

INITIAL STUDY

FOR THE

CITY OF CHINO

WA212 STATE STREET WATER TREATMENT

PROJECT

WELL 14 ON-SITE WELLHEAD

WELL 12 OFF-SITE WELLHEAD

Prepared for:

City of Chino
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LIST OF ABBREVIATIONS AND ACROYNMS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
BAT	Best Available Technology
Bgs	below ground surface
BMPs	Best Management Practices
BOR	Bureau of Reclamation
BRR	Biological Resources Report
CAA	Clean Air Act
CAAA	Clean Air Act Amendment
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CBC	California Building Code
CCAR	California Climate Action Registry (now called Climate Action Reserve)
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Survey
CO	carbon monoxide
COC	contaminants of concern
COD	chemical oxygen demand
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DBPs	disinfection byproducts
DDW	Division of Drinking Water
DIF	Development Impact Fees
DLR	detection limit for purposes of reporting
FGC	Fish & Game Code
FRP	Fiber Reinforced Polymer
FTA	Federal Transit Association
GAC	Granular Activated Carbon
GCC	Global Climate Change
GHG	Greenhouse Gas
HCl	hydrochloric acid
HGL	hydraulic grade line
HUD	Housing and Urban Development
HWL	high-water line
IEBL	Inland Empire Brine Line
IEUA	Inland Empire Utilities Agency

IX	ion exchange
LST	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
MLC	Mineral Land Classification
MM	Mitigation Measure
MPD	Montclair Police Department
MRZ	Mineral Resources Zone
MTS	manual transit switch
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standards
NaCl	sodium chloride
NBP	Nesting Bird Plan
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Services
NRWS	Non-Reclaimable Wastewater System
NWI	National Wetlands Inventory
OPD	Ontario Police Department
PDR	Preliminary Design Report
RTP/SCS	Regional Transportation Plan / Sustainable Communities Strategies
RWQCB	Regional Water Quality Control Board
SARI	Santa Ana Regional Interceptor
SCAB	South Coast Air Basin
SCADA	Supervising Control and Data Acquisition
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SIP	State Implementation Plan
SOC	synthetic organic compound
SWPPP	Storm Water Pollution Prevention Plan
TCP	trichloropropane
TSS	total suspended solids
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration-velocity decibel
VFD	variable frequency drive
VOC	volatile organic compounds
WFA	Water Facility Authority
WoUS	Waters of the United States
WTF	Water Treatment Facility
WQMP	Water Quality Management Plan

ENVIRONMENTAL CHECKLIST FORM

INTRODUCTION

1. Project Title: City of Chino State Street Water Treatment Project
2. Lead Agency Name: City of Chino
Address: 13220 Central Avenue, Chino, CA 91710
3. Contact Person: Maria Fraser
Phone Number: 909-334-3310
4. Project Location:

The proposed project is located at 10762 Benson on the southwest corner of the intersection of West State Street and South Benson Avenue in Unincorporated San Bernardino County between the Cities of Montclair and Chino. The project will be located at the City's existing Reservoir 5 and Well 14 site, which encompasses about 4.51 acres. Additionally, the project will include pipelines that will traverse the following roadways in the vicinity of the project site, which have been selected as the preferred alignment:

 - Phillips Boulevard between Well 12 and Vernon Avenue; Vernon Avenue between Phillips Boulevard and State Street; State Street between Vernon Avenue and the State Street Facility
 - Benson Avenue at the State Street Facility

The project has also analyzed alternative alignments including the following roadways in the vicinity of the project site:

 - Vernon Avenue between Phillips Boulevard and Mission Boulevard
 - Mission Boulevard between Vernon Avenue and Benson Avenue

The project also involves development at the Well 12 site, which is located at 5251 Phillips Boulevard within the City of Chino just west of the intersection of Central Avenue and Phillips Boulevard.

The project sites are generally located within Section 26, Township 1 South, Range 8 West of the USGS 7.5 Minute Ontario topographical quadrangle. The GPS coordinates of the proposed project are approximately 34.058705°, -117.681522°. Refer to Figures 1 through 4 for aerial depictions of the regional and site locations.
5. Project Sponsor's Name and Address: City of Chino Public Works Department
13220 Central Avenue, Chino, CA 91710

6. General Plan Designation: State Street Facility (Existing Well 14 and Reservoir 5 site), located in the County of San Bernardino: Public Quasi Public. Well 12 is located in the City of Chino on land designated as Public Facility.
7. Zoning Classification: State Street Facility located in the County of San Bernardino: IC: Community Industrial. Well 12 is located in the City of Chino on land designated as Public Facility with a zoning classification of P: Public
8. Project Description:

Introduction

The City of Chino encompasses approximately 30 square miles, with a water service area of 29 square miles. The City has an estimated current population of 88,800 (SCAG), with a projected population of 113,333 in 2040 (SCAG). The City water service area serves a population of about 80,800 and primarily follows the City boundary. Groundwater from the Chino Basin is produced by groundwater wells owned and operated by the City, and the wells constitute approximately half of the City's water supply. Two of the City's wells—Wells 12 and 14—have been inactive for some time due to being impacted from contamination, as such, this project proposes to restore their utilization, which will provide a key local water resource to support the City's growing population and water demand. The use of treated groundwater is preferred by the City compared with alternative sources, such as Water Facilities Authority (WFA) treated surface water, to reduce reliance on purchased imported surface water. The City therefore proposes the State Street Water Treatment Facility (State Street WTF), a new, centralized treatment project that will treat Wells 12 and 14 for nitrate, perchlorate, and 1,2,3-trichloropropane (1,2,3-TCP) as these contaminants have been detected at concentrations above the Maximum Contaminant Levels (MCLs) set by the State of California Water Resources Control Board Division of Drinking Water (DDW).

The City of Chino will serve as the Lead Agency under the California Environmental Quality Act (CEQA) for this project. This Initial Study evaluates the potential effects to the environment from implementing the project. The Initial Study Environmental Checklist Form contains 21 environmental issues that will be addressed in this Initial Study. Review of the data contained in this Initial Study will assist the City to determine the appropriate environmental determination for the proposed project in order to comply with CEQA, the statute and State CEQA Guidelines. This document has also been prepared in order to meet National Environmental Policy Act (NEPA) standards to enable the Bureau of Reclamation (BOR) to process this project under a separate NEPA documentation process. Appendix 1 to this document contains the Preliminary Design Report (PDR) for the proposed project, the data contained therein informs this Project Description.

Existing Setting

The proposed project is located within a highly industrial corridor along State Street, which is just south of the railroad tracks. The project site is surrounding to the east, south, and west by existing industrial uses, and is located in an unincorporated area of San Bernardino County situated in the Valley region of the County just west of the City of Ontario, south of the City of Montclair and just north of the City of Chino.

The proposed project site contains the existing City Well 14 and Reservoir 5, a 7 million-gallon storage tank. The State Street site includes Well 14, and a WFA supply connection line that

currently flows into Reservoir 5 (7 MG) on-site. A pipeline connects Well 14 to Reservoir 5, which conveyed groundwater from the well before the well was shut down. Reservoir 5 currently has a Tidal Wave submersible water mixer to help control water age and stratification. Well 12 is located off-site, about a mile southwest of Well 14 on Phillips Blvd., at the same site as Reservoir 4.

A summary of original design well capacities is shown in Table 1.

**Table 1
WELL CAPACITIES**

Well Number	Status	Design Capacity (gallons per minute [gpm])
12	Inactive	2,000
14	Inactive	2,000

Water from Reservoir 5 flows to Reservoir 4, via gravity, and is distributed to the City's 980 zone. A pipeline allows for direct distribution to the 980 zone from Reservoir 5; however, the valve is usually closed.

As a governing member agency of the WFA Joint Powers Authority, the City receives water from the Agua de Lejos Treatment Plant that the Authority owns. The WFA supply that comes into the State Street site via a connection point brings imported surface water supplied from State Project Water Sources, and is pressure reduced before entering Reservoir 5. There is an existing meter vault that allows operators to monitor constant flow. The City periodically receives groundwater from the City of Ontario, usually during the winter when the WFA supply is offline. This source water enters the site at the same connection point as the WFA supply and follows the same path into Reservoir 5.

The State Street WTF site is approximately 300 ft x 700 ft (5-acres), located in San Bernardino County's Valley Region. The site is classified as a Community Industrial zone and limits structures to a maximum height of 75 feet. Civil design for the State Street site associated with the onsite treatment system includes demolition, paving and grading, and yard piping.

The site is currently secured with ornamental iron fencing, chain link fencing, and CMU block wall surrounding the site. Barbed wire is only present on a portion of the chain link fencing. The main access point is an electronic slide gate with keypad activation off of Benson Avenue.

Project Description

The proposed project consists of development of a State Street Water Treatment Facility (State Street WTF), which will be a new centralized treatment project that will treat water from Wells 12 and 14 for nitrate, perchlorate, and 1,2,3-TCP. The project also includes installation of offsite water transmission and brine pipelines, improvements to the existing wells, and site improvements. The water treatment facility will have a capacity to treat up to 4,000 gallons per minute (gpm) and the anticipated extraction rate from each well is 2,000 gpm.

As stated above, the proposed project would provide treatment for nitrate, perchlorate, and 1,2,3-TCP at Wells 12 and 14. Treatment is anticipated to include pretreatment through sand separators followed by cartridge filters (solids removal), 1,2,3-TCP Removal through Granular Activated Carbon (GAC), perchlorate and nitrate removal through a proprietary ion exchange (IX) treatment system, then disinfection and storage in Reservoir 5 before distribution. The IX

treatment system generates waste water known as brine, that will be disposed of through a new connection to north Non-Reclaimable Wastewater System (NRWS) brine disposal pipeline that is managed locally by the Inland Empire Utilities Agency (IEUA). The GAC system generates a periodic backwash water when the media is replaced that will be disposed of through a local sewer connection.

Existing Water Quality

In a 2018 Water Quality Feasibility Study, the following constituents were identified as primary contaminants of concern (COCs) for treatment of Well 12 water: 1,2,3-TCP, nitrate, and perchlorate. In a recent Title 22 sampling analysis, the same COCs were identified for Well 14. Table 2 lists the minimum, maximum, and average concentrations of these constituents observed in the groundwater wells (Wells 12 and 14). 1,2,3-TCP, nitrate, and perchlorate are observed in both wells above the California MCLs. Recent water quality test results in August 2021 for Wells 12 and 14 showed non-detect (ND) for perfluorinated alkylated substances (PFAS) with a minimum reporting level (MRL) of 1.7 parts per trillion (ppt). The current MRL for Perfluorooctanoic acid (PFOA) and PFOS set by the EPA is 4 ppt. As of now, PFAS is not a contaminant of concern, but the City will continue to monitor this as the EPA finalizes its regulations thereof.

Table 2
CONTAMINANTS OF CONCERN

Parameter	Unit	CA MCL	Well 12 ¹				Well 14 ²				Well 12 & 14 Blend
			Min	Avg	Max	Count	Min	Avg	Max	Count	Average ³
(1,2,3-TCP)	ng/L	5	6	15	32	6	8.7	10	12	3	13
Nitrate	mg/L N	10	18	21	22	21	17	17	17	1	19
Perchlorate	µg/L	6	4	15.2	21	63	11	12.5	14	2	14

Notes: Grayed out boxes indicate a value above the MCL

¹Well 12 sample dates from Aug 1984 – Nov 2017 except for 1,2,3-TCP sampled Jan 2003 - Oct 2020.

²Well 14 sample dates from Nov 2020, except for 1,2,3-TCP and perchlorate sampled Sept 2005 and Nov 2020.

³Determined by averaging the average contaminant value for the two wells. Assuming 50/50 blending at 2,000 gpm for each well. This value may change once well rehabilitation is complete and more accurate flow productions are known.

Hexavalent Chromium has been detected at both wells below the former California MCL (which was rescinded on May 31, 2017). A new MCL for hexavalent chromium will be established, although it is not certain whether the MCL will be lower, at, or higher than the original 10 µg/L MCL that was rescinded in 2017.

General water quality parameters are monitored, with some evaluated against National Secondary Drinking Water Standards (non-enforceable guidelines). General and physical parameters are important indicators for treatment effectiveness and to better inform design considerations. The PDR indicates that neither Well 12 nor 14 presented concentrations above the Secondary MCL.

Other regulated contaminants such as organics, radionuclides, volatile organic compounds (VOCs), and synthetic organic compounds (SOCs) were identified in trace concentrations and are not presently a concern for the City.

The State Street WTF will be designed based on the parameters listed in Table 3. These values are based on a conservative approach using the maximum concentration of historical water quality for the contaminants with values above the CA MCL.

Table 3
WATER QUALITY CONTAMINANTS

Contaminant	Unit	Design Value
(1,2,3-TCP)	ng/L	32
Nitrate	mg/L as N	32
Perchlorate	µg/L	21

Treated Water Goals

The treatment goals for the State Street WTF listed in Table 4 have been defined for the following three contaminants based on identification by the City: 1,2,3-TCP, nitrate, and perchlorate. The City provided these contaminants as the target constituents, in the absence of monitoring well water quality data or hydrogeologic modeling. Treatment for these key contaminants will be designed for 100% of the well flow to achieve effluent concentrations less than 80% of the MCL, or less than the detection limit for purposes of reporting (DLR), as applicable.

