 | - | 43 | 22 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.1 | 5.5 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1635 | - | - | 1607 | - | - | 787 | 732 | 1073 | 770 | 724 | 1087 |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 856 | 776 | - |
| Stage 2 | - | - | - | - | - | - | 841 | 776 | - | 976 | 881 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1633 | - | - | 1607 | - | - | 734 | 697 | 1073 | 700 | 689 | 1084 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 734 | 697 | - | 700 | 689 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 855 | 739 | - |
| Stage 2 | - | - | - | - | - | - | 770 | 739 | - | 920 | 881 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 7.4 | 9.3 | 10.4 |
| HCM LOS | | | A | B |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 905 | 1633 | - | - | 1607 | - | - | 689 |
| HCM Lane V/C Ratio | 0.085 | - | - | - | 0.047 | - | - | 0.04 |
| HCM Control Delay (s) | 9.3 | 0 | - | - | 7.3 | 0 | - | 10.4 |
| HCM Lane LOS | A | A | - | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0.1 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 13.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 14 | 923 | 55 | 83 | 824 | 41 | 35 | 0 | 88 | 59 | 6 | 27 |
| Future Vol, veh/h | 14 | 923 | 55 | 83 | 824 | 41 | 35 | 0 | 88 | 59 | 6 | 27 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | - | 100 | - | 100 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 14 | 932 | 56 | 84 | 832 | 41 | 35 | 0 | 89 | 60 | 6 | 27 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 873 | 0 | 0 | 988 | 0 | 0 | 1575 | 2029 | 494 | 1494 | 2016 | 416 |
| Stage 1 | - | - | - | - | - | - | 988 | 988 | - | 1000 | 1000 | - |
| Stage 2 | - | - | - | - | - | - | 587 | 1041 | - | 494 | 1016 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 781 | - | - | 708 | - | - | 76 | 58 | 526 | 87 | 59 | 591 |
| Stage 1 | - | - | - | - | - | - | 269 | 328 | - | 264 | 324 | - |
| Stage 2 | - | - | - | - | - | - | 468 | 310 | - | 531 | 318 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 781 | - | - | 708 | - | - | 59 | 50 | 526 | 65 | 51 | 591 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 59 | 50 | - | 65 | 51 | - |
| Stage 1 | - | - | - | - | - | - | 264 | 322 | - | 259 | 285 | - |
| Stage 2 | - | - | - | - | - | - | 385 | 273 | - | 433 | 312 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0.9 | 76.9 | 208.8 |
| HCM LOS | | | F | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 162 | 781 | - | - | 708 | - | - | 86 |
| HCM Lane V/C Ratio | 0.767 | 0.018 | - | - | 0.118 | - | - | 1.081 |
| HCM Control Delay (s) | 76.9 | 9.7 | - | - | 10.8 | - | - | 208.8 |
| HCM Lane LOS | F | A | - | - | B | - | - | F |
| HCM 95th %tile Q(veh) | 4.9 | 0.1 | - | - | 0.4 | - | - | 6.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.6 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 17 | 13 | 10 | 0 | 0 | 34 |
| Future Vol, veh/h | 17 | 13 | 10 | 0 | 0 | 34 |
| 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 | 69 | 69 | 69 | 69 | 69 | 69 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 25 | 19 | 14 | 0 | 0 | 49 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 14 | 0 | - | 0 | 83 | 14 |
| Stage 1 | - | - | - | - | 14 | - |
| Stage 2 | - | - | - | - | 69 | - |
| Critical Hdwy | 4.1 | - | - | - | 6.4 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 | - |
| Follow-up Hdwy | 2.2 | - | - | - | 3.5 | 3.3 |
| Pot Cap-1 Maneuver | 1617 | - | - | - | 924 | 1072 |
| Stage 1 | - | - | - | - | 1014 | - |
| Stage 2 | - | - | - | - | 959 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1617 | - | - | - | 909 | 1072 |
| Mov Cap-2 Maneuver | - | - | - | - | 909 | - |
| Stage 1 | - | - | - | - | 998 | - |
| Stage 2 | - | - | - | - | 959 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.1 | 0 | 8.5 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1617 | - | - | - | 1072 |
| HCM Lane V/C Ratio | 0.015 | - | - | - | 0.046 |
| HCM Control Delay (s) | 7.3 | 0 | - | - | 8.5 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 14 | 482 | 21 | 65 | 635 | 30 | 34 | 1 | 66 | 26 | 2 | 10 |
| Future Volume (veh/h) | 14 | 482 | 21 | 65 | 635 | 30 | 34 | 1 | 66 | 26 | 2 | 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 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adj Flow Rate, veh/h | 16 | 560 | 24 | 76 | 738 | 35 | 40 | 1 | 77 | 30 | 2 | 12 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cap, veh/h | 32 | 2017 | 86 | 109 | 2217 | 989 | 25 | 3 | 226 | 18 | 32 | 194 |
| Arrive On Green | 0.02 | 0.57 | 0.57 | 0.06 | 0.61 | 0.61 | 0.01 | 0.14 | 0.14 | 0.01 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1810 | 3527 | 151 | 1810 | 3610 | 1610 | 1810 | 21 | 1593 | 1810 | 235 | 1411 |
| Grp Volume(v), veh/h | 16 | 286 | 298 | 76 | 738 | 35 | 40 | 0 | 78 | 30 | 0 | 14 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1805 | 1873 | 1810 | 1805 | 1610 | 1810 | 0 | 1613 | 1810 | 0 | 1646 |
| Q Serve(g_s), s | 1.1 | 9.7 | 9.7 | 4.9 | 11.9 | 1.0 | 1.7 | 0.0 | 5.2 | 1.2 | 0.0 | 0.9 |
| Cycle Q Clear(g_c), s | 1.1 | 9.7 | 9.7 | 4.9 | 11.9 | 1.0 | 1.7 | 0.0 | 5.2 | 1.2 | 0.0 | 0.9 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.86 |
| Lane Grp Cap(c), veh/h | 32 | 1032 | 1071 | 109 | 2217 | 989 | 25 | 0 | 229 | 18 | 0 | 226 |
| V/C Ratio(X) | 0.50 | 0.28 | 0.28 | 0.70 | 0.33 | 0.04 | 1.58 | 0.00 | 0.34 | 1.71 | 0.00 | 0.06 |
| Avail Cap(c_a), veh/h | 354 | 1032 | 1071 | 354 | 2217 | 989 | 309 | 0 | 229 | 309 | 0 | 226 |
| 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 | 58.4 | 13.1 | 13.1 | 55.3 | 11.2 | 9.1 | 59.2 | 0.0 | 46.4 | 59.4 | 0.0 | 45.0 |
| Incr Delay (d2), s/veh | 11.4 | 0.7 | 0.6 | 7.9 | 0.4 | 0.1 | 296.4 | 0.0 | 4.0 | 368.0 | 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 | 0.6 | 4.1 | 4.2 | 2.5 | 4.8 | 0.4 | 2.9 | 0.0 | 2.4 | 2.3 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.8 | 13.7 | 13.7 | 63.2 | 11.6 | 9.2 | 355.5 | 0.0 | 50.4 | 427.4 | 0.0 | 45.5 |
| LnGrp LOS | E | B | B | E | B | A | F | A | D | F | A | D |
| Approach Vol, veh/h | | 600 | | | 849 | | | 118 | | | 44 | |
| Approach Delay, s/veh | | 15.2 | | | 16.2 | | | 153.9 | | | 305.9 | |
| Approach LOS | | B | | | B | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.7 | 75.1 | 8.2 | 23.0 | 8.6 | 80.2 | 7.7 | 23.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 25.5 | 35.5 | 22.5 | 18.5 | 25.5 | 35.5 | 22.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 6.9 | 11.7 | 3.7 | 2.9 | 3.1 | 13.9 | 3.2 | 7.2 |
| Green Ext Time (p_c), s | 0.1 | 3.7 | 0.1 | 0.0 | 0.0 | 5.4 | 0.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.8 |
| 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) | 12 | 830 | 55 | 76 | 682 | 33 | 33 | 0 | 83 | 37 | 6 | 22 |
| Future Volume (veh/h) | 12 | 830 | 55 | 76 | 682 | 33 | 33 | 0 | 83 | 37 | 6 | 22 |
| 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 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adj Flow Rate, veh/h | 12 | 838 | 56 | 77 | 689 | 33 | 33 | 0 | 84 | 37 | 6 | 22 |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Percent Heavy Veh, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cap, veh/h | 18 | 1844 | 123 | 116 | 2135 | 952 | 23 | 0 | 242 | 23 | 54 | 196 |
| Arrive On Green | 0.01 | 0.54 | 0.56 | 0.06 | 0.59 | 0.59 | 0.01 | 0.00 | 0.17 | 0.01 | 0.15 | 0.17 |
| Sat Flow, veh/h | 1810 | 3434 | 229 | 1810 | 3610 | 1610 | 1810 | 0 | 1610 | 1810 | 357 | 1308 |