Table 4
TREATMENT GOALS

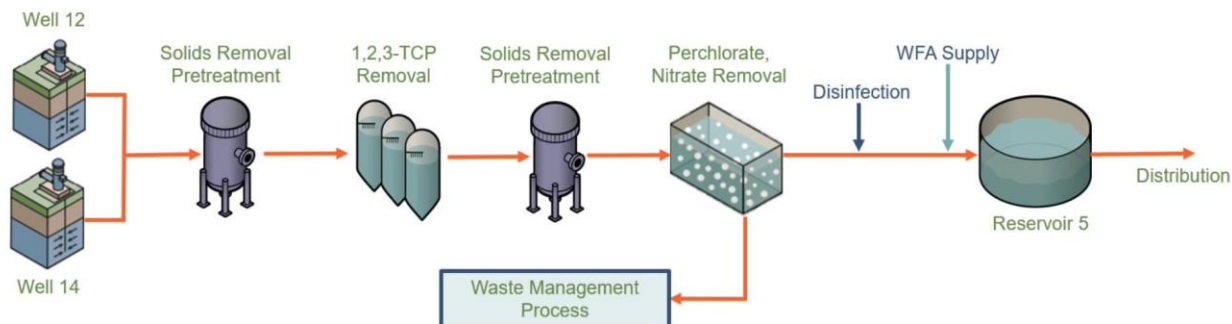
Contaminant	Unit	CA MCL	Design Value
(1,2,3-TCP)	ng/L	5	<5
Nitrate	mg/L as N	10	<5
Perchlorate	µg/L	6.0	2

Onsite Treatment System

The contaminants of concern for the State Street WTF are 1,2,3- TCP, nitrate, and perchlorate. 1,2,3-TCP is an organic contaminant, and therefore requires a different process system for treatment than nitrate and perchlorate, which are inorganic contaminants. The City currently treats for these contaminants at their other facilities, so a similar approach is proposed to address the COCs at Well 12 and 14. Exhibit 1 below shows the key removal processes selected for the State Street WTF.

The water from Wells 12 and 14 will be conveyed to the centralized treatment location at the State Street site, then processed through the treatment train starting with a pretreatment system to remove any particles present in the water and followed by removal of 1,2,3-TCP. Before the water is treated for nitrate and perchlorate, it passes through another pretreatment system to ensure that no particles will interfere with the downstream processes. Once nitrate and perchlorate are removed, water is disinfected before entering Reservoir 5 through an existing line. The City currently receives chloraminated surface water from a WFA supply that will be breakpoint chlorinated before combining with the treated water in an existing pipe that feeds into Reservoir 5. Once the State Street WTF is online, the WFA supply coming in will be less than what it currently is, yet still remain a constant source into Reservoir 5.

**Exhibit 1
STATE STREET WTF PROCESS SCHEMATIC**



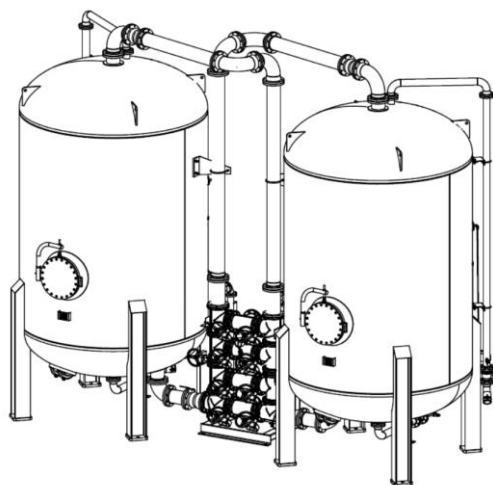
Pretreatment

Pretreatment is typically used before the treatment train to remove suspended particles that may interfere with downstream processes. Pretreatment can minimize the frequency of GAC backwashing and limits the number of trapped particles in IX systems that are not designed to be backwashed. While GAC and IX systems can be operated without it, pretreatment is recommended to minimize operational requirements for the GAC and IX systems, such as reducing the need for backwashing by decreasing the rate of suspended solids accumulation on the media. The proposed pretreatment system consists of sand separators followed by cartridge filters. The design criteria for these treatment systems are discussed further in the PDR provided as Appendix 1.

1,2,3-TCP Treatment

The only Best Available Technology (BAT) currently approved by California Water Boards DDW for 1,2,3-TCP treatment is GAC. GAC is an adsorbent material that removes a variety of natural organic compounds, taste and odor compounds, and synthetic organic compounds. Adsorption removes contaminants from the bulk liquid through the accumulation of contaminants at the interface of the liquid and the media surface. Exhibit 2 below shows a three-dimensional view of a pair of GAC vessels, with connecting piping and valve rack

**Exhibit 2
GAC VESSEL ISOMETRIC VIEW**



Water is passed through a pressurized vessel filled with GAC media, where organic compounds, taste and odor, and other constituents, such as volatile organic compounds (VOCs), are adsorbed onto the media surface. When the media is no longer effective at removing 1,2,3-TCP (i.e., at contaminant breakthrough), changeout is required.

The proposed system includes four treatment trains of GAC. Each train consists of two vessels in a lead-lag (series) configuration, which was selected for its multibarrier protection, which means that the lead vessel will remove the 1,2,3-TCP and the lag vessel is used as a polisher.

Media changeout is typically completed by draining the vessel of the spent media into a portion of a vendor provided truck. This spent media is transported by creating a slurry. The new media is then pneumatically transferred from the clean portion of the vendor truck. Media can be pre-washed prior to delivery on site to reduce fines. The backwash waste will be sent to a 50,000-gallon tank onsite to attenuate the flow and discharged at a rate of approximately 50 gallons per minute into the sewer. The generated backwash waste volume is estimated at approximately 36,000 gallons per backwash per vessel.

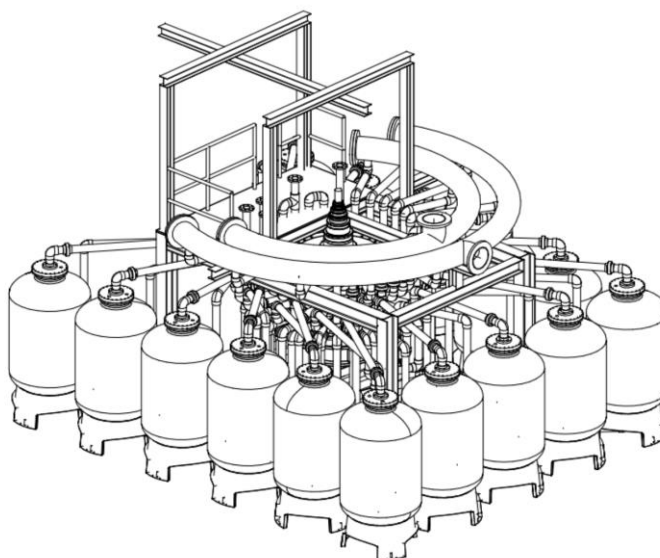
The design criteria for this treatment system is discussed further in the PDR provided as Appendix 1.

Nitrate and Perchlorate Treatment

Appropriate nitrate and perchlorate treatment systems that were considered include ion exchange and biological treatment systems. The most desirable treatment system for the proposed project was determined to be a proprietary ion exchange (IX) treatment system.

Proprietary ion exchange systems, such as the Calgon Carbon ISEP™ IX system shown in Exhibit 3, below, use the countercurrent regeneration method and operate in a continuous flow path with recycling a portion of the regenerant material. This type of system typically generates less waste than conventional IX systems but is more mechanically complex.

**Exhibit 3
DRAWING OF ISEP™ IX SYSTEM**



Chemicals stored onsite for IX treatment include sodium chloride (NaCl) and hydrochloric acid (HCl). In the ISEP™ system, a regeneration process occurs using a sodium chloride brine solution and softened water. A small amount of softened water is initially used to rinse the vessels and prevent calcium sulfate precipitation before the regeneration process. Sodium chloride is applied as a rock salt and is dissolved in the brine maker to achieve a 26% NaCl solution that combines with the initial softened water rinse effluent for resin regeneration. A final rinse step is completed using softened water to displace any hard water and prevent precipitation of the regeneration zone. The brine and softener waste generated from the system would be disposed of to a brine line.

The Calgon Carbon ISEP™ IX system was determined as the most favorable option for this design based on its lower costs, and lower waste generation in comparison to other systems. The ISEP™ IX system is more complex due to the rotating turntable platform. However, the City has found continued operational success with their current ISEP™ systems at the Eastside and Benson WTFs, and the process minimizes brine waste quantities.

Table 5 outlines the design parameters for the ISEP™ IX system and includes estimated waste quantities based on maximum historical nitrate and perchlorate conditions.

**Table 5
CALGON ISEP™ IX DESIGN PARAMETERS**

Parameter	Units	Current
Design Flow	gpm	4,000
Resin Volume per Vessel	cf	32
Configuration	-	ISEP™ – Continuous, Countercurrent
Resin	-	Nitrate Selective
Number of Vessels	-	30, with 23 vessels in operation, 6 in different stages of regen, and one resting
ISEP™ Salt Usage	tons/day	7.9
ISEP™ Brine Waste	gpm	12
Softener Salt Usage	lbs/day	400
Softener Brine Waste	gpd	1,994
Brine Maker Tank Volume	gallons	7,300
Number of Brine Waste Tanks	-	2

The proposed ISEP™ IX system expected water waste is less than 0.5%. Brine disposal will take advantage of the Inland Empire Brine Line by installing a new pipeline connection into the north Non-Reclaimable Wastewater System (NRWS). The effluent of the ISEP™ system has a media trap, which is used as a protection to capture any resin that may accidentally carry over from the vessels before it reaches the reservoir.

Disinfection

Disinfection will be conducted using two dosing points—one for the treated water at the treatment plant and one for the WFA supply coming into Reservoir 5. The WFA supply is currently chloraminated and will need to be breakpoint chlorinated to provide a free chlorine residual before entering the storage tank. The WFA supply will be dosed downstream of the pressure reducing valve and the flow meter vault can be used to control the chlorine added. Elevated concentrations

of disinfection byproducts (DBPs) may form during breakpoint chlorination, so testing of both water sources for DBPs will occur. In addition, a monitoring point would be added at the reservoir effluent before water is sent out to distribution. An in-line static mixer will be added at each dosing point to ensure proper mixing.

The City prefers liquified chlorine gas, which is currently used at their other facilities, due to operator familiarity and similarities across facilities. Liquified chlorine gas would be delivered in 150-lb gas cylinders. There will be two separate dosing systems, one for the wells treated water and one for the WFA line. Each chlorine dosing system will be in a separate building and will include a chlorinator, automatic cylinder changeover valves, leak detection and safety equipment, and a process water booster pump. The process water booster pump will be used to supply pressure to operate the venturi eductor and ensure a constant rate of pumping before chlorine is dosed into the system. Additional cylinder storage will be provided adjacent to each chlorine dosing building to allow up to 2,500 pounds, or 9 cylinders, in total to be stored on-site and swapped out by operators when needed.

As part of the Groundwater Rule, compliance monitoring is necessary and will be performed for all water systems that use groundwater and are disinfected prior to distribution.

At a maximum flow of 6,000-gpm (4,000-gpm design flow and 2,000-gpm WFA supply), 117 minutes of contact time (CT) would be provided in order to achieve a virus inactivation. At a maximum flow of 6,500-gpm (4,000-gpm design flow and 2,500-gpm WFA supply), 108 minutes of contact time (CT) would be provided in order to achieve a virus inactivation.

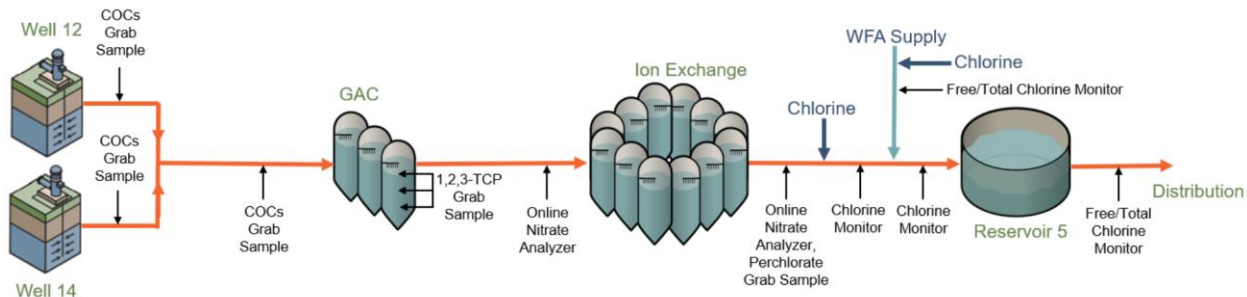
Water Quality Process Monitoring

To verify process performance, manual samples and online analyzers will be used at the State Street WTF to monitor influent and effluent contaminant levels following each process treatment and free chlorine residual following chlorine dosing. Samples will be taken at each wellhead and at the centralized treatment train after the sources are blended before entering pretreatment to measure influent contaminant levels. Monitoring of the GAC performance is by manual sample collection through the vessel ports. These monitoring points would allow the operators to track contaminant breakthrough through the bed to better anticipate the need for carbon changeout. Once contaminant breakthrough is reached in the lead GAC bed, the lag vessel becomes the lead allowing for full utilization of the media. The exhausted media in the lead vessel would then be promptly changed out to ensure that the water flow out of the new lead vessel is polished. Manual samples will be routinely monitored in the lab.

The ISEP™ system will have an online analyzer to monitor influent and effluent nitrate levels. It is expected that contaminant breakthrough will be controlled by nitrate concentration as nitrate levels below the MCL signify perchlorate levels below the MCL. Manual samples will be taken at the ISEP™ effluent to ensure complete perchlorate removal, and monitoring conductivity on the regeneration system to assure there is no residual brine in the vessel at the end of the rinse cycle would occur.

Chlorine dosing control will be measured using a single dose point and single measuring point for the treated water, and a single dose point for the WFA supply before it enters Reservoir 5. A final chlorine measuring point before distribution would ensure that the blended water has met the chlorine residual.