| Grp Volume(v), veh/h | 12 | 440 | 454 | 77 | 689 | 33 | 33 | 0 | 84 | 37 | 0 | 28 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1805 | 1859 | 1810 | 1805 | 1610 | 1810 | 0 | 1610 | 1810 | 0 | 1665 |
| Q Serve(g_s), s | 0.7 | 16.4 | 16.4 | 4.6 | 10.6 | 0.9 | 1.4 | 0.0 | 5.1 | 1.4 | 0.0 | 1.6 |
| Cycle Q Clear(g_c), s | 0.7 | 16.4 | 16.4 | 4.6 | 10.6 | 0.9 | 1.4 | 0.0 | 5.1 | 1.4 | 0.0 | 1.6 |
| Prop In Lane | 1.00 | | 0.12 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.79 |
| Lane Grp Cap(c), veh/h | 18 | 969 | 998 | 116 | 2135 | 952 | 23 | 0 | 242 | 23 | 0 | 250 |
| V/C Ratio(X) | 0.68 | 0.45 | 0.45 | 0.66 | 0.32 | 0.03 | 1.45 | 0.00 | 0.35 | 1.62 | 0.00 | 0.11 |
| Avail Cap(c_a), veh/h | 173 | 969 | 998 | 255 | 2135 | 952 | 140 | 0 | 242 | 140 | 0 | 250 |
| 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 | 54.3 | 15.6 | 15.5 | 50.3 | 11.4 | 9.4 | 54.3 | 0.0 | 41.0 | 54.3 | 0.0 | 39.7 |
| Incr Delay (d2), s/veh | 37.6 | 1.5 | 1.5 | 6.4 | 0.4 | 0.1 | 246.5 | 0.0 | 3.9 | 319.4 | 0.0 | 0.9 |
| 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 | 0.5 | 7.0 | 7.1 | 2.3 | 4.2 | 0.3 | 2.2 | 0.0 | 2.3 | 2.7 | 0.0 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 91.8 | 17.1 | 17.0 | 56.7 | 11.8 | 9.4 | 300.8 | 0.0 | 44.9 | 373.7 | 0.0 | 40.6 |
| LnGrp LOS | F | B | B | E | B | A | F | A | D | F | A | D |
| Approach Vol, veh/h | | 906 | | | 799 | | | 117 | | | 65 | |
| Approach Delay, s/veh | | 18.1 | | | 16.0 | | | 117.1 | | | 230.2 | |
| Approach LOS | | B | | | B | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.5 | 65.6 | 7.9 | 23.0 | 7.6 | 71.5 | 7.9 | 23.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 17.5 | 45.5 | 10.5 | 18.5 | 12.5 | 50.5 | 10.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 6.6 | 18.4 | 3.4 | 3.6 | 2.7 | 12.6 | 3.4 | 7.1 |
| Green Ext Time (p_c), s | 0.1 | 6.4 | 0.0 | 0.1 | 0.0 | 5.6 | 0.0 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 30.6 |
| 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) | 19 | 561 | 21 | 66 | 735 | 50 | 37 | 1 | 71 | 28 | 2 | 12 |
| Future Volume (veh/h) | 19 | 561 | 21 | 66 | 735 | 50 | 37 | 1 | 71 | 28 | 2 | 12 |
| 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 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adj Flow Rate, veh/h | 22 | 652 | 24 | 77 | 855 | 58 | 43 | 1 | 83 | 33 | 2 | 14 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cap, veh/h | 48 | 1937 | 71 | 109 | 2091 | 932 | 27 | 3 | 265 | 20 | 33 | 233 |
| Arrive On Green | 0.03 | 0.55 | 0.55 | 0.06 | 0.58 | 0.58 | 0.02 | 0.17 | 0.17 | 0.01 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1810 | 3551 | 131 | 1810 | 3610 | 1610 | 1810 | 19 | 1594 | 1810 | 205 | 1436 |
| Grp Volume(v), veh/h | 22 | 331 | 345 | 77 | 855 | 58 | 43 | 0 | 84 | 33 | 0 | 16 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1805 | 1876 | 1810 | 1805 | 1610 | 1810 | 0 | 1613 | 1810 | 0 | 1641 |
| Q Serve(g_s), s | 1.4 | 12.3 | 12.3 | 5.0 | 15.7 | 1.9 | 1.8 | 0.0 | 5.5 | 1.3 | 0.0 | 1.0 |
| Cycle Q Clear(g_c), s | 1.4 | 12.3 | 12.3 | 5.0 | 15.7 | 1.9 | 1.8 | 0.0 | 5.5 | 1.3 | 0.0 | 1.0 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.88 |
| Lane Grp Cap(c), veh/h | 48 | 985 | 1024 | 109 | 2091 | 932 | 27 | 0 | 268 | 20 | 0 | 267 |
| V/C Ratio(X) | 0.46 | 0.34 | 0.34 | 0.71 | 0.41 | 0.06 | 1.58 | 0.00 | 0.31 | 1.64 | 0.00 | 0.06 |
| Avail Cap(c_a), veh/h | 128 | 985 | 1024 | 128 | 2091 | 932 | 83 | 0 | 268 | 83 | 0 | 267 |
| 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 | 57.5 | 15.2 | 15.2 | 55.3 | 13.9 | 11.0 | 59.1 | 0.0 | 44.0 | 59.3 | 0.0 | 42.5 |
| Incr Delay (d2), s/veh | 6.6 | 0.9 | 0.9 | 13.5 | 0.6 | 0.1 | 298.5 | 0.0 | 3.0 | 330.4 | 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 | 0.7 | 5.2 | 5.4 | 2.7 | 6.4 | 0.7 | 3.1 | 0.0 | 2.4 | 2.5 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.1 | 16.1 | 16.1 | 68.8 | 14.5 | 11.2 | 357.5 | 0.0 | 47.0 | 389.7 | 0.0 | 42.9 |
| LnGrp LOS | E | B | B | E | B | B | F | A | D | F | A | D |
| Approach Vol, veh/h | | 698 | | | 990 | | | 127 | | | 49 | |
| Approach Delay, s/veh | | 17.6 | | | 18.5 | | | 152.1 | | | 276.5 | |
| Approach LOS | | B | | | B | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.7 | 72.0 | 8.3 | 26.0 | 9.7 | 76.0 | 7.8 | 26.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 62.5 | 7.5 | 21.5 | 10.5 | 62.5 | 7.5 | 21.5 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 14.3 | 3.8 | 3.0 | 3.4 | 17.7 | 3.3 | 7.5 |
| Green Ext Time (p_c), s | 0.0 | 4.8 | 0.0 | 0.0 | 0.0 | 7.7 | 0.0 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 34.1 |
| 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) | 14 | 923 | 55 | 83 | 824 | 41 | 35 | 0 | 88 | 59 | 6 | 27 |
| Future Volume (veh/h) | 14 | 923 | 55 | 83 | 824 | 41 | 35 | 0 | 88 | 59 | 6 | 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 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adj Flow Rate, veh/h | 14 | 932 | 56 | 84 | 832 | 41 | 35 | 0 | 89 | 60 | 6 | 27 |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Percent Heavy Veh, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cap, veh/h | 24 | 1826 | 110 | 119 | 2094 | 934 | 36 | 0 | 242 | 36 | 45 | 203 |
| Arrive On Green | 0.01 | 0.53 | 0.55 | 0.07 | 0.58 | 0.58 | 0.02 | 0.00 | 0.17 | 0.02 | 0.15 | 0.17 |
| Sat Flow, veh/h | 1810 | 3460 | 208 | 1810 | 3610 | 1610 | 1810 | 0 | 1610 | 1810 | 301 | 1355 |
| Grp Volume(v), veh/h | 14 | 486 | 502 | 84 | 832 | 41 | 35 | 0 | 89 | 60 | 0 | 33 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1805 | 1863 | 1810 | 1805 | 1610 | 1810 | 0 | 1610 | 1810 | 0 | 1656 |
| Q Serve(g_s), s | 0.8 | 19.1 | 19.1 | 5.0 | 13.8 | 1.2 | 2.1 | 0.0 | 5.4 | 2.2 | 0.0 | 1.9 |
| Cycle Q Clear(g_c), s | 0.8 | 19.1 | 19.1 | 5.0 | 13.8 | 1.2 | 2.1 | 0.0 | 5.4 | 2.2 | 0.0 | 1.9 |
| Prop In Lane | 1.00 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.82 |
| Lane Grp Cap(c), veh/h | 24 | 953 | 983 | 119 | 2094 | 934 | 36 | 0 | 242 | 36 | 0 | 248 |
| V/C Ratio(X) | 0.57 | 0.51 | 0.51 | 0.71 | 0.40 | 0.04 | 0.97 | 0.00 | 0.37 | 1.66 | 0.00 | 0.13 |
| Avail Cap(c_a), veh/h | 173 | 953 | 983 | 255 | 2094 | 934 | 140 | 0 | 242 | 140 | 0 | 248 |
| 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 | 53.9 | 16.8 | 16.7 | 50.3 | 12.6 | 9.9 | 53.9 | 0.0 | 41.1 | 53.9 | 0.0 | 39.8 |
| Incr Delay (d2), s/veh | 19.6 | 2.0 | 1.9 | 7.4 | 0.6 | 0.1 | 61.3 | 0.0 | 4.3 | 320.8 | 0.0 | 1.1 |
| 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 | 0.5 | 8.2 | 8.4 | 2.5 | 5.5 | 0.4 | 1.6 | 0.0 | 2.4 | 4.2 | 0.0 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.5 | 18.7 | 18.6 | 57.8 | 13.2 | 10.0 | 115.2 | 0.0 | 45.4 | 374.7 | 0.0 | 40.9 |
| LnGrp LOS | E | B | B | E | B | B | F | A | D | F | A | D |
| Approach Vol, veh/h | | 1002 | | | 957 | | | 124 | | | 93 | |
| Approach Delay, s/veh | | 19.4 | | | 16.9 | | | 65.1 | | | 256.3 | |
| Approach LOS | | B | | | B | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.7 | 64.6 | 8.7 | 23.0 | 8.0 | 70.3 | 8.7 | 23.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 17.5 | 45.5 | 10.5 | 18.5 | 12.5 | 50.5 | 10.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 21.1 | 4.1 | 3.9 | 2.8 | 15.8 | 4.2 | 7.4 |
| Green Ext Time (p_c), s | 0.1 | 7.1 | 0.0 | 0.1 | 0.0 | 7.1 | 0.0 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 31.1 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

# APPENDIX L

# MITIGATION MONITORING AND REPORTING PROGRAM

# MITIGATION MONITORING AND REPORTING PROGRAM
# TRANSWESTERN BOYLE AVENUE WAREHOUSE BUILDING 1 PROJECT

This Mitigation Monitoring and Reporting Program has been prepared for use in implementing mitigation for the:

**Transwestern Boyle Avenue Warehouse Building 1 Project**
**MCN 19-133, TPM 19-021, DRC 19-043**

The program has been prepared in compliance with State law and the Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the project by the City of Fontana (City).

The California Environmental Quality Act (CEQA) requires adoption of a reporting or monitoring program for those measures placed on a project to mitigate or avoid significant effects on the environment (Public Resource Code Section 21081.6). The law states the reporting or monitoring program shall be designed to ensure compliance during Project implementation.

The monitoring program contains the following elements:

1) The mitigation measures are recorded with the action and procedure necessary to ensure compliance. In some instances, one action may be used to verify implementation of several mitigation measures.

2) A procedure for compliance and verification has been outlined for each action necessary. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.

3) The program has been designed to be flexible. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the program. As changes are made, new monitoring compliance procedures and records will be developed and incorporated into the program.

This Mitigation Monitoring and Reporting Program includes mitigation identified in the IS/MND.

## MITIGATION MONITORING AND RESPONSIBILITIES

As the Lead Agency, the City is responsible for ensuring full compliance with the mitigation measures adopted for the proposed Project. The City will monitor and report on all mitigation activities. Mitigation measures will be implemented at different stages of development throughout the Project site. In this regard, the responsibilities for implementation have been assigned to the Applicant, Contractor, or a combination thereof. If during the course of Project implementation, any of the mitigation measures identified herein cannot be successfully implemented, the City shall be immediately informed, and the City will then inform any affected responsible agencies. The City, in conjunction with any affected responsible agencies, will then determine if modification to the project is required and/or whether alternative mitigation is appropriate.