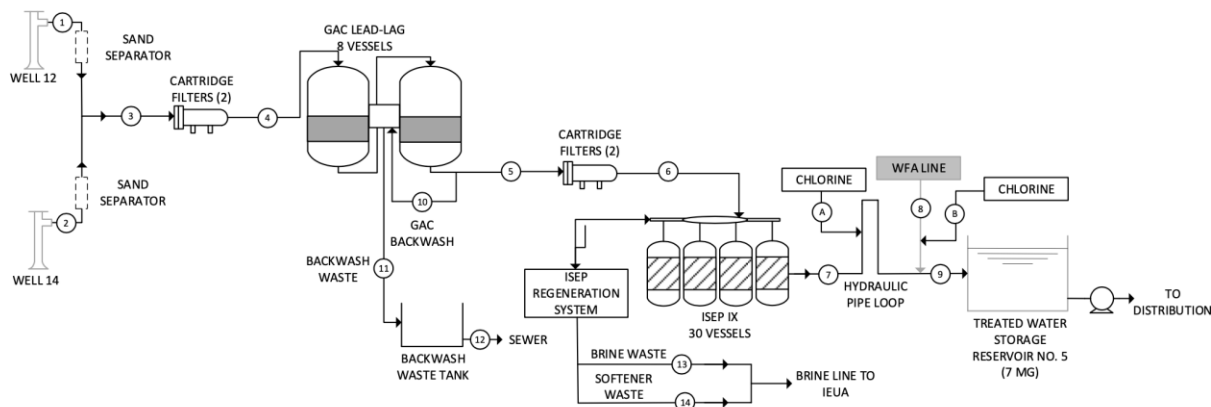
Exhibit 4 WATER QUALITY PROCESS MONITORING LOCATIONS



Process Flow Diagram

The proposed treatment process includes sand separators at each wellhead, cartridge filters as pretreatment to reduce solids loading on the GAC, eight GAC vessels configured in a lead-lag setup for removal of 1,2,3-TCP, a second set of cartridge filters as pretreatment to IX, and Ion Exchange for removal of nitrates and perchlorate. The water is dosed with chlorine before entering the treated water storage reservoir with enough detention time to attain 4-log virus inactivation. The WFA supply that enters the reservoir will be dosed with chlorine for breakpoint chlorination to achieve a free chlorine residual that matches that of the treated water, as mentioned in the previous section. Once the State Street WTF is online, with constant flows coming from Wells 12 and 14, the WFA supply flow will be decreased to meet distribution system demand. Exhibit 5 is a process flow diagram of the proposed treatment process for the State Street WTF.

Exhibit 5 PROCESS FLOW DIAGRAM

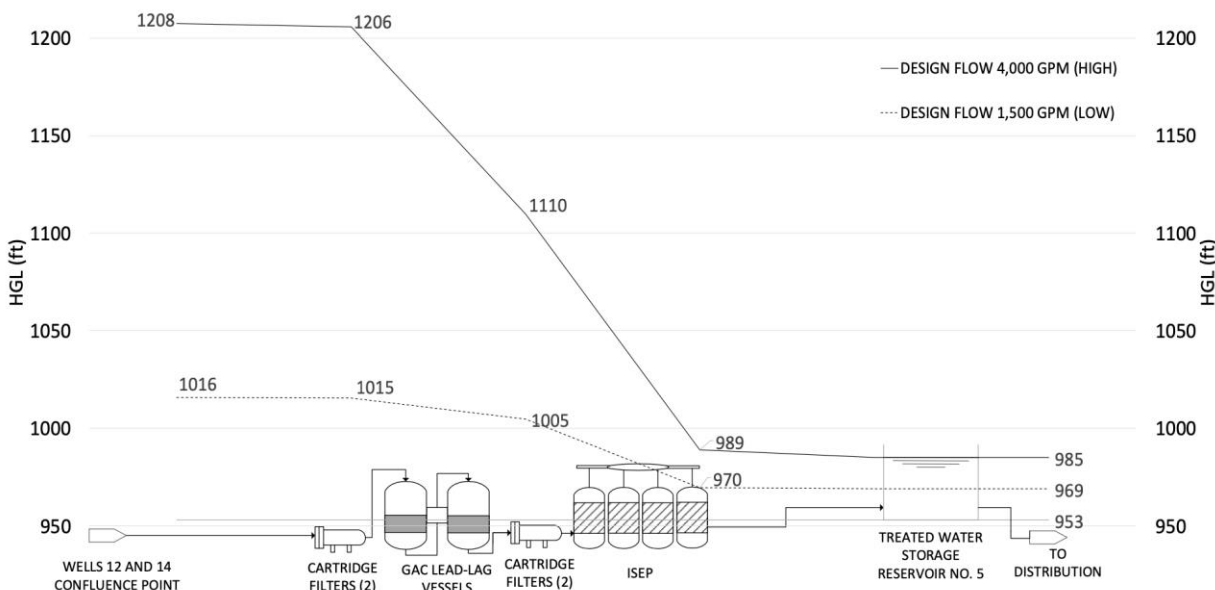


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	A	B
	Well 12	Well 14	Total Well	GAC In	GAC Out	IX In	IX Out	WFA Line	Total to Reservoir	GAC BW Supply	GAC BW Waste	Sewer Waste	Brine Waste	Softener Waste	Chlorine Dose	Chlorine Dose
	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm/sf	gal/vessel	gpm	gpm	gpm	mg/L	mg/L
Min. Flow Rate	1,000	1,000	2,000	2,000	2,000	2,000	2,000	700	2,700	8.5	35,626	50	5.5	1	1.5	3.8
Average Flow Rate	2,000	2,000	4,000	4,000	4,000	4,000	4,000	-	-	8.5	35,626	50	11	2	2	3.8
Design Flow Rate	2,000	2,000	4,000	4,000	4,000	4,000	4,000	2,000	6,000	8.5	35,626	50	11	2	3	3.8

Hydraulic Profile

The hydraulic profile of the proposed system from the Wells 12 and 14 raw water confluence point to Reservoir 5 is shown in Exhibit 6. Hydraulic profile indicates the hydraulic grade line (HGL)¹, as water passes through the various treatment systems. The hydraulic profile is based on the process flow diagram, design flow rates, and losses through each process equipment. A hydraulic barometric pipe loop will be added to the design on the effluent of the IX to prevent the GAC and IX from draining should the treated water storage reservoir fall below the HWL (high water line).

**Exhibit 6
HYDRAULIC PROFILE OF THE PROPOSED SYSTEM**



Waste Handling

The State Street WTF has access to two sewer laterals – the City of Ontario 12" sewer along Benson Ave., and the City of Montclair 8" sewer along Mission Blvd. The project will connect to one of these two sewer laterals, depending on which is the most feasible and desirable upon design finalization. The brine waste produced from the ISEP™ system will be disposed of in a brine line owned and operated by Inland Empire Utilities Agency (IEUA). The waste flows from the ISEP™ system will be approximately 17,000 gpd, including both brine and softener waste. Table 6 lists the approximate waste streams of the proposed treatment facility.

¹ HGL is measure of flow energy, is a line coinciding with the level of flowing water at any point along an open channel. In closed conduits flowing under pressure, the hydraulic grade line is the level to which water would rise in a vertical tube (open to atmospheric pressure) at any point along the pipe. The hydraulic grade line is used to aid the designer in determining the acceptability of a proposed or evaluation of an existing system by establishing the elevation to which water will rise when the system is operating under design conditions.

https://www.oregon.gov/odot/GeoEnvironmental/Docs_Hydraulics_Manual/Hydraulics-13-G.pdf

Table 6
INFLUENT WATER QUALITY BASIS OF DESIGN

Parameter	Units	Total	Frequency	Disposal Location
GAC Backwash Waste Volume	Gallons per vessel	36,000	As required/at GAC changeout	Sewer
ISEP™ Brine Waste	gpd	15,000	Daily	Brine Line
ISEP™ Softener Waste	gpd	2,000	Daily	Brine Line

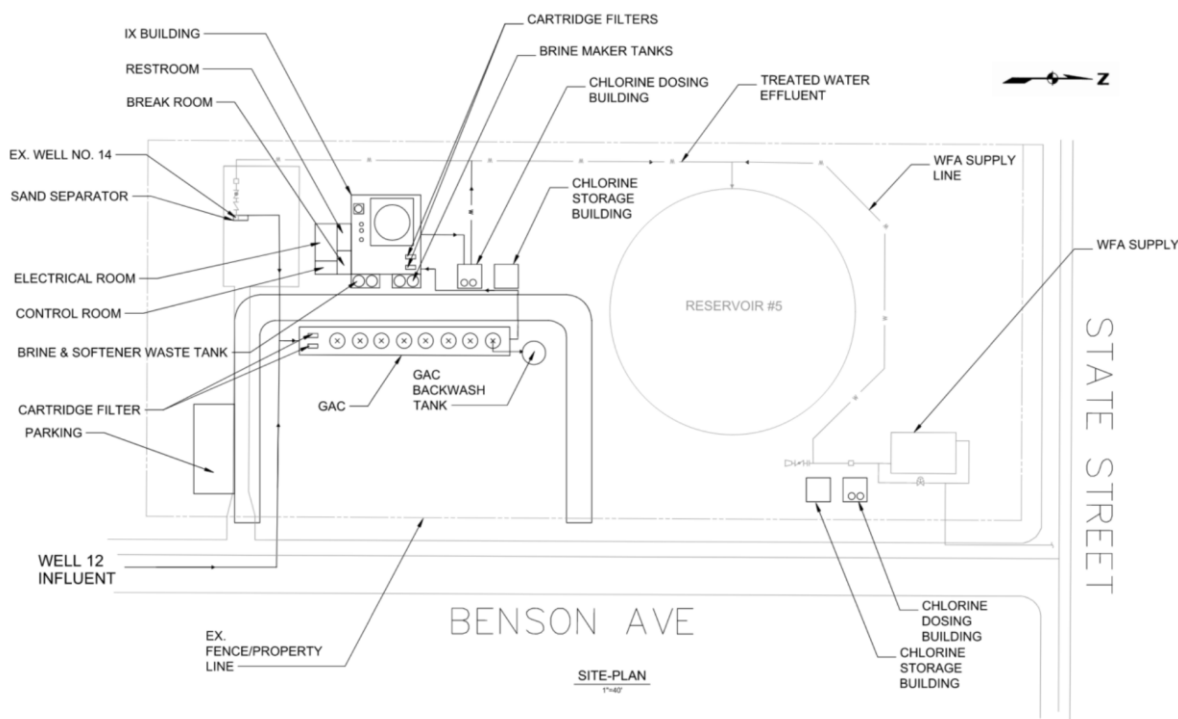
To minimize instantaneous flow into the sewer line, the backwash waste will be attenuated in a new 50,000-gallon tank prior to discharge. Similarly, a new 8,500-gallon brine waste storage tank and new 2,500-gallon softener waste storage tank will be used to store and attenuate flow and to maintain a constant discharge flow to the pipeline. Brine and softener waste should be stored separately prior to discharge to manage risks of precipitation. The pipeline will be in a duty/duty configuration allowing for the brine and softener waste to be disposed of in separate lines in a plug flow configuration, to prevent mixing in the line and potential precipitation.

Preliminary Site Layout

The site layout was developed to best minimize pipe and electrical conduit lengths and provide a practical layout for daily operations. The proposed layout (Exhibit 7) shows a truck path to circle the site from the existing access road, between the GAC and IX building, to another providing adequate access for fire trucks and maintenance trucks, such as those required to deliver salt, chemicals, or GAC media.

Water from Well 14 will blend with water from Well 12 before entering the treatment train. To deliver Well 12 water to the facility, an underground pipeline from Well 12 to the treatment facility will be constructed. The treated water will tie into an existing line that flows into Reservoir 5. The brine and chemical tanks for the ISEP™ process will be located under a canopy, on the side of the IX building facing the road for delivery ease. The chlorine storage building will be located adjacent to the chlorine dosing building, also close to the road, to reduce the risk of chlorine gas exposure when delivering the cylinders and transporting to the dosing building. The preliminary site layout drawing is provided as Exhibit 7.

**Exhibit 7
PRELIMINARY SITE LAYOUT**



Electrical, Instrumentation, and Control

The State Street WTF work will be done in accordance with the applicable codes and standards listed in the PDR provided as Appendix 1.

Well 14

The existing electrical service at Well 14 is by Southern California Edison (SCE) and the primary service is routed underground from a utility pole near the site entrance to a pad mounted utility transformer, which steps the voltage down to 480/277VAC, 3-phase. The existing pad-mounted utility transformer is located on the south end of the site, east of existing Well 14. Further details on the electrical services provided within the Well 14 site are provided in PDR provided as Appendix 1.

Well 12

The existing electrical service at Well 12 is by SCE and the primary service is routed underground from a utility pole near the site entrance to a pad mounted utility transformer, which steps the voltage down to 480/277VAC, 3-phase. The existing pad-mounted utility transformer is located south of the well pump and the electrical distribution equipment. Further details on the electrical services provided within the Well 12 site are provided in PDR provided as Appendix 1.

Proposed Power Distribution Improvements: WTF and Well 14

In order to meet the new pumping rate after the completion of well rehabilitation, the new well pump will need to be upgraded. A new electrical distribution system shall be installed to support the larger well pump motor, and other new loads from the treatment plant. The new well pump is preliminarily designed to be 460 VAC at 600 horsepower (HP), driven by Variable Frequency

Drive (VFD) to meet the desired pump operating range. The new well pump motor shall be inverter duty rated.

Further details on the electrical load summary are provided in PDR provided as Appendix 1. However, they are summarized as follows:

- New Well 14 Pump: 600 HP
- GAC BC Pump: 40 HP
- Brine Disposal Pump: 5 HP
- Softener Disposal Pump: 3 HP
- HVAC System – Fan: 5 HP
- Air Compressor: 10 HP
- HVAC System – Air Conditioning: 30 kVA
- ISEP™ System: 80 kVA
- Chlorine Gas System – Dosing Pt 1: 30 kVA
- Chlorine Gas System – Dosing Pt 2: 30 kVA
- GAC System Panel: 20 kVA
- Misc. 480V Loads: 30 kVA
- Lighting Panel Transformer: 30 kVA
 - Note: 1 HP is assumed to be 1 kVA. Actual kVA value will depend on motor load factor, efficiency, and power factor
- The connected load will total **1,291 FLA** (full-load amperes, meaning the actual known capacity of a motor)
- The operating load will total **913 kVA** (1,000-volt amps = 1 kVA)
- The operating load will total **1,111 FLA**

Since the existing well pump is to be removed and replaced, the existing power distribution system at the facility shall be demolished and upgraded to accommodate the added demand. The new distribution system shall be installed inside a dedicated air-conditioned Electrical Room inside the IX Building. The new system shall include a 2000A, 480V, 3-phase, 3-wire service entrance main switchboard, feeding the standalone VFD cabinet for the new well pump motor, and a 480V MCC lineup that includes motor starters and circuit breakers to supply power to the new treatment plant loads. As required, a new 480V 3-phase, 3-wire panelboard shall be provided to feed motor operated valves and other small 480V loads, and a 30kVA 480-120/208V transformer and panelboard shall be provided to distribute 120/208V power to exterior/interior lighting fixtures and receptacles, instruments, CCTV cameras, and other miscellaneous loads.

The main switchboard shall also include an open transition manual transfer switch (MTS) to allow for a portable generator to be connected to provide backup power in an event of power outage.

A new 1000kVA (preliminary) pad-mounted utility transformer shall be provided by Southern California Edison (SCE) to supply sufficient power to the new distribution system. Transformer size shall be coordinated and finalized with SCE during final design.

Proposed Power Distribution Improvements: Well 12

Similar to the Well 14 pump, the well pump at the existing Well 12 facility shall also be replaced and upsized. The new well pump is preliminarily designed to be 460VAC at 600HP, driven by Variable Frequency Drive (VFD) to meet the desired pump operating range. The new well pump motor shall be inverter duty rated.

The existing power distribution system shall be demolished and upgraded to accommodate the larger well pump motor. The new system shall include a 1200A, 480V, 3-phase, 3-wire service entrance main switchboard, feeding the standalone VFD cabinet for the new well pump motor, and feeder circuit breakers to supply power to other auxiliary loads. All electrical enclosures shall be NEMA 3R rated for outdoor installation. As required, a new 480V 3-phase, 3-wire panelboard shall be provided to feed motor operated valves and other small 480V loads, and a 30kVA 480-120/208V transformer and panelboard shall be provided to distribute 120/208V power to lighting, receptacles, instruments, and other miscellaneous loads.

The main switchboard shall also include an open transition manual transfer switch (MTS) to allow for a portable generator to be connected to provide backup power in an event of power outage.

Lighting

General lighting will be provided for illumination throughout the facility interior and exterior. Additional lights will be installed at strategically located areas around the site to provide sufficient lighting for security and safety. All fixtures will be specified as LED technology for extended life and energy efficiency. Exterior light fixtures will be equipped with photocells for dusk to dawn operation.

Proposed Instrumentation and Control System Improvements

Well 14 and WTF Improvements

The existing Well 14 Programmable Logic Controller (PLC) panel and associated instrumentation will be replaced as part of the Well 14 equipping and water treatment facility addition project.

The ISEP™ will be provided with a PLC. In order to match the configuration of the City of Chino Eastside Expansion Project, a dedicated Plant PLC will be provided for the GAC treatment process and an additional Main Plant PLC will be provided for monitoring and control of the remaining treatment processes. As all three new PLC enclosures are anticipated to be located within the new Ion Exchange building, CAT 6 cable is recommended in order to communicate between the new PLC's. In addition, a digital video security system will be provided. The quantity, location, and manufacturer of the video security system, including location of the cameras, will be coordinated with the City during detailed design.

Well 12

The existing PLC panel and associated instrumentation will be replaced as part of the Well 12 equipping project. A new PLC cabinet will be required in order to integrate Well 12 with the new Water Treatment Plant. During detailed design, Hazen will coordinate with the City in order to understand the City's preferred means of communication from Well 12 to the City's Supervisory Control and Data Acquisition (SCADA) system and the new water treatment plant.

Architecture and Finishings

Ion Exchange Building

The Ion Exchange Facility will be a single-story building, consisting of the ISEP™ system and the control room, and a canopy. The building will be built to house necessary process equipment for the ISEP™ system and will have a clear line of sight from the electrical room to the system. The building will be a pre-fabricated metal building with similar style, form, materials, and finishes to other City facilities, such as at Eastside and Benson WTFs. The building will also house an electrical room, break room, and restroom. A prefabricated metal canopy to cover process tanks

on the southern edge of the building will be provided. Painted hollow metal doors and clear exit paths will be provided for each building and area in accordance with the building code. Windows will be designed to allow natural light to enter. The building will have a roll up door to allow for access to remove equipment for maintenance. Finishes will be limited to paint for metals without a factory applied finish. Floors will be sealed except for the break, toilet, and electrical room that may include vinyl tile or similar floor finish. Those rooms will receive an acoustical lay in ceiling system.

The Ion Exchange building will contain forced ventilation with air louvers on the side of the building. All other rooms within the building will be insulated and air conditioned. The thermal envelopes of the building will be designed to comply with the Energy Conservation Code and related regulations. Chemicals will be evaluated for hazards and rooms containing chemicals will be classified in accordance with the Hazard present and the quantity of chemicals.

Coatings

Structural members and other steel items will be painted with a VOC compliant epoxy coating. Where steel members are exposed to the exterior, an additional coat of a VOC polyurethane or siloxane coating will be applied to minimize chalking and discoloration. Floors will receive a clear sealer or containment liner where chemicals will deteriorate the concrete. The exterior walls will have a factory finished insulated wall panel and not require field painting. A vinyl liner membrane will be exposed within the building roofing system with insulation and metal standing seam roofing above or a factory insulated roofing system provided as determined during final design.

Structural Systems

GAC Treatment

The GAC treatment area will be supported on a reinforced cast-in-place concrete mat slab foundation. The approximate footprint of the new mat slab for the GAC treatment area measures 23 feet x 167 feet. The GAC backwash tank will be a metal tank on a reinforced cast-in-place concrete ring foundation or a reinforced cast-in-place concrete mat slab foundation if required.

ISEP™ Treatment

The ISEP™ treatment will be housed in a rectangular building superstructure consistent with normal pre-engineered metal building-type construction, which includes built-up structural steel column and beam framing with metal panel roof system, secondary roof and wall framing, and metal wall panel siding. The slab will have a trench drain around the ISEP™ equipment slab to capture potential flow and carry it out of the building. A canopy structure will be built over the waste tanks that will be located on the West side of the building. The canopy construction will also be consistent with normal pre-engineered metal building-type construction. The new building and canopy superstructures will be supported on a conventionally reinforced concrete mat foundation or slab-on-grade with isolated spread footings at each column location of the steel framed system, in conformance with the Geotechnical Engineer's recommendations. The approximate footprint of the building and canopy measures 70 feet x 70 feet and 70 feet x 25 feet, respectively. The building height will be approximately 25 feet at the peak of the gable roof.

To prevent any possibility of flooding, the rooms will have floors raised six inches off the floor of the process area with a step. The trench drain around the IX equipment will also separate the new rooms from the process area to prevent flooding.

Chlorine Dosing Buildings

The chlorine dosing buildings and chemical storage buildings will be prefabricated Fiber Reinforced Polymer (FRP) buildings. The two buildings on the north wall of the ISEP™ building will be supported by a slab-on-grade tied into the ISEP™ building's foundation. The two isolated buildings will be supported by a conventionally reinforced concrete mat foundation.

Well Enclosures

Well 12 and Well 14 enclosures will be modified. Well 12 has existing canopies and privacy fencing and Well 14 has an existing CMU building adjacent to a canopy and privacy fencing. More secure enclosures for the two wells will be provided.

Other

Any new yard equipment will be supported by a conventionally reinforced concrete slab-on-grade foundation where necessary.

Offsite Facilities

Offsite Pipelines

The off-site pipelines include the raw water pipeline from Well 12; the parallel brine waste and softener waste lines to the IEUA waste line; and the sewer line. A summary of the off-site pipelines is included in Table 7 and shown graphically in Exhibit 8.

**Table 7
OFFSITE PIPELINES SUMMARY**

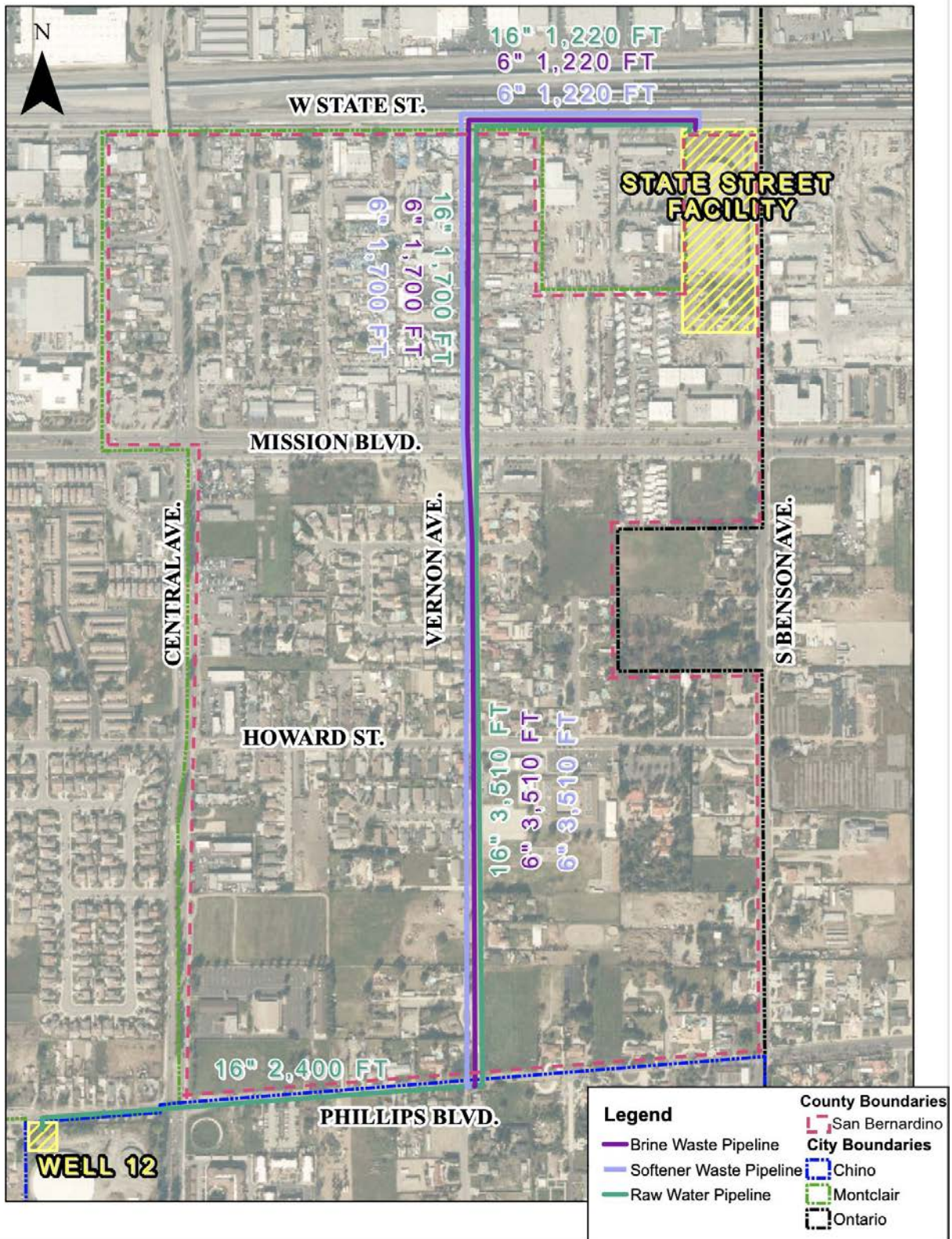
Pipe Description	Nominal Diameter (in)	Pipe Type	From	To
Well 12	16	DIP	Well 12	State Street Facility
Brine Waste/Softener Waste	Dual 4"	PVC	State Street Facility	IEUA Brine Line (Vernon Ave and Phillips Blvd)
Sewer	6	PVD	State Street Facility	City of Montclair Sewer (Benson Ave and Mission Blvd)

There is an existing 8" drain line from Reservoir 5 that runs along the westerly edge of the State Street Facility site, crosses State Street, and discharges into the open channel that parallels State Street and the railroad tracks. The portion crossing State Street and connecting to the channel will be protected in place, and the portion onsite will be replaced and used as the pump-to-waste discharge line.

At this time, there are the alignment for the Well 12 raw water line and the dual 4" lines for the brine waste and softener waste would use State Street to Vernon Avenue. An analysis of an alternative alignment using Benson Avenue and Mission Boulevard to Vernon Avenue has been analyzed herein, but it is not the preferred alignment.

There are several jurisdictions that may be impacted by the pipeline installations – City of Montclair, City of Chino and County of San Bernardino. The City of Ontario is located adjacent to the project site, but the entirety of the preferred pipeline alignment would avoid the City's jurisdiction. The approximate jurisdictional boundaries are shown on Exhibit 8.