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## MITIGATION MONITORING AND REPORTING PROGRAM CHECKLIST

**Project Name: Transwestern Boyle Avenue Warehouse Building 1** **Applicant: Transwestern Development Company**

**Date: June 29, 2020**

| Mitigation Measure No. / Implementing Action | Responsible for Monitoring | Timing of Verification | Method of Verification | Verified Date/ Initials | Sanctions for Non-Compliance |
|---|---|---|---|---|---|
| **BIOLOGICAL RESOURCES** | | | | | |
| **MITIGATION MEASURE BIO-1:** If tree removal or ground disturbance is proposed during nesting bird season (February 15 to August 31), a pre-construction nesting survey shall be conducted by a qualified biologist (Project biologist) within 72 hours prior to start of work pursuant to Sections 3503–3801 of the California Fish and Game Code. If the survey indicates nesting birds are present, an appropriate buffer to be established by the Project biologist shall be marked off around the nest, and no construction activity shall occur in that area during nesting activities. Grading and/or construction may resume within the established buffer when the Project biologist determines the nest is no longer occupied and all juveniles have left the nest. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee. | Community Development Director or designee | Prior to the issuance of demolition and grading permits, and during demolition and grading activities | Evidence to the City:<br>1) the required pre-construction surveys have been completed<br>2) the establishment and maintenance (as applicable) of appropriate buffer(s) | | Withhold demolition and/or grading permit, and/or issuance of a stop work order |
| **MITIGATION MEASURE BIO-2:** Prior to removal of eucalyptus trees 34–37 (refer to Figure 3: Photograph 5 and Figure 4 of Appendix C) and, if applicable, the deodar cedar along Juniper Avenue (refer to Photograph 2 in Figure 3; Tree 177 in Figure 4 of Appendix C), a certified arborist shall be retained to evaluate these specimens to determine if a tree removal permit would be required for their removal (City Municipal Code Section 28-64). If the arborist determines the trees are diseased or dead and staff approves (via an arborist report submitted to the City), | Community Development Director or designee | Prior to removal of specified trees | Evidence to the City:<br>1) certified arborist is retained for tree evaluation<br>2) arborist report with health assessment submitted to City<br>3) recommendations in arborist report are implemented | | Withhold grading permit and/or issuance of a stop work order |

**Project Name: Transwestern Boyle Avenue Warehouse Building 1** **Applicant: Transwestern Development Company**

**Date: June 29, 2020**

| Mitigation Measure No. / Implementing Action | Responsible for Monitoring | Timing of Verification | Method of Verification | Verified Date/ Initials | Sanctions for Non-Compliance |
|---|---|---|---|---|---|
| no tree removal permit would be required, and no further action would be necessary (City Municipal Code Section 28-65(4)).<br><br>If the arborist determines all or some of trees are not diseased or dead, or if City staff do not concur with the arborist's assertion that all or some of the trees are diseased or dead, the Applicant shall apply for a tree removal permit (City Municipal Code Section 28-68), and the arborist shall rate the "healthy" trees (scale of 10 to 100 percent) on their condition that would determine the level of replacement or relocation pursuant to Table No. 1 for trees less than 7 inches diameter or pursuant to Table No. 2 for trees 7 inches or greater diameter (City Municipal Code Section 28-67). Replacement trees for *Heritage* and *Significant Trees* shall be exclusive of the trees required as part of the standard landscape requirements (City Municipal Code Section 28-67(d)) and shall be guaranteed for one year via cash bond filing with the City in the amount determined by staff to assure performance of the guarantee (City Municipal Code Section 28-67(e)). In lieu of replacement trees, a cash equivalent as determined by staff may be deposited with the City in a tree account established to purchase, plant or relocate trees in public areas, conduct surveys of trees in public areas, design master landscape plans to include trees in public areas, and maintain existing heritage, significant and/or specimen trees (City Municipal Code Section 28-67(g)). This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee. | | | | | |

**Project Name: Transwestern Boyle Avenue Warehouse Building 1** **Applicant: Transwestern Development Company**

**Date: June 29, 2020**

| Mitigation Measure No. / Implementing Action | Responsible for Monitoring | Timing of Verification | Method of Verification | Verified Date/ Initials | Sanctions for Non-Compliance |
|---|---|---|---|---|---|
| **CULTURAL RESOURCES** | | | | | |
| **MITIGATION MEASURE CUL-1:** Prior to issuance of grading permits, the City of Fontana (City) shall verify that the following note is included on all grading plans:<br><br>"If archaeological resources are discovered during ground-disturbing activities, all activity within 60 feet of the discovery shall be halted and the City shall be notified. Notification shall be made within 24 hours of any such discovery. If the resources are determined to be of pre-contact (i.e., Native American) origin, all Native American tribes who have expressed an interest in the Project through the Assembly Bill 52 process pursuant to California Public Resources Code §21080.3.2 (interested Native American Tribes) shall be contacted for input. The Lead Agency and/or Applicant shall, in good faith, consult with interested Native American Tribes throughout the life of the Project.<br><br>Construction personnel shall not collect or move any suspected archaeological materials or further disturb any soils within the 60-foot exclusionary buffer, but construction activity may continue unimpeded on other portions of the Project site. As deemed necessary by the City, a qualified archaeologist shall be retained to assess the nature and significance of the discovery. As determined by the qualified archaeologist and interested Native American Tribes should the discovery be determined not to be significant, the resource shall be recorded on a California Department of Parks and Recreation Form 523, and no further recovery effort shall be required. However, all subsequent | Community Development Director or designee | Prior to the issuance of grading permits | Evidence to the City the notes specified in Mitigation Measure CUL-1 are included on all construction plans, pages, and sheets | | Withhold grading permits or issuance of a stop work order |

**Project Name: Transwestern Boyle Avenue Warehouse Building 1** **Applicant: Transwestern Development Company**

**Date: June 29, 2020**

| Mitigation Measure No. / Implementing Action | Responsible for Monitoring | Timing of Verification | Method of Verification | Verified Date/ Initials | Sanctions for Non-Compliance |
|---|---|---|---|---|---|
| ground-disturbing activities shall be monitored by an archaeologist and, if requested, by interested Native American Tribes at the discretion of the City. Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Project Applicant and Lead Agency for dissemination to interested Native American Tribes, as requested. In the event the discovery is determined to be significant pursuant to *CEQA Guidelines* Section 15064.5, **Mitigation Measure CUL-2** shall apply."<br><br>This measure shall be implemented to the satisfaction of the City of Fontana's Community Development Director or designee. | | | | | |
| **MITIGATION MEASURE CUL-2:** If a qualified archaeologist determines cultural resources identified on the project site are historical or unique archaeological resources pursuant to *CEQA Guidelines* Section 15064.5, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation must be provided. The archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to Native American tribal representatives (i.e., those who have expressed an interest in the project through the Assembly Bill 52 process pursuant to California Public Resources Code §21080.3.2) for review and comment. Ground-disturbing work may continue on other parts of the project site while historical [or unique archaeological] resource mitigation occurs. | Community Development Director or designee | During construction or any other ground-disturbing activities | Evidence to the City:<br><br>1) a qualified archaeological monitor has been retained to be present during all grading and other significant ground-disturbing<br><br>2) appropriate buffer areas have been established as applicable<br><br>3) interested Native American tribal representatives have been engaged as applicable | | Withhold grading permit and/or issuance of a stop work order |

**Project Name: Transwestern Boyle Avenue Warehouse Building 1** **Applicant: Transwestern Development Company**

**Date: June 29, 2020**

| Mitigation Measure No. / Implementing Action | Responsible for Monitoring | Timing of Verification | Method of Verification | Verified Date/ Initials | Sanctions for Non-Compliance |
|---|---|---|---|---|---|
| The project archaeologist, the project Applicant, the City of Fontana's Community Development Director or designee, and interested Native American tribal representatives shall confer regarding the appropriate disposition of the discovered resource(s). Disposition may include curation with a certified scientific or educational repository in accordance with current professional repository standards. However, if an agreement on the disposition of cultural resources cannot be reached, the resource(s) shall be reburied on the project site in an area not subject to further ground disturbance, with appropriate recordation on the California Department of Parks and Recreation 523 Forms. Work shall not resume within the 60-foot exclusionary buffer without City authorization, and all subsequent ground-disturbing activities shall be monitored at the discretion of the archaeologist.<br><br>All cultural resources, including the locations from which they are recovered and to which they may be reburied, shall remain confidential pursuant to the California Code of Regulations Section 15120(d). A final report containing the significance and treatment of findings shall be prepared by the project archaeologist and submitted to the City of Fontana's Community Development Director or designee and the appropriate Native American Tribe(s). This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee. | | | 4) preparation of a construction compliance report with California Department of Parks and Recreation 523 Forms as applicable | | |

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| **GEOLOGY AND SOILS** | | | | | |
| **MITIGATION MEASURE GEO-1:** Prior to issuance of grading and/or building permits, the Project Applicant shall provide evidence to the City of Fontana (City) for review and approval that proposed structures, features, and facilities have been designed and would be constructed in conformance with applicable provisions of the 2019 edition of the California Building Code (CBC) or the most current edition of the CBC in effect at the time the Applicant's development application is deemed complete by the City.<br><br>Additionally, the Project Applicant shall provide evidence to the City that the recommendations cited in the Project-specific Geotechnical Investigation are incorporated into Project plans and/or implemented as deemed appropriate by the City. Geotechnical recommendations include, but are not limited to, removal of existing vegetation, structural foundations, floor slabs, utilities, septic systems, and any other surface and subsurface improvements that would not remain in place for use with the new development. Remedial earthwork, overexcavation, and ground improvement shall occur to depths specified in the Geotechnical Investigation to provide a sufficient layer of engineered fill or densified soil beneath the structural footings/foundations, as well as proper surface drainage devices and erosion control. Retaining wall parameters shall be in accordance with the Geotechnical Investigation to protect against lateral spreading and landslides. Additionally, Portland cement shall be utilized for the construction of concrete structures in contact with subgrade soils determined to | Building and Safety Director or designee | Prior to issuance of grading and/or building permits | Evidence to the City that construction plans comply with the California Building Code and recommendations cited in the Project Geotechnical Investigation | | Withhold grading and/or building permits and/or issuance of a stop work order |

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| be corrosive to protect concrete, steel, and other metals. Verification testing must be performed upon completion of ground improvements to confirm that the compressible soils have been sufficiently densified. The structural engineer must determine the ultimate thickness and reinforcement of the building floor slabs based on the imposed slab loading.<br><br>As necessary, the City may require additional studies and/or engineering protocols to meet its requirements. This measure shall be implemented to the satisfaction of the City Director of Building and Safety or designee. | | | | | |
| **MITIGATION MEASURE GEO-2:** Prior to issuance of grading permits, the City of Fontana (City) shall verify that the following note is included on all grading plans:<br><br>"If paleontological resources are encountered during the course of ground disturbance, work within 60 feet of the find shall be halted, and an exclusionary buffer shall be established. A qualified paleontologist (defined as an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least one year) shall be contacted to assess the find for scientific significance. Construction personnel shall not collect or move any suspected paleontological materials or further disturb any soils within the exclusionary buffer without the consent of the paleontologist and the City Community Development Director, but | Community Development Director or designee | Prior to issuance of grading permits | Evidence to the City that grading plans include instructions in the event a paleontological resource is detected | | Withhold grading permit and/or issuance of a stop work order |

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| construction activity may continue unimpeded on other portions of the project site. If the paleontologist determines the find is not a paleontological resource, no further evaluation shall be required within the exclusionary buffer, and construction activity shall be allowed to resume therein. However, if the paleontologist determines the find is a paleontological resource, construction activity shall not resume within the exclusionary buffer, and **Mitigation Measure GEO-3** shall apply."<br><br>This measure shall be implemented to the satisfaction of the City Community Development Director or designee. | | | | | |
| **MITIGATION MEASURE GEO-3:** If the qualified paleontologist determines paleontological resources are encountered on the Project site, the paleontologist shall prepare a Paleontological Resource Impact Mitigation Plan (PRIMP) to be implemented during the balance of ground-disturbing activities. Implementation of the PRIMP shall include (but not be limited to) the following:<br>• Review of project-specific geotechnical report data, with particular regard to location and depth of earthmoving and the rock unit(s) encountered;<br>• Development of a formal agreement between the Project Applicant and the San Bernardino County Museum, Natural History Museum of Los Angeles County, Western Science Center, San Diego Natural History Museum, Riverside Municipal Museum, or other accredited museum repository for the final | Community Development Director or designee | During construction | Evidence to the City:<br>1) preparation of a Paleontological Resource Impact Mitigation Plan<br>2) appropriate buffer areas have been established<br>3) formal agreement between the Project applicant and appropriate repository for fossils<br>4) submittal of required evaluation and report by a qualified paleontologist to the City. | | Issuance of a stop work order |

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| disposition, permanent storage, and maintenance of any fossil collections and associated data;<br>• The construction schedule, term/schedule of on-site paleontological monitor(s) and the extent of areas and activities to be monitored;<br>• Authority of paleontological monitor(s) to temporarily redirect construction activity in the vicinity of any paleontological discovery;<br>• Procedures for the evaluation and option to recover large fossil specimens and for the evaluation, recovery, and processing of small fossil specimens;<br>• Fossil specimen preparation, identification to the lowest taxonomic level possible, curation, and cataloging; and<br>• A report of findings.<br>The paleontologist shall monitor remaining ground-disturbing activities in native soils at the Project site and shall be equipped to record and salvage fossil resources that may be unearthed during construction. The paleontologist shall temporarily halt or divert construction equipment to allow recording and removal of the unearthed resources. Significant fossils shall be offered for curation at an accredited museum repository in accordance with the PRIMP. A report of findings, including, when appropriate, an itemized inventory of recovered specimens and a discussion of their significance, shall be prepared upon completion of the steps outlined above. The report and inventory, when submitted to and approved by the City of Fontana | | | | | |