Exhibit 8
OFFSITE PIPELINES



Brine Line

A new brine line is required from the State Street Facility treatment system to the existing IEUA 33" waste line in Phillips Boulevard that flows from east to west. The brine line is owned and maintained by IEUA. The line is being designed as a dual 4" force main to be installed in a common trench. It will flow by pressure from the State Street Facility to the connection point. The dual force mains will carry brine waste and softener waste separately, one in each pipe, until they are combined into one flow at the final discharge point to IEUA.

Approval and permitting is required through IEUA – both their Water Quality group and Engineering group. A condition of the permit is to purchase discharge rights based on a function of flow, chemical oxygen demand (COD), and total suspended solids (TSS) estimates of the discharge.

Discharge rights are obtained by purchasing capacity units to the NRWS north system. The NRWS capacity units (NRWSCU) were calculated using a formula provided by IEUA. Since COD and TSS data was unavailable for Wells 12 and 14, an assumed concentration of 20 mg/L and 2 mg/L was assumed. Using these assumed values and the ISEP™ waste flow of 17,000 gpm, the expected NRWSCU is 43 capacity units.

Based on previous experience with IEUA, they will require a flow meter and sampling point, either in a vault near the discharge point, or onsite at the State Street Facility. The Engineering group will most likely require a new manhole at the connection point. There is currently not a manhole at the intersection of Vernon Avenue and Phillips Boulevard. We will continue to coordinate the requirements with IEUA and incorporate those requirements into the design documents.

Well 12 and Well 14 Equipping Design

Well Design Flow Rate: Well rehabilitation (rehab) for both wells is currently in process. At the conclusion of well rehab, the recommended pumping rates for each will be confirmed by the project hydrogeologist – Richard C. Slade and Associates. At this time, a pumping rate of 2,000 gpm is assumed for each well with an assumed pump speed of 1,770 rpms, and as previously stated a motor power of 600 HP. The recommended long-term pumping capacity will be determined after the well rehab is complete.

Service Criteria and Hydraulic Conditions: Each well must be designed to deliver a full range of potential pumping rates in order to pump through the proposed piping and treatment system, and fill Reservoir 5 to the high-water level of 985 ft.

All design criteria will follow industry standards and guidelines, Engineer recommendations, and City design guidelines and preferences. The system key characteristics will be confirmed after well rehabilitation by the hydrogeologist—Richard C. Slade and Associates. Please refer to the PDR provided as Appendix 1 for a description of the anticipated well system characteristics, including system curves and pump curves.

Summary of Project Scope

The general scope is listed as follows:

- Sand Separators as pretreatment at each wellhead
- Cartridge Filters as pretreatment
- GAC – 8 vessels, slab-on-grade
- Calgon Carbon ISEP™ IX system – 30 vessels, slab on grade
- Brine waste storage tank (8,500 gallon) slab-on-grade

- 2,500-gallon softener waste storage tank
- Backwash waste tank (50,000 gallon)
- Site Civil and Yard Piping
- Site prep/grading
 - Excavation and installation of yard pipes
 - Removal and replacement of pavement for piping excavation
 - Site finishing (landscaping, misc. curb/cutter, etc.)
 - Retention and drainage facilities
- Electrical and Instrumentation
- Pipeline from Well 12 to the State Street Wellhead Treatment Plant – preferred alignment 8,250 lineal feet (LF) of 16-inch diameter pipeline; alternative alignment 8,830 LF 16-inch diameter pipeline
- Brine line to Phillips Blvd from the State Street Wellhead Treatment Plant – preferred alignment 5,850 LF 4-inch diameter pipeline; alternative alignment 6,430 LF 4-inch diameter pipeline
- Softener waste brine pipeline to Phillips Blvd from the State Street Wellhead Treatment Plant – preferred alignment 5,850 LF 4-inch diameter pipeline; alternative alignment 6,430 LF 4-inch diameter pipeline
- Sewer waste pipeline from the State Street Wellhead Treatment Plant to Mission Boulevard and Belson Avenue – 790 LF 6-inch diameter pipeline

Construction Scenario

Please refer to Appendix 1 for specifics regarding foundation and design.

It is estimated that the construction for this project would take approximately 1 and a half years from the commencement of the bidding process to Operational Completion. The design for this project is scheduled to finish in early-mid 2022, following bidding it is expected that construction could be completed in the fourth quarter of 2023.

State Street Wellhead Treatment Plant Site Construction

Construction at the State Street Wellhead Treatment Plant site will involve site demolition; site paving; site prep/grading; excavation and installation of additional yard pipes; removal and replacement of pavement; installation of the GAC treatment area on a 13' x 167' new mat slab foundation; installation of the IESP™ Treatment structure in a 70' x 70' building with a 70' x 25' canopy; install new enclosure and upgrades at Well 14; chlorine dosing building installation; installation of new well enclosure, site finishing (landscaping, misc. curb/cutter, etc.); site drainage (above and below grade); and, relocating/replacing the existing yard hydrant and piping.

It is anticipated that the maximum number of construction personnel on the State Street Wellhead Treatment Plant on any given day will be 20 persons. The maximum number of truck deliveries, which would likely occur during pouring of concrete for facilities, is forecasted at 10 per day.

Demolition at the project site will result in about 100 to 200 CYs of material; the project will recycle 50% or about 50 to 100 CYs. The effort to recycle or dispose of demolished material is anticipated to require about 10 trips to accomplish with no more than 5 round trips occurring within a given work day.

Pipeline Construction

Construction of the various pipelines would involve trenching using a conventional cut and cover technique, and jacking and boring where necessary. The trenching technique would include saw

cutting of the pavement where applicable, trench excavation, pipe installation, backfill operations, and constructing new pavement. The trench would be approximately 5-6 feet deep and 3 feet wide. The pipeline would be installed a minimum of 3 feet below ground surface (bgs). Construction staging areas would be identified by the contractor for pipe lay-down, soil stockpiling, and equipment storage. On average, 100 to 200 linear feet of pipeline may be installed per day. It is assumed that the pipeline installation will require about 10 employees per day. It is assumed that 10 Dump/delivery trucks (80 miles round trip distance) would be required for this effort.

Trenches would be temporarily closed at the end of each workday, by covering with steel trench plates and installing barricades to restrict access to staging areas. The construction equipment needed for pipeline installation would include: backhoe, excavator, bracing, welding equipment, boom lift truck, steamroller, plate compactor. Minimal off-site disposal would include construction related debris and spoils. The final activity associated with the pipeline installation is repaving of roads disturbed by the construction.

Well 12 Construction

As previously stated, the Well 12 enclosures will be modified. Well 12 has existing canopies and privacy fencing and Well 14 has an existing CMU building adjacent to a canopy and privacy fencing. It is anticipated that the maximum number of construction personnel on the Well 12 site on any given day will be 10 persons. The maximum number of truck deliveries, which would likely occur during pouring of concrete for facilities, is forecasted at 10 per day.

Maintaining Existing Plant Operations

Maintaining existing plant operations during construction and commissioning is important to maintaining a potable water supply to the distribution system. The construction of the new treatment processes will be on a new space with few existing facilities.

The WFA supply provides a constant source of water to the residents of the City of Chino, so it is essential that both the line and reservoir remain in operation during construction of the new facility. Access will be maintained during construction to allow for maintenance of the WFA supply and Reservoir 5, if needed.

During construction of the underground pipeline connection points between the treated water chlorine dosing building and the reservoir influent point, access to the west side of the site will be disrupted.

The project specifications will include specific details for the general contractor outlining maintaining existing plant operations requirements. The primary impacts to maintaining existing plant operations are the interface connection points:

- Treated Water Pipeline Connection to Reservoir
- WFA Pipeline Connection to Reservoir

Any required temporary facilities will be written into contractor documents.

9. Surrounding land uses and setting: (Briefly describe the project's surroundings)

The project site is in a highly industrial area, and is surrounded entirely by developed sites within the County of San Bernardino, City of Montclair, City of Ontario, or City of Chino.

State Street Wellhead Treatment Plant Site Construction

- North: Industrial (City of Montclair)
- East: Industrial (City of Ontario)
- South: LI: Limited Industrial (County)
- West: LI: Limited Industrial (County) / Industrial (City of Montclair)

The project site currently contains the City of Chino Reservoir 5 and Well 14.

Pipeline Alignments

The land uses surrounding the proposed pipeline alignments are as follows:

- City of Montclair: Industrial, Single Family Residential, Commercial, Medium Density Residential
- County of San Bernardino: MDR: Medium Density Res. 5-20 du/ac, C: Commercial, LI: Limited Industrial
- City of Ontario: Single Family and Industrial
- City of Chino: RD1: Rural Residential Density 1du/ac, General Commercial and Public Facility

Well 12 is located in the City of Chino on land designated as Public Facility. Surrounding land uses include County of San Bernardino Single Family Residential, City of Montclair Single Family Residential, and City of Chino Commercial use.

10. Other agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

Governing Organization	Permit
<i>Federal</i>	
Federal Aviation Administration	Due to the height of some construction equipment, such as cranes, and the proximity of the project to the airport, there may be a need to provide a Notice of Proposed Construction or Alteration to the FAA.
<i>State</i>	
State Water Resources Control Board	NPDES General Construction Permit
	NPDES Stormwater Permit (existing)
	Operating Permit Amendments – DDW (Amendment)
	California Regional Water Quality Control Board, Colorado River Basin Region
Cal OSHA	Trenching and Excavation Permit
CalARP	Chlorine Storage Permit
<i>Regional</i>	
City of Chino	Water Quality Management Plan, building permits required for Well 12, public ROW permits for pipeline construction
City of Montclair	Sewer Discharge Permit
Chino Valley Fire District	Chino Valley Fire District Plan Review Application
	Chino Valley Fire District Permit
Santa Ana Watershed Project Authority	Brine Discharge Permit

Governing Organization	Permit
Inland Empire Utilities Agency	Direct Discharge Permit, engineering review
San Bernardino County	Planning Permit: Administrative Approval or Site Approval or Special Conditional Use Permit,
	Building Permit, public ROW permits for pipeline construction
	Grading Permit, MEP Permits, post construction stormwater quality compliance

11. Have California Native American tribes traditionally and cultural affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

The City has been contacted by five Tribes under Assembly Bill (AB) 52: the Gabrieleño Band of Mission Indians – Kizh Nation, Torres Martinez Desert Cahuilla Indians, Morongo Band of Mission Indians, San Gabriel Band of Mission Indians, and the Soboba Band of Luiseño Indians. The tribes were contacted to initiate the AB-52 process in December of 2021 to notify the tribes of the proposed project through mailed letters. During the 30-day consultation period, the Gabrieleño Band of Mission Indians – Kizh Nation (Gabrieleño Band) was the only tribe to request consultation. The Gabrieleño Band requested that mitigation be incorporated to ensure protection of potential tribal cultural resources within the project site. This mitigation is discussed further under Subsection XVIII, Tribal Cultural Resources, below.

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 Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and 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.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology / Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology & Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

<input type="checkbox"/>	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	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.
<input type="checkbox"/>	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.

Tom Dodson & Associates
Prepared by

June 29, 2022
Date

Lead Agency (signature)

Date

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

<input type="checkbox"/>	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	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.
<input type="checkbox"/>	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.

Tom Dodson & Associates

Prepared by



Lead Agency (signature)

June 29, 2022

Date



Date

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

MMRP REQUIREMENTS

Public Resources Code (PRC) Section 21081.6 (enacted by the passage of Assembly Bill [AB] 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a Responsible Agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the Lead Agency or a Responsible Agency, prepare and submit a proposed reporting or monitoring program.
- The Lead Agency shall specify the location and custodian of the documents or other material, which constitute the record of proceedings upon which its decision is based. A public agency shall provide the measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or in the case of the adoption of a plan, policy, regulation, or other project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.