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| (City), would signify completion of the program. This measure shall be implemented to the satisfaction of the City Community Development Director or designee. | | | | | |
| **HAZARDS AND HAZARDOUS MATERIALS** | | | | | |
| **MITIGATION MEASURE HAZ-1:** An asbestos-containing materials (ACM) survey and lead-based materials (LBM) survey shall be completed for demolition of all structures constructed prior to 1978. A qualified California Occupational Safety and Health Administration (Cal/OSHA) Certified Site Surveillance Technician shall conduct the ACM survey. A qualified California Department of Public Health Lead Inspector Assessor shall conduct the LBM survey. If the ACM survey reveals no detectable asbestos levels pursuant to Title 8, CCR Section 1529, no further ACM survey or remedial work is required. If the LBM survey reveals no detectable lead levels pursuant to Code of Federal Regulations Chapter 29, Section 1926.62 and Title 8, California Code of Regulations Section 1532.1, no further LBM survey or remedial work is required. However, if a detectable level of asbestos is identified within structures proposed for demolition, **Mitigation Measure HAZ-2** shall apply. Furthermore, if a detectable level of lead is identified within structures proposed for demolition, **Mitigation Measure HAZ-3** shall apply. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee. | Community Development Director and/or Building and Safety Division, or designee | Prior to demolition | Evidence of asbestos and lead paint survey report(s) | | Withhold demolition permit |
| **MITIGATION MEASURE HAZ-2:** Prior to the demolition of any structure identified to contain asbestos-containing materials (ACM), the Project Applicant shall | Community Development Director and/or | Prior to demolition | Evidence of a Certified Asbestos Consultant retained to prepare an | | Withhold demolition permit |

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| retain a Certified Asbestos Consultant to abate ACM from the demolition site. An Asbestos Notification shall be prepared and submitted to the South Coast Air Quality Management District (SCAQMD) for approval before any asbestos abatement may commence. The Certified Asbestos Consultant shall provide a construction and demolition plan with disposal tickets from a San Bernardino County Department of Public Works-Solid Waste Management Division-approved disposal facility and SCAQMD air clearances prior to final inspection, and an asbestos report shall be provided to the City prior to the issuance of a demolition permit. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee. | Building and Safety Division, or designee | | asbestos report/disposal plan and SCAQMD-approved disposal ticket to the City | | |
| **MITIGATION MEASURE HAZ-3:** Prior to the demolition of any structure identified to contain lead-based materials (LBM), the Project Applicant shall retain a California Department of Public Health Lead Inspector Assessor to abate LBM from the demolition site. The Lead Inspector Assessor shall provide a construction and demolition plan with disposal tickets from a San Bernardino County Department of Public Works-Solid Waste Management Division-approved disposal facility and South Coast Air Quality Management District air clearances prior to final inspection, and a lead report shall be provided to the City prior to the issuance of a demolition permit. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee. | Community Development Director and/or Building and Safety Division, or designee | Prior to demolition | Evidence of a Lead Inspector Assessor retained to prepare a lead-based materials report/disposal plan and SCAQMD-approved disposal ticket to the City | | Withhold demolition permit |

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| **MITIGATION MEASURE HAZ-4:** Prior to issuance of demolition and grading permits, a soil investigation on APNs 0251-202-05, -06, -07, and 0193-381-01 is required to assess the potential presence of agricultural pesticide chemicals onsite. Construction may not proceed until the extent and nature of the suspect material is determined by qualified personnel and in consultation with appropriate City staff. The removal and/or disposal of any such contaminants shall be in accordance with all applicable local, State, and Federal standards to the degree that adequate public health and safety standards are maintained, to the satisfaction of the City. If appropriate, the City may enter into a Voluntary Cleanup Plan (VCP) with the California Department of Toxic Substances Control (DTSC) to coordinate remediation of the site. Further evaluation of soils throughout the site shall be made by a California Division of Occupational Safety and Health (Cal/OSHA) licensed Hazardous Materials Substances Removal contractor during demolition and clearing activities. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee. | Community Development Director and/or Building and Safety Division, or designee | Prior to issuance of demolition and/or grading permits and during construction | Evidence of a soil investigation and potential voluntary clean-up plan between City and California Department of Toxic Substances Control | | Withhold demolition and/or grading permits or issuance of stop work order |
| **MITIGATION MEASURE HAZ-5:** In the event subsurface irrigation pipes or other unanticipated features suspected to contain asbestos are encountered during ground disturbing activities, excavation within 60 feet of the material shall be halted, and the Project Applicant shall retain a qualified California Division of Occupational Safety and Health (Cal/OSHA) Certified Site Surveillance Technician to evaluate whether the feature or material warrants further assessment or | Community Development Director and/or Building and Safety Division, or designee | During construction | Evidence a California Division of Occupational Safety and Health (Cal/OSHA) Certified Site Surveillance Technician and Certified Asbestos Consultant are retained, as necessary, to prepare an asbestos report/disposal | | Issuance of stop work order |

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| remediation pursuant to Title 8, CCR Section 1529. In the event the material is determined not to be hazardous, no further remedial action is required, and the material shall be disposed of in accordance with the Code Enforcement Division of the Fontana Police Department.<br><br>In the event the material is deemed to contain asbestos, the Project Applicant shall retain a Certified Asbestos Consultant to prepare and submit an Asbestos Notification to the South Coast Air Quality Management District (SCAQMD) for approval before any asbestos abatement may commence. The Certified Asbestos Consultant shall provide a construction and demolition plan with disposal tickets from a San Bernardino County Department of Public Works-Solid Waste Management Division-approved disposal facility and SCAQMD air clearances, and an asbestos disposal report shall be provided to the City, prior to final disposal. This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee. | | | plan and SCAQMD-approved disposal ticket to the City | | |
| **MITIGATION MEASURE HAZ-6:** Prior to issuance of demolition permits, the numerous equipment and chemicals stored on the Project site shall be consolidated in similar hazard classes and transported offsite for proper disposal by a California Division of Occupational Safety and Health Administration (CalOSHA) licensed Hazardous Materials Substances Removal contractor. All disposal of materials deemed to be hazardous shall occur in accordance with the 2017 City of Fontana Local Hazard Mitigation Plan and California Health and Safety Code, Division 20, Chapter | Community Development Director and/or Building and Safety Division, or designee | Prior to issuance of demolition permit | Evidence hazardous materials are consolidated in similar hazard classes and transported offsite for proper disposal by a California Division of Occupational Safety and Health Administration (CalOSHA) licensed Hazardous Materials | | Withhold demolition permit |