Prior to the close of the public review period for a draft Environmental Impact Report (EIR) or Mitigated Negative Declaration (MND), a Responsible Agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the Lead Agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the Responsible Agency or agency having jurisdiction over natural resources affected by the project, or refer the Lead Agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a Lead Agency by a Responsible Agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures that mitigate impacts to resources, which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a Responsible Agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit that authority of the Responsible Agency or agency having jurisdiction over natural resources affected by a project, or the authority of the Lead Agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

MMRP PROCEDURES

The Mitigation Monitoring and Reporting Program (MMRP) has been prepared in compliance with PRC Section 21081.6. It describes the requirements and procedures to be followed by the City of Chino to ensure that all mitigation measures adopted as part of the Proposed Project will be carried out as described in the Draft IS/MND. Below lists each of the mitigation measures specified in the Draft IS/MND and identifies the party or parties responsible for implementation and monitoring of each measure

Mitigation Measure	Implementation Schedule	Verification
I.(d) Aesthetics AES-1 A facilities lighting plan shall be prepared for both project sites and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures or rail corridor. This plan shall specifically indicate that the lighting doesn't exceed 1.0 lumen at the nearest residence or the rail corridor to any lighting located within the project footprint. This plan shall be implemented by the City to minimize light or glare intrusion onto adjacent properties.	A lighting plan shall be completed prior to construction of the onsite structure and lighting installed accordingly during construction	A copy of the lighting design or plan shall be retained in the project file, and City field inspectors shall verify that the design/plan is being implementing without adverse impact on adjacent light sensitive uses. Field notes from inspections shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino

Mitigation Measure	Implementation Schedule	Verification
III.(b). Air Quality AQ-1 Fugitive Dust Control. The following measures shall be incorporated into Project plans and specifications for implementation: <ul style="list-style-type: none"> • Apply soil stabilizers or moisten inactive areas. • Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day). • Cover all stock piles with tarps at the end of each day or as needed. • Provide water spray during loading and unloading of earthen materials. • Minimize in-out traffic from construction zone. • Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard. • Sweep streets daily if visible soil material is carried out from the construction site. <p>This measure shall be implemented during construction, and shall be included in the construction contract as a contract specification.</p>	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measures shall be retained in the project file. Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino

Mitigation Measure	Implementation Schedule	Verification
III.(b). Air Quality AQ-2 <u>Exhaust Emissions Control</u> . The following measures shall be incorporated into Project plans and specifications for implementation: <ul style="list-style-type: none"> Utilize well-tuned off-road construction equipment. Establish a preference for contractors using Tier 3 or better heavy equipment. Enforce 5-minute idling limits for both on-road trucks and off-road equipment. 	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measures shall be retained in the project file. Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino

Mitigation Measure	Implementation Schedule	Verification
IV.(a). Biological Resources BIO-1 Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).	Construction shall occur outside of the nesting season or a copy of the field survey documenting no nesting birds shall be completed prior to initiating construction within the nesting season.	City of Chino personnel shall document the dates of construction. If construction is proposed to occur within the nesting season, a copy of the field survey documenting the absence of nesting birds shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino

Mitigation Measure	Implementation Schedule	Verification
V(a). Cultural Resources CUL-1 Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the City. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.	Any response to exposed resources shall occur during construction. Any reports documenting management and findings for accidentally exposed resources shall be completed within one year of the discovery.	A copy of the Program shall be retained in the project file. Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify the archaeological monitoring program is being implemented by the contractor as required in this measure. Field notes documenting verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino

Mitigation Measure	Implementation Schedule	Verification
V(a). Cultural Resources CUL-2 Should human remains or funerary objects be encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.	This measure shall be implemented during construction if human remains are exposed during construction	The City of Chino shall retain all records of the discovery and management actions taken in regard to human remains in the project file.
	Source	Responsible Party
	Initial Study	City of Chino

Mitigation Measure	Implementation Schedule	Verification
VII.(b). Geology and Soils GEO-1 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of the material. If covering is not feasible, then measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup.	These measures shall be identified in the project Stormwater Pollution Prevention Plan (SWPPP) and implemented during construction.	A copy of the SWPPP shall be retained in the project file. Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify the SWPPP BMPs have been implemented as required in this measure. Field notes documenting verification shall be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
VII.(b). Geology and Soils GEO-2 Excavated areas shall be properly backfilled and compacted. Paved areas disturbed by this project will be repaved in such a manner that pipeline connections within adjacent roadways and other disturbed areas are returned to as near the pre-project condition as is feasible.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify the geology/soils measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
VII.(b). Geology and Soils GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) will be sprayed with water or soil binders twice a day or more frequently if fugitive dust is observed migrating from either of the well sites within which the water facilities are being installed.	These measures shall be identified in the project Stormwater Pollution Prevention Plan (SWPPP) and implemented during construction.	A copy of the SWPPP shall be retained in the project file. Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify the SWPPP BMPs have been implemented as required in this measure. Field notes documenting verification shall be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
VII.(b). Geology and Soils GEO-4 The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspection personnel that verify the geology/soils measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
VII.(b). Geology and Soils GEO-5 The City shall identify any additional construction-related erosion and sedimentation prevention BMPs to ensure that the discharge of surface water does not cause erosion downstream of the discharge point. This shall be accomplished by reducing the energy of any site discharge through an artificial energy dissipater or equivalent device. If any substantial erosion or sedimentation occurs, any erosion or sedimentation damage shall be restored to pre-discharge conditions.	The BMPs identified pursuant to this measure, and the requirement that substantial erosion or sedimentation be restored to pre-discharge conditions shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by the City. Field notes documenting verification shall be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
VII.(f). Geology and Soils GEO-6 Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource.	Any response to exposed resources shall occur during construction. Any reports documenting management and findings for accidentally exposed resources shall be completed within one year of the discovery.	City of Chino shall be notified within 24-hours of accidental exposure of any paleontological resources. A copy of initial findings shall be provided to the City of Chino and retained in the project file. A copy of the final report shall be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule		Verification
IX.(a). Hazards and Hazardous Materials HAZ-1 A Hazardous Materials Business Plan prepared and submitted to the Certified Unified Program Agency shall incorporate best management practices designed to minimize the potential for accidental release of such chemicals and shall meet the standards required by California law for Hazardous Materials Business Plans. The facility managers shall implement these measures to reduce the potential for accidental releases of hazardous materials or wastes. The Hazardous Materials Business Plan shall be approved prior to operation of the facilities proposed by this project.	The Business Plan shall be completed prior to operation of the facility.		A copy of the Business Plan shall be retained in the project file and shall be submitted to the City or County for their records. This Plan shall be retained at the Project site and made available to employees working at the facility. Site inspections shall be performed to ensure compliance with the best management practices outlined in the Business Plan.
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule		Verification
IX.(a). Hazards and Hazardous Materials HAZ-2 The Hazardous Materials Business Plan shall assess the potential accidental release scenarios and identify the equipment and response capabilities required to provide immediate containment, control, and collection of any released hazardous material. Prior to issuance of the certificate of occupancy, the proposed project facilities shall ensure that necessary equipment has been installed and training of personnel has occurred to obtain sufficient resources to control and prevent the spread of any accidentally released hazardous or toxic materials.	The Business Plan shall be completed prior to operation of an individual facility.		A copy of the Business Plan shall be retained in the project file. This Plan shall be retained at the Project site and made available to employees working at the facility. Site inspections shall be performed to ensure adequate equipment has been provided and personnel have been adequately trained in accordance with the Business Plan.
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule	Verification
IX.(a). Hazards and Hazardous Materials HAZ-3 Prior to occupancy of any site for which storage of any acutely hazardous material will be required, such as chlorine gas, modeling of pathways of release and potential exposure of the public to any released hazardous material shall be completed and specific measures, such as secondary containment, shall be implemented to ensure that sensitive receptors will not be exposed to significant health threats based on the toxic substance involved.	The modeling shall be completed prior to operation of a given proposed facility and measures to protect sensitive receptors implemented during construction.	A copy of the results of the modeling and any measures developed to minimize accidental exposure to hazardous materials shall be retained in the Project file. Site inspections shall be performed to ensure the proper procedures pertaining to storage and handling of acutely hazard waste are adhered to.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
IX.(a). Hazards and Hazardous Materials HAZ-4 All hazardous materials during both operation and construction of the proposed project facilities shall be delivered to a licensed treatment, disposal, or recycling facility and be disposed of in accordance with State and federal law.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction. Additionally, this measure shall be implemented ongoing during operation.	A copy of the construction contract including this hazards mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by the City. Field notes documenting verification shall be retained in the project file. During operations, records shall be kept documenting all hazardous waste disposal and site inspections by the City shall be performed to ensure adherence to this measure.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
IX.(a). Hazards and Hazardous Materials HAZ-5 Before determining that an area contaminated as a result of an accidental release during project operation or construction is fully remediated, specific thresholds of acceptable clean-up shall be established and sufficient samples shall be taken and tested within the contaminated area to verify that these clean-up thresholds have been met in compliance with State and federal law.	This measure shall be implemented following an accidental spill of any hazardous material at any location within the project footprint.	A copy of the specific threshold used for a spill shall be retained in the project file, and a copy of the sample test data verifying clean-up of the site shall also be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
IX.(b). Hazards and Hazardous Materials HAZ-6 All accidental spills or discharge of hazardous material during construction activities shall be reported to the Certified Unified Program Agency and shall be remediated in compliance with applicable federal, State, and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste shall be collected and disposed of at a licensed disposal or treatment facility. This measure shall be incorporated into the Stormwater Pollution Prevention Plan (SWPPP) prepared for the proposed State Street Water Treatment Project facilities. Prior to accepting the site as remediated, the area contaminated shall be tested to verify that any residual concentrations meet the standard for future residential or public use of the site.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction, and shall be included as a measure in the SWPPP.	A copy of the SWPPP and construction contract shall be retained in the project file. Verification of implementation shall be based on field inspections by IEUA. Field notes documenting verification shall be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
<p>X.(a). Hydrology and Water Quality</p> <p>HYD-1 The Project-Specific Water Quality Management Plan (WQMP) which defines catch basins and other drainage capture mechanisms as permanent Best Management Practices shall be implemented to prevent long-term surface runoff from discharging pollutants from site on which construction has been completed. The WQMP shall be implemented with the goal of achieving a reduction in pollutants following construction to control urban runoff pollution to the maximum extent practicable based on available, feasible best management practices at the time of construction. The stormwater discharge from the project site shall be treated to control pollutant concentrations for all pollutants, but especially for those identified pollutants that impair downstream surface water quality (Santa Ana River) at the time construction occurs. Source Control BMPs reduce the potential for urban runoff and pollutants from coming into contact with one another. Source Control BMPs that may be incorporated into the project are described in County's Technical Guidance Manual (TGM).</p>	<p>This measure shall be incorporated into the WQMP and these measures shall be incorporated into the project design. The WQMP BMPs shall be applicable for the duration of project operation.</p>	<p>A copy of the WQMP and project design shall be retained in the project file. Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify the WQMP BMPs have been implemented as required in this measure. Field notes documenting verification shall be retained in the project file.</p>
	<p>Source</p> <p>Initial Study</p>	<p>Responsible Party</p> <p>City of Chino</p>
		<p>Status / Date / Initials</p>
Mitigation Measure	Implementation Schedule	Verification
<p>X.(a). Hydrology and Water Quality</p> <p>HYD-2 City of Chino shall require that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:</p> <ul style="list-style-type: none"> The use of silt fences; 	<p>This measure shall be incorporated into the SWPPP and construction contract and implemented during construction.</p>	<p>A copy of the SWPPP and construction contract shall be retained in the project file. Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify the SWPPP BMPs have been implemented as required in this measure. Field notes documenting verification shall be retained in the project file.</p>

Mitigation Measure	Implementation Schedule		Verification
<ul style="list-style-type: none"> The use of temporary stormwater desilting or retention basins; The use of water bars to reduce the velocity of stormwater runoff; The use of wheel washers on construction equipment leaving the site; The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads; The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles. 			
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule		Verification
<p>XIII.(a). Noise</p> <p>NOI-1 The following construction noise control practices shall be implemented whilst constructing the proposed State Street Water Treatment Project within the entirety of the project footprint:</p> <ul style="list-style-type: none"> Construction staging and activities shall be located in areas as far as practicable from sensitive receivers or in areas where receivers can be shielded from construction noise. Whenever practicable, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously. All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers. 	<p>This measure shall be implemented during construction and included in the contract with the construction contractor.</p>		<p>City of Chino personnel shall verify that construction activities comply with the requirements in this measure. The verification shall be retained in the project file.</p>
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule		Verification
XIII.(a). Noise NOI-2 Construction shall be conducted during the hours identified as acceptable by the jurisdiction within which each construction activity takes place. Throughout the entirety of the project footprint, construction between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday. Extended hours of construction and construction on weekends are allowable at various points within the project footprint depending on the jurisdiction as follows: in the City of Montclair, construction shall be limited to the hours of 7:00 a.m. and 8:00 p.m. on any given day; in the City of Chino within the hours of 7:00 a.m. and 6:00 p.m. Monday through Saturday, with no construction allowed on Sundays and federal holidays; in Unincorporated San Bernardino County construction shall be limited to between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays. The above limitations on construction hours shall apply in all cases except where a declared emergency exists.	This measure shall be implemented during construction and included in the contract with the construction contractor.		City of Chino personnel shall verify that construction activities comply with this requirement. The verification shall be retained in the project file.
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule		Verification
XIII.(a). Noise NOI-3 The City shall establish a noise complaint response program and shall respond to any noise complaints received for this project by measuring noise levels at the affected receptor site. If the noise level exceeds an Ldn of 60 dBA exterior or an Ldn of 45 dBA interior at the receptor, the City will implement adequate measures (which may include portable sound attenuation walls, use of quieter equipment, shift of construction schedule to avoid the presence of sensitive receptors, etc.) to reduce noise levels to the greatest extent feasible.	This measure shall be implemented during construction and included in the contract with the construction contractor.		City of Chino personnel shall verify that construction activities comply with this requirement. The verification shall be retained in the project file.
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule	Verification
XIII.(a). Noise NOI-4 All construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by City personnel during construction activities.	This measure shall be implemented during construction and included in the contract with the construction contractor.	City of Chino personnel shall verify that construction activities comply with this requirement. The verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
XIII.(a). Noise NOI-5 Equipment not in use for five minutes shall be shut off.	This measure shall be implemented during construction and included in the contract with the construction contractor.	City of Chino personnel shall verify that construction activities comply with this requirement. The verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
XIII.(a). Noise NOI-6 Equipment shall be maintained and operated such that loads are secured from rattling or banging.	This measure shall be implemented during construction and included in the contract with the construction contractor.	City of Chino personnel shall verify that construction activities comply with this requirement. The verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
XIII.(a). Noise NOI-7 Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.	This measure shall be implemented during construction and included in the contract with the construction contractor.	City of Chino personnel shall verify that construction activities comply with this requirement. The verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
XIII.(a). Noise NOI-8 No radios or other sound equipment shall be used at this site unless required for emergency response by the contractor.	This measure shall be implemented during construction and included in the contract with the construction contractor.	City of Chino personnel shall verify that construction activities comply with this requirement. The verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
XIII.(b). Noise NOI-9 During future initiation of construction activities with heavy equipment within 300 feet of occupied residences, vibration field tests shall be conducted at the nearest occupied residences upon receipt. To the extent feasible, if vibrations exceed 72 VdB, the construction activities shall be revised (smaller equipment, reduced activity) to reduce vibration below this threshold.	This measure shall be implemented during construction and included in the contract with the construction contractor.	City of Chino personnel shall verify that construction activities comply with this requirement. The verification shall be retained in the project file.
	Source	Responsible Party
	Initial Study	City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule		Verification
XVII.(a). Transportation / Traffic TRAN-1 The construction contractor will provide adequate traffic management resources, as determined by the City of Chino. The City shall require a construction traffic management plan for work in public roads that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during excavation activities. The traffic management plan shall be prepared and approved by the City prior to initiation of excavation or pipeline construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.	This measure shall be implemented during construction.		Verification of implementation shall be based on field inspections by City inspection personnel that verify adequate traffic management resources are being used by the contractor as required in this measure. Field notes documenting verification shall be retained in the project file.
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule	Verification
XVII.(a). Transportation / Traffic TRAN-2 The City shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.	This measure shall be implemented during construction.	Verification of implementation shall be based on field inspections by City inspection personnel that verify adequate traffic management resources are being used by the contractor as required in this measure. Field notes documenting verification shall be retained in the project file.
	Source Initial Study	Responsible Party City of Chino
		Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification
XVIII.(a). Tribal Cultural Resources TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any “ground-disturbing activity” for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). “Ground- disturbing activity” shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. B. A copy of the executed monitoring agreement shall be submitted to the Lead Agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity. C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground- disturbing activities, soil types, cultural-related materials, and any other facts, conditions,	This measure shall be implemented during construction and followed through until final disposition of such resources has been achieved.	City of Chino shall provide documentation verifying access to the project site by the Gabrieleño Band of Mission Indians-Kizh (Keech-Kit’c) Nation (GBMI). A report of monitoring activities following completion of ground disturbing activities shall be provided to City of Chino by the developer and GBMI documenting all findings during monitoring activities. A copy of this documentation shall be retained in the project file.