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| 6.5 (Hazardous Waste Control). This measure shall be implemented to the satisfaction of the City of Fontana Community Development Director or designee, and/or Building and Safety Division, or designee. | | | Substances Removal contractor | | |
| **MITIGATION MEASURE HAZ-7:** Prior to issuance of occupancy permits, the Project Applicant shall provide evidence to the City of Fontana (City) that appropriate real estate disclosures identifying the impacts of airport overflight are provided to all tenants upon lease, transfer, or sale of any industrial unit on site. This measure shall be implemented to the satisfaction of the City's Building & Safety Department. | Building and Safety Division, or designee | Prior to issuance of occupancy permit | Evidence real estate disclosures identifying the impacts of airport overflight are provided to all tenants | | Withhold occupancy permit |
| **HYDROLOGY AND WATER QUALITY** | | | | | |
| **MITIGATION MEASURE HYD-1:** Prior to the issuance of a grading permit, the Project Applicant shall file and obtain a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) in order to be in compliance with the State National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit for discharge of surface runoff associated with construction activities. Evidence that this has been obtained (i.e., a copy of the Waste Discharger's Identification Number) shall be submitted to the City of Fontana (City) for coverage under the NPDES General Construction Permit. This measure shall be implemented to the satisfaction of the City Public Works Department. | Public Works Department | Prior to issuance of grading permit | Copy of the Waste Discharger's Identification Number submitted to City. | | Withhold grading permit |
| **MITIGATION MEASURE HYD-2:** Prior to the issuance of a grading permit, the Project Applicant shall submit a Storm Water Pollution Prevention Plan (SWPPP) to the City of Fontana (City). The SWPPP shall include a surface water control plan and erosion control plan citing | Public Works Department | Prior to issuance of grading permit | Submit a Storm Water Pollution Prevention Plan to the City and kept on site for the entire duration of Project construction and | | Withhold grading permit |

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| specific measures to control on-site and off-site erosion during the entire demolition, grading, and construction period. In addition, the SWPPP shall emphasize structural and nonstructural Best Management Practices (BMPs) to control sediment and non-visible discharges from the site. The SWPPP shall include inspection forms for routine monitoring of the site during the demolition, grading, and construction phases to ensure National Pollutant Discharge Elimination System (NPDES) compliance and that additional BMPs and erosion control measures would be documented in the SWPPP and utilized if necessary. The SWPPP shall be kept on site for the entire duration of Project construction and shall be available to the local Regional Water Quality Control Board (RWQCB) for inspection at any time. BMPs to be implemented may include the following:<br>• Sediment discharges from the site may be controlled by the following: sandbags, silt fences, straw wattles and temporary basins (if deemed necessary), and other discharge control devices. The construction and condition of the BMPs shall be periodically inspected during construction, and repairs shall be made when necessary as required by the SWPPP.<br>• Materials that have the potential to contribute to non-visible pollutants to storm water must not be placed in drainage ways and must be contained, elevated, and placed in temporary storage containment areas. | | | shall be available to the local Regional Water Quality Control Board for inspection. | | |

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| • All loose piles of soil, silt, clay, sand, debris, and other earthen material shall be protected in a reasonable manner to eliminate any discharge from the site. Stockpiles shall be surrounded by silt fences and covered with plastic tarps.<br>• The construction contractor shall be responsible for performing and documenting the application of BMPs identified in the SWPPP. Weekly inspections shall be performed on sandbag barriers and other sediment control measures called for in the SWPPP. Monthly reports and inspection logs shall be maintained by the contractor and reviewed by the City and representatives of the RWQCB. In the event that it is not feasible to implement specific BMPs, the City can make a determination that other BMPs would provide equivalent or superior treatment either on or off site.<br>This measure shall be implemented to the satisfaction of the City Public Works Department. | | | | | |
| **MITIGATION MEASURE HYD-3:** Prior to the issuance of a grading permit, the Project Applicant shall submit a Final Water Quality Management Plan (Final WQMP) to the City of Fontana (City) for review and approval. The Project shall implement Project design features identified in the Final WQMP. The Final WQMP shall demonstrate that any proposed on-site development plan includes best management practices (BMPs) for source control, pollution prevention, site design, low impact development (LID) implementation, and structural treatment control. BMPs shall be designed and implemented to address 303(d) listed pollutants and retain the Project site's minimum design capture | Public Works Department | Prior to issuance of grading permit | Submit a Final Water Quality Management Plan and grading and development plans to the City detailing the low impact development best management practices. | | Withhold grading permit |

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| volume and, if applicable, hydromodification volume to ensure post-development storm water runoff volume or time of concentration does not exceed pre-development storm water runoff by more than five percent of the two-year peak flow in accordance with the *Technical Guidance Document for Water Quality Management Plans* prepared for the County of San Bernardino Areawide Stormwater Program, National Pollutant Discharge Elimination System Permit Number CAS618036, Order Number R8-2010-0036. The proposed LID BMPs specified in the Final WQMP shall be incorporated into the grading and development plans submitted to the City for review and approval. Periodic maintenance of any required BMPs and landscaped areas during Project occupancy and operation shall be in accordance with the schedule outlined in the Final WQMP. This measure shall be implemented to the satisfaction of the City Public Works Department. | | | | | |
| **NOISE** | | | | | |
| **MITIGATION MEASURE NOI-1:** Prior to issuance of demolition, grading, and building permits, the Project Applicant shall provide evidence to the City that construction plans include direction to limit construction activities, including operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, grading, or demolition work, to the hours of 7:00 a.m. to 6:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays. No construction shall be allowed at any time on Sundays and federal holidays except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the building inspector, which | City Building Inspector | Prior to issuance of demolition, grading, and building permits and during demolition, grading, and construction | Evidence to the City construction plans include instructions on appropriate construction hours. | | Withhold demolition, grading, and building permits, and/or issuance of stop work order |

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| permit may be granted for a period not to exceed three days or less while the emergency continues and which permit may be renewed for periods of three days or less while the emergency continues. This measure shall be implemented to the satisfaction of the City of Fontana Building Inspector. | | | | | |
| **TRANSPORTATION** | | | | | |
| **MITIGATION MEASURE TRA-1:** Prior to issuance of an occupancy permit, the Applicant shall construct the improvements required at the Juniper Avenue/Slover Avenue intersection to maintain a level of service C or better. As such, the City will add the intersection improvements to the 2020-2021 Measure I Nexus Study list and the Capital Project Needs Analysis (CPNA) project list and enter into a reimbursement agreement with the Applicant to reimburse the cost of the improvements minus the fair share amount identified in the traffic study. This measure shall be implemented to the satisfaction of the City of Fontana Director of Engineering, or designee | Director of Engineering/City Engineer | Prior to issuance of occupancy permit | Evidence to City improvements made to Juniper Avenue/Slover Avenue intersection and execution of a reimbursement agreement | | Withhold occupancy permit |
| **TRIBAL CULTURAL RESOURCES** | | | | | |
| **MITIGATION MEASURE TCR-1:** The Project Applicant shall retain for construction monitoring the services of Tribal monitor(s)/consultant(s) who are ancestrally affiliated with the Project area, have expresses interest in consulting with the City pursuant to California Public Resources Code § 21080.3.1 and § 21080.3.2, and are listed under the Native American Heritage Commission's (NAHC's) Tribal Contact list for the area of the project location. | Community Development Director or designee | During ground-disturbing activities | Evidence to the City Native American Monitor(s) have been retained to be present during all ground-disturbing activities | | Issuance of a stop work order |

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| The monitor(s)/consultant(s) will be present on-site only during the construction phases that involve ground-disturbing activities. Ground-disturbing activities are defined as activities that include, but are not limited to: pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling and trenching within the project area. The Tribal monitor(s)/consultant(s) will complete daily monitoring logs that provide a description of the day's activities, including construction activities, locations, soils, and any cultural materials identified. The on-site monitoring shall end when the Project site grading and excavation activities area completed, or when the Tribal Representatives and monitor(s)/consultant(s) have indicated that the site has a low potential for impact to Tribal Cultural Resources. | | | | | |
| **MITIGATION MEASURE TCR-2:** Upon discovery of any tribal cultural or archeological resource, construction activities in the immediate vicinity of the find shall ceased until the find can be assessed. All tribal cultural and archeological resources unearthed by the Project construction activities shall be evaluated by a qualified archeologist and the Tribal monitor(s)/consultant(s). If the resources are Native American in origin, the consulting Tribe(s) shall coordinate with the landowner regarding the treatment and curation of these resources. Typically, the consulting Tribe(s) request preservation in place or recovery for educational purposes. Work may continue on other parts of the Project while evaluation and, if necessary, additional protective mitigation is implemented. | Community Development Director or designee | During ground-disturbing activities | Evidence to the City:<br>1) a qualified archaeological monitor has been retained to be present during all ground-disturbing activities<br>2) appropriate buffer areas have been established as applicable<br>3) coordination between consulting Tribe(s) and landowner | | Issuance of a stop work order |

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| If a resource is determined by the qualified archeologist to be a "historical resource" or "unique archeological resources", a treatment plan shall be developed (pursuant to CEQA Guidelines, Section 15064.5[f]) allowing for sufficient time and funding to identify and implement avoidance measures and/or additional mitigation. | | | | | |
| **MITIGATION MEASURE TCR-3:** For unique archeological resources, preservation in place is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archeological data recovery extraction to remove the resource along with subsequent laboratory processing and analysis. Any Tribal Cultural Resources encountered shall be treated in accordance with the treatment plan specified in **Mitigation Measure TCR-2** and a Memorandum of Understanding to be executed between the City of Fontana, the consulting Tribe(s), and the owner of the property on which such resources are encountered. Any historic archeological material that is not Native American in origin shall, at the discretion of the landowner, be curated at a public, non-profit institution with a research interest agreeing to accept in the materials. If no such institution agrees to accept the materials, they shall be offered to the consulting Tribe(s) or to a local school or historical society in the area for educational purposes. | Community Development Director or designee | During ground-disturbing activities | Evidence to the City:<br>1) resource(s) recorded on California Department of Parks and Recreation 523 Forms as appropriate<br>2) interested parties confer regarding the appropriate disposition of the discovered resource(s)<br>3) Memorandum of Understanding to be executed between the City of Fontana, the consulting Tribe(s), and the property owner<br>4) submittal of required evaluation and report by a qualified archeologist to the City. | | Issuance of a stop work order |
| **MITIGATION MEASURE TCR-4:** Public Resources Code (Section 5097.98(d)(1)) defines Native American remains as "…an inhumation or cremation, and in any state of decomposition or skeletal completeness." | Community Development | During ground-disturbing activities | Evidence to the City:<br>1) appropriate buffer areas have been established as | | Issuance of a stop work order |

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| Funerary objects, called "grave goods" shall be treated similarly according to this statute. These objects are those reasonably believed to have been placed with human remains either at the time of death; other items made exclusively for burial purposes; or contain human remains. The treatment of funerary objects shall be treated in the same manner as human remains.<br><br>Health and Safety Code (Section 7050.5) dictates that any discovery of human remains shall immediately be reported to the San Bernardino County Coroner, and excavation shall be halted until the Coroner has determined the nature of the remains. If the Coroner recognizes the remains to be those of a Native American or has reason to believe they are those of a Native American, he or she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours of the find, and appropriate provisions of Public Resources Code (Section 5097.98) shall be followed.<br><br>Upon discovery of human remains and/or associated grave goods, the tribal and/or archeological monitor/consultant shall immediately divert work a minimum of 150 feet and place an exclusion zone around the burial and associated grave goods. The monitor/consultant(s) shall notify the consulting Tribe(s), the qualified lead archeologist, and the construction manager who will call the San Bernardino County Coroner. The discovery shall be kept confidential and secure to prevent further disturbance. If the finds are determined to be Native American, the coroner will notify the NAHC as mandated by State law, and the NAHC will then appoint a Most Likely Descendent | Director or designee | | applicable<br><br>2) County coroner is notified in accordance with State law<br><br>3) resource(s) recorded on California Department of Parks and Recreation 523 Forms as appropriate<br><br>4) interested parties confer regarding the appropriate disposition of the discovered resource(s)<br><br>5) treatment plan is prepared as appropriate<br><br>6) submittal of required evaluation and report by a qualified archeologist to the City, consulting tribe(s), and the Native American Heritage Commission | | |

**Project Name: Transwestern Boyle Avenue Warehouse Building 1** **Applicant: Transwestern Development Company**

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| (MLD).<br><br>If the Gabrieleno Band of Mission Indians – Kizh Nation (Kizh) is designated MLD, the Koo-nas-gna Burial Policy shall be implemented. This would include, but is not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.<br><br>Prior to the continuation of ground disturbing activities, the land owner shall arrange a designated location within the footprint of the project for the respectful reburial of the human remains and/or funerary objects. In cases where discovered human remains cannot be fully documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment to protect the remains. If this type of protection is not available, a 24-hour guard shall be posted outside of working hours. The MLD(s) will make every effort to recommend diverting the Project and keeping the remains in situ and protected. If the Project cannot be diverted, it may be determined that burials will be removed. The MLD(s) will work closely with the qualified archeologist to | | | | | |

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| ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the MLD(s), documentation shall be taken which includes at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall be approved by the MLD(s) for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all material.<br><br>Each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony shall be removed to a secure container on site. These items shall be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the Project site but at a location agreed upon between the MLD(s) and the landowner at a location to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.<br><br>If the discovery of human remains includes four or more burials, the location shall be considered a cemetery, and a separate treatment plan shall be developed. Once complete, a final report of all activities shall be submitted to the consulting Tribe(s), the NAHC, and the City. The MLDs(s) do not authorize any scientific study or the utilization of invasive and/or destructive diagnostics on human remains. | | | | | |
| **MITIGATION MEASURE TCR-5:** Archeological and Native American monitoring and excavation during construction shall be consistent with current professional standards. All feasible care to avoid any | Community Development | During ground-disturbing activities | Evidence to the City:<br><br>1) Native American Monitor(s) have been | | Issuance of a stop work order |

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| unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel shall meet the Secretary of Interior standards for archaeology and have a minimum of ten years of experience as a principal investigator working with Native American archeological sites in southern California. The Qualified Archeologist shall ensure that all other personnel are appropriately trained and qualified. | Director or designee | | retained to be present during all ground-disturbing activities<br>2) a qualified archaeological monitor has been retained to be present during all ground-disturbing activities<br>3) appropriate buffer areas have been established as applicable<br>4) resource(s) recorded on California Department of Parks and Recreation 523 Forms as appropriate<br>5) interested parties confer regarding the appropriate disposition of the discovered resource(s)<br>6) submittal of required evaluation and report by a qualified archeologist to the City. | | |