Mitigation Measure	Implementation Schedule	Verification		
<p>materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.</p> <p>D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for The project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to The project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.</p> <p>E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the including for educational, cultural and/or historic purposes.</p>				
	Source	Responsible Party	Status / Date / Initials	
	Initial Study	City of Chino		

Mitigation Measure	Implementation Schedule	Verification
<p>XVIII.(a). Tribal Cultural Resources</p> <p>TCR-2 Unanticipated Discovery of Human Remains and Associated Funerary Objects</p> <p>A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.</p> <p>B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.</p> <p>C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).</p> <p>D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)</p> <p>E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History</p>	<p>This measure shall be implemented during construction and followed through until final disposition of such resources has been achieved.</p>	<p>City of Chino shall provide documentation verifying access to the project site by the Gabrieleño Band of Mission Indians-Kizh (Keech-Kit'c) Nation (GBMI). A report of monitoring activities following completion of ground disturbing activities shall be provided to City of Chino by GBMI documenting all findings during monitoring activities. Discovery of cultural resources shall be reported to City of Chino within 24 hours of exposure. GBMI shall be notified in concurrence with City of Chino in the event any cultural resources are found. Documentation shall be provided that ground disturbing activities were immediately halted in the area of the discovery and of all management actions taken following the discovery. A copy of this documentation shall be retained in the project file.</p>

Mitigation Measure	Implementation Schedule		Verification
<p>Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.</p> <p>F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.</p>			
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule	Verification
<p>XVIII.(a). Tribal Cultural Resources TCR-3 Procedures for Burials and Funerary Remains:</p> <p>A. As the Most Likely Descendant (MLD), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient times, as well as historic times, Tribal Traditions included, but were 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.</p> <p>B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.</p> <p>C. 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. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.</p> <p>D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of</p>	<p>This measure shall be implemented during construction and followed through until final disposition of such resources has been achieved.</p>	<p>The City of Chino shall retain all records of the discovery and management actions taken in regard to human remains in the project file and shall share the records with GBMI.</p>

Mitigation Measure	Implementation Schedule		Verification
<p>steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe 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.</p> <p>E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.</p> <p>F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should 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 Tribe and the City at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.</p> <p>G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.</p>			
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

Mitigation Measure	Implementation Schedule		Verification
<i>XIX.(e). Utilities and Service Systems</i> UTIL-1 The contract with demolition and construction contractors shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled. This includes but not limited to wood, metals, concrete, road base and asphalt. The contractors shall submit a recycling plan to the City for review and approval prior to the construction of demolition/ construction activities.	This measure shall be included in the construction contract and implemented during construction.		Verification of implementation shall be based on field inspections by City of Chino inspection personnel that verify adequate traffic management resources are being used by the contractor as required in this measure. Field notes documenting verification shall be retained in the project file.
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Chino	

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 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 Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 or other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – Adverse impacts to scenic vistas can occur in one of two ways. First, an area itself may contain existing scenic vistas that would be altered by new development. The proposed project extends from the existing State Street Facility at the corner of State Street and Benson Avenue to Well 12, located just west of Central Avenue along Phillips Boulevard. The proposed project would install pretreatment at each wellhead, a GAC water treatment system, an IX water treatment system, an 8,500-gallon brine waste storage tank, a 2,500-gallon softener waste storage tank, and up to about 22,480 LF of water transmission, brine, softener waste, and sewer waste pipeline. The proposed project will involve installing new structures at the State Street Facility (Figure 3) to contain the water treatment systems and various accompanying site features. The building height would be about 25 feet, which would be similar to the nearby reservoir, which is about 30 feet in height. A major portion of the project would consist of installation of pipeline below ground within existing road rights of way, including four different pipeline segments serving different purposes totaling up to 22,480 LF. A review of the project area determined that there are no scenic vistas located internally within the project footprint of the pipeline alignments. The pipeline installation may impact views temporarily during construction; however, once constructed the pipelines will be located underground and there will be no potential to impact scenic vistas within the project footprint. Given that the proposed State Street Water Treatment Plant site is located at the Well 14 site which contains an existing well, Reservoir 5, and other City water infrastructure facilities, it is anticipated that the addition of the State Street Water Treatment facilities at the existing State Street Facility site would be consistent with the surrounding visual setting.

A scenic vista impact can also occur when a scenic vista can be viewed from the project area or immediate vicinity and a proposed project may interfere with the view to a scenic vista. The installation of the pipeline alignments would be constructed belowground within existing roadways. Once constructed, the roadways will be returned to their original condition, and repaved. Given that the project would not degrade views to nearby scenic vistas and that the visual effects of pipeline installation and repaved sections of roadway would not substantially alter the views in the project footprint in the long-term, implementation of the pipeline alignments is not expected to cause any substantial adverse effects on any important scenic vistas. At the proposed State Street Treatment Plant site, views of the nearby mountains are limited due to surrounding existing development, which

includes the railroad and other industrial facilities in the project vicinity. As such, development of the Wellhead Treatment Plant at this site is not anticipated to obstruct any scenic vistas, particularly given that the project site is currently developed and contains the existing State Street Facilities, including an existing out of service well and a reservoir, which will remain in place as part of this project. Additionally, the improvements at the Well 12 site location are anticipated to be consistent with the existing site uses, and while the project includes the installation of a new enclosure, the onsite facilities will remain consistent with that which exists at present, particularly given that there are two existing reservoirs on the Well 12 site as well. Furthermore, no scenic viewsheds can be accessed from the site that would be interrupted by the proposed modifications at the site. Therefore, implementation of the proposed project is not expected to cause any substantial adverse effects on any important scenic vistas. This potential impact is considered a less than significant adverse aesthetic impact. No mitigation is required.

- b. *Less Than Significant Impact* – The project footprint does not contain any significant scenic resources. The pipeline alignment will be installed within existing roadways, none of which are located within an Officially Designated Scenic Highway. Furthermore, the proposed project would otherwise be installed within the confines of the project sites (the State Street/Well 14 Facility and Well 12 Facility). None of the proposed activities will impact any scenic resources or views of scenic resources in the area. The State Street Facility site does not contain any trees or other scenic resources. However, the Well 12 site does contain several trees, which are anticipated to be retained on site. However, in the event that any of these trees must be removed, they will be replaced at a ratio of at least a 1:1 ratio. None of the trees at the site would be considered mature trees, and are not otherwise protected by the City of Chino's Municipal Code. Additionally, the proposed project footprint does not contain any rock outcroppings or other significant scenic features because the entirety of the project footprint has been developed. Based on the site conditions and immediate surroundings, the State Street Treatment Plant site itself does not contain any significant scenic resources. The pipeline alignments would be located within existing roadways; therefore, no trees, rock outcroppings, historic building, or other scenic resources will be impacted as the pipeline footprint is limited to within existing roadways. Therefore, no damage to a scenic resource will occur and any impacts under this issue are considered less than significant.
- c. *Less Than Significant Impact* – Please refer to the discussion under issue I(a) above. The proposed project would develop a State Street Water Treatment Plant, in conjunction with various other site improvements at both the State Street Facility and the Well 12 Facility. Additionally, the project would install up to 22,480 LF of pipeline within road rights of way between the two facilities. Given that the proposed project is a water infrastructure project, which are land use independent, the development of the State Street Water Treatment Plant and associated infrastructure would not conflict with applicable zoning or other regulations governing scenic quality. Furthermore, the proposed project would install the proposed facilities at sites containing existing, similar infrastructure, and therefore will blend in with the existing visual character of the sites. Additionally, the proposed height limit in this zone classification within Unincorporated San Bernardino County is 75' and the proposed project will install facilities that are well below this limit at 25'. The installation of the well enclosure at the City of Chino Well 12 site would not exceed the height of existing facilities, including the two reservoirs and existing well at the site. The proposed pipeline alignments will occur within existing roadways; as each segment of pipeline is installed, the roadway will be repaved with new asphalt, and will again function as a roadway. Given that construction of each segment of replacement pipeline is temporary, and that the roadways in which the pipeline shall be installed will be repaved once each segment of pipeline has been replaced, the visual character of the project footprint and surrounding area will remain effectively unchanged. Therefore, impacts from implementation of the proposed State Street Water Treatment Project are considered less than significant under this issue.
- d. *Less Than Significant With Mitigation Incorporated* – Implementation of the proposed project will create new locations of light sources during the construction phases of the project. There are residences near the Well 12 site, as well as other sensitive uses such as senior housing and a church. Additionally, there are sensitive uses adjacent to the pipeline alignments at several locations. The

proposed Well 1-site will not require significant additional lighting beyond that which currently exists, however, given that it is located in close proximity to sensitive receptors, mitigation is required to protect nearby uses from direct light and glare from new lighting. Additionally, while the proposed facilities at the State Street Water Treatment Plant site are not located near any sensitive receptors, this site is located adjacent to the railroad, and therefore may require more stringent light and glare restrictions to prevent light and glare intrusion at the rail corridor. As such, the following mitigation measure will be implemented:

AES-1 A facilities lighting plan shall be prepared for both project sites and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures or rail corridor. This plan shall specifically indicate that the lighting doesn't exceed 2.0 lumen at the nearest residence or the rail corridor to any lighting located within the project footprint. This plan shall be implemented by the City to minimize light or glare intrusion onto adjacent properties.

The pipeline alignments will be constructed underground within existing roadways. No reflective materials or coatings are associated with the pipeline installation. The construction activities are limited to daylight hours unless an emergency occurs, and the amount of security lighting needed during construction will be minimal. Therefore, the pipeline alignment is not anticipated that the site would create any new permanent sources of light or glare. With implementation of the above measure potential light and glare from the State Street Water Treatment Project can be controlled to a less than significant impact level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
II. 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 Dept. 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:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – According to the San Bernardino Countywide Plan Agricultural Resources Map depicting the proposed project site and surrounding area (Figure II-1), the proposed project footprint is not located within any land designated as important or prime farmland, or farmland of statewide importance. There is unique farmland located south of the State Street Facility along Benson Avenue, but this land is outside of the project footprint and would therefore have no potential to be impacted by the implementation of the proposed project. Additionally, the proposed project sites are located within sites that both contains an existing well and reservoirs, and are designated for such uses by the site location's respective General Plan. The State Street Facility (Existing Well 14 and Reservoir 5 site) is located in the County of San Bernardino and is designated for Public Quasi Public use, while Well 12 is located in the City of Chino on land designated as Public Facility. As such, neither of these sites are planned for agricultural use. Therefore, the development of the State Street

Water Treatment Project will not pose any significant adverse impact to agricultural resources or values. No mitigation is required.

- b. *No Impact* – Implementation of the proposed project will not conflict with existing zoning for agricultural use, or a Williamson Act contract. As stated above, the State Street Facility is located in the County of San Bernardino and is designated for Public Quasi Public use with a zoning classification of IC: Community Industrial, while Well 12 is located in the City of Chino on land designated as Public Facility with a zoning classification of P: Public. Both sites contain existing City water infrastructure including wells and reservoirs, and the project will install pipeline within existing road rights-of-way; the site does not currently contain any agricultural uses. Based on this information, the proposed project will not conflict with existing zoning for agricultural use, or a Williamson Act contract. No impacts are anticipated and no mitigation is required.
- c. *No Impact* – The project footprint is not located within forest land, timberland or timberland zoned for Timberland Production. Therefore, the proposed project will not 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 impacts are anticipated and no mitigation is required.
- d. *No Impact* – The project footprint is not located within forest land and has no commercial trees on the property; therefore, the project will not result in the loss of forest land or conversion of forest land to non-forest production use. No impacts are anticipated and no mitigation is required.
- e. *No Impact* – Implementation of the proposed project will not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of valuable farmland to non-agricultural use or forest to non-forest uses. No agricultural or forest resources or uses occur within the general vicinity of the proposed project site. Therefore, no adverse impacts to agricultural, forest or timberland resources will result from project implementation and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the *Air Quality and GHG Impact Analysis, State Street Water Treatment Project, Chino (Unincorporated San Bernardino County), California* prepared by Giroux and Associates dated December 9, 2021. This document is provided as Appendix 2 to this document.

Background

Climate

The climate of the Chino area, as with all of Southern California, is governed largely by the strength and location of the semi-permanent high-pressure center over the Pacific Ocean and the moderating effects of the nearby vast oceanic heat reservoir. Local climatic conditions are characterized by very warm summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes, and comfortable humidities. Unfortunately, the same climatic conditions that create such a desirable living climate combine to severely restrict the ability of the local atmosphere to disperse the large volumes of air pollution generated by the population and industry attracted in part by the climate.

Chino is situated in an area where the pollutants generated in coastal portions of the Los Angeles basin undergo photochemical reactions and then move inland across the project site during the daily sea breeze cycle. The resulting smog at times gives western San Bernardino County some of the worst air quality in all of California. Despite dramatic improvement in air quality in the local area throughout the 1980s, the project site is, nevertheless, expected to continue to experience some unhealthy air quality for at least the next decade.

Air Quality Standards

Existing air quality is measured at established South Coast Air Quality Management District (SCAQMD) air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table III-1. Because the State of California had established Ambient Air Quality Standards (AAQS) several years before the federal

action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table III-1. Sources and health effects of various pollutants are shown in Table III-2.

**Table III-1
AMBIENT AIR QUALITY STANDARDS**

Pollutant	Average Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O3) ⁸	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10) ⁹	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter (PM2.5) ⁹	24 Hour	–	–	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15.0 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9 ppm (10 mg/m³)		9 ppm (10 mg/m³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO2) ¹⁰	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO2) ¹¹	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	–	Ultraviolet Flourescence; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas) ¹¹	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) ¹¹	–	
Lead 8 ^{12,13}	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m³ (for certain areas) ¹²	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Footnotes

- 1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM₁₀, PM_{2.5}, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- 2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year, with a 24-hour average concentration above 150 µg/m³, is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- 3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- 4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- 5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- 6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- 7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- 8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- 9 On December 14, 2012, the national PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- 10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- 11 On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- 12 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- 13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- 14 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

**Table III-2
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS**

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Baseline Air Quality

Existing and probable future levels of air quality around the proposed project area can best be inferred from ambient air quality measurements conducted by the SCAQMD at the Upland monitoring station. This station measures both regional pollution levels such as smog, as well as primary vehicular pollution levels

near busy roadways such as carbon monoxide, PM-10 and nitrogen oxides. The Ontario monitoring station near Route 60 monitors PM-2.5. Table 3 provides a 4-year summary of the monitoring data for the major air pollutants compiled from these air monitoring stations. From these data the following conclusions can be drawn:

1. Photochemical smog (ozone) levels frequently exceed standards. The 1-hour state standard was violated an average of 14 percent of all days in the last four years near Upland. The federal 8-hour standard has been exceeded an average of 17 percent of all days within the same period and the state 8-hour standard has been exceeded approximately 21 percent of all days. While ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the project vicinity is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade.
2. PM-10 levels have exceeded the state 24-hour standard on approximately five percent of all measurement days. The three times less stringent federal 24 hour-standard has not been exceeded once in the last four years.
3. A substantial fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). Both the frequency of violations of particulate standards, as well as high percentage of PM-2.5, are air quality concerns in the project area. However, PM-2.5 readings have infrequently exceeded the federal 24-hour PM-2.5 ambient standard which has occurred on less than two percent of the measured days.
4. More localized pollutants such as carbon monoxide, nitrogen oxides, etc. are very low near the project site because background levels throughout western San Bernardino County never exceed allowable levels. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NOx or CO without any threat of violating applicable AAQS.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table III-3
PROJECT AREA AIR QUALITY MONITORING SUMMARY (2015-2017)
(Days Standards Were Exceeded and Maximum Observed Levels)

Pollutant/Standard	2017	2018	2019	2020
Ozone				
1-Hour > 0.09 ppm (S)	66	25	31	82
8-Hour > 0.07 ppm (S)	87	52	52	114
8- Hour > 0.075 ppm (F)	72	32	34	114
Max. 1-Hour Conc. (ppm)	0.150	0.133	0.131	0.158
Max. 8-Hour Conc. (ppm)	0.127	0.111	0.107	0.123
Carbon Monoxide				
1-Hour > 20. ppm (S)	0	0	0	0
8-Hour > 9. ppm (S, F)	0	0	0	0
Max 8-Hour Conc. (ppm)	1.4	1.2	1.1	1.1
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.06	0.06	0.06	0.06
Respirable Particulates (PM-10)				
24-Hour > 50 µg/m ³ (S)	26/320	14/322	7/306	12/305
24-Hour > 150 µg/m ³ (F)	0/320	0/322	0/306	0/305
Max. 24-Hr. Conc. (µg/m ³)	106.	73.	125.	63.
Fine Particulates (PM-2.5)¹				
24-Hour > 35 µg/m ³ (F)	7/359	5/357	5/364	4/356
Max. 24-Hr. Conc. (µg/m ³)	44.800	47.9	41.3	53.1

S=State Standard
F=Federal Standard
Source: South Coast AQMD
Upland Monitoring Station (5175),
Ontario 1408 Francis Street (5817)

The United State Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for O₃, CO, NO_x, SO₂, PM₁₀, PM_{2.5}, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the California Air Resources Board (CARB).

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. Substantial reductions in emissions of ROG, NO_x and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

Air pollution contributes to a wide variety of adverse health effects. The U.S. EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O₃, particulate matter (PM₁₀ and PM_{2.5}), NO₂, and SO₂ which are known as criteria pollutants. The South Coast Air Quality Management District (SCAQMD) monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district. On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. See Table III-4 for attainment designations for the South Coast Air Basin (SCAB).

**Table III-4
ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB**

Criteria Pollutant	State Designation	Federal Designation
O ₃ – 1-hour standard	Nonattainment	--
O ₃ – 8-hour standard	Nonattainment	Nonattainment
PM ₁₀	Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO ₂	Attainment	Unclassifiable/Attainment
SO ₂	Unclassifiable/Attainment	Unclassifiable/Attainment
Pb ²	Attainment	Unclassifiable/Attainment

The project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAB emissions forecasts are shown on Table III-5 below. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as

² The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

**Table III-5
SOUTH COAST AIR BASIN EMISSIONS FORECASTS (emissions in tons/day)**

Pollutant	2020	2025	2030
NOx	289	266	257
VOC	393	393	391
PM-10	165	170	172
PM-2.5	68	70	71

With current emissions reduction programs and adopted growth forecasts.
Source: California Air Resources Board, 2013 Almanac of Air Quality

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly to reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy more effectively.

In March 2017, the SCAQMD released the Final 2016 AQMP (2016 AQMP). The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements. Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the 1993 CEQA Handbook.

The 2016 AQMP acknowledges that motor vehicle emissions have been effectively controlled and that reductions in NOx, the continuing ozone problem pollutant, may need to come from major stationary sources (power plants, refineries, landfill flares, etc.). The current attainment deadlines for all federal non-attainment pollutants are now as follows:

8-hour ozone (70 ppb)	2032
Annual PM-2.5 (12 µg/m ³)	2025
8-hour ozone (75 ppb)	2024 (old standard)
1-hour ozone (120 ppb)	2023 (rescinded standard)

The key challenge is that NOx emission levels, as a critical ozone precursor pollutant, are forecast to continue to exceed the levels that would allow the above deadlines to be met. Unless additional stringent NOx control measures are adopted and implemented, ozone attainment goals may not be met.

Impact Thresholds

Appendix G of the California CEQA Guidelines offers the following four tests of air quality impact significance. A Project would have a potentially significant impact if it:

- a. Conflicts with or obstructs implementation of the applicable air quality plan.
- b. Results in a cumulatively considerable net increase of any criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- c. Exposes sensitive receptors to substantial pollutant concentrations.
- d. Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified amount of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

**Table III-6
DAILY EMISSIONS THRESHOLDS**

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

Impact Analysis

- a. *Less Than Significant Impact* – Projects such as the proposed State Street Water Treatment Project do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general development. Conformity with adopted plans, forecasts and programs relative to

population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis. The project would be required to comply with the Municipal Code, and the City would ensure that it meets these standards. The State Street Water Treatment Project will be fully consistent with both the General Plan designation and Zone classification for the project site, mainly because the project involves water treatment, and such projects are considered land use independent, and because the operation of the proposed project would occur within sites already owned and operated by the City. Thus, the proposed project is consistent with regional planning forecasts maintained by the Southern California Association of Governments (SCAG) regional plans. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant only because of consistency with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis. As the analysis of project-related emissions provided below indicates, the proposed project will not cause or contribute to significant air pollution, and is, therefore, consistent with the applicable air quality plan.

- b. *Less Than Significant With Mitigation Incorporated* – Air pollution emissions associated with the proposed project would occur over both a short and long-term time period. Short-term emissions include fugitive dust from construction activities (i.e., site prep, demolition, grading, and exhaust emission) at the proposed project site. Long-term emissions generated by future operation of the proposed project primarily include energy consumption required to operate the State Street Water Treatment Plant and employee/visitor truck trips to the State Street Water Treatment Plant and associated well sites.

The proposed project is located within a highly industrial corridor along State Street, which is just south of the railroad tracks. The project site is surrounded to the east, south, and west by existing industrial uses, but there is a small mobile home park to the south that takes access from Mission Boulevard.

Construction Emissions

The proposed project consists of development of a State Street Water Treatment Facility (State Street WTF), which will be a new centralized treatment project that will treat water from Wells 12 and 14. The project also includes installation of offsite water transmission and brine pipelines, improvements to the existing wells, and site improvements.

A new 1000kVA (preliminary) pad-mounted utility transformer shall be provided by Southern California Edison (SCE) to supply sufficient power to the new distribution system. The overall project activities are described in detail in the Project Description. Construction of the project is projected to require one and a half years with the start in mid-2022.

The CalEEMod 2020.4.0 computer model was used to calculate emissions from the prototype construction equipment fleet and schedule as indicated in Table III-7.

**Table III-7
CalEEMod CONSTRUCTION ACTIVITY EQUIPMENT FLEET AND WORKDAYS**

WELLHEAD SITE	
Phase Name and Duration	Equipment
Demolition (1 month) 300 CY demo export	1 Concrete Saw
	1 Dozer
	1 Loader/Backhoe
	2 Skid Steer Loaders
Grade (1 month)	1 Loader/Backhoe
	1 Dozer
	1 Excavator
	1 Grader
Pave/Pour Concrete Slabs (3 months)	1 Paver
	2 Rollers
	1 Loader/Backhoe
	2 Mixers
	1 Compactor
Construction and Equipment Install (10 months)	1 Crane
	3 Forklifts
	2 Loader/Backhoes
	1 Welder
	1 Generator Set
Yard Piping/Drainage (3 months)	1 Trencher
	2 Forklifts
	1 Crane
	2 Skid Steer Loaders

OFF-SITE PIPELINE INSTALLATION	
Phase Name and Duration	Equipment
Prep and Concrete Removal (1 month)	1 Concrete Saw
	2 Skid Steer Loaders
	2 Loader/Backhoes
Trenching and Pipeline Install (3 months)	2 Trenchers
	2 Forklifts
	1 Loader/Backhoes
Backfill and Paving (1 month)	4 Mixers
	1 Paver
	1 Rollers
	1 Loader/Backhoes
	2 Compactors

Utilizing the indicated equipment fleet shown in Tables III-7 the following worst-case daily construction emissions are calculated by CalEEMod and are listed in Table III-8.

Table III-8
CONSTRUCTION ACTIVITY EMISSIONS
MAXIMUM DAILY EMISSIONS (POUNDS/DAY)

Maximal Construction Emissions per Calendar Year	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
On-Site						
2022	1.7	17.5	16.0	0.0	3.4	2.1
2023	1.6	13.3	15.8	0.0	1.1	0.7
Off-Site						
2023	1.8	15.1	20.4	0.0	2.5	1.2
SCAQMD Thresholds	75	100	550	150	150	55

Source: CalEEMod.2016.3.2 output in appendix to the Air Quality Impact Analysis (AQIA)

Peak daily construction activity emissions are below their respective SCAQMD CEQA significance thresholds without the need for any additional mitigation, even when the 2023 on-and-offsite emissions are combined.

SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.), are applicable to the project and were applied in CalEEMod to minimize fugitive dust emissions. With this measure, peak daily construction activity emissions are estimated be below SCAQMD CEQA thresholds without the need for added mitigation.

AQ-1 Fugitive Dust Control. The following measures shall be incorporated into Project plans and specifications for implementation:

- **Apply soil stabilizers or moisten inactive areas.**
- **Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day).**
- **Cover all stock piles with tarps at the end of each day or as needed.**
- **Provide water spray during loading and unloading of earthen materials.**
- **Minimize in-out traffic from construction zone.**
- **Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard.**
- **Sweep streets daily if visible soil material is carried out from the construction site.**

This measure shall be implemented during construction, and shall be included in the construction contract as a contract specification.

Similarly, ozone precursor emissions (ROG and NOx) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Combustion emissions control options include:

AQ-2 Exhaust Emissions Control. The following measures shall be incorporated into Project plans and specifications for implementation:

- **Utilize off-road construction equipment that has met or exceeded the maker's recommendations for vehicle/equipment maintenance schedule.**
- **Contactors shall utilize Tier 4 or better heavy equipment.**
- **Enforce 5-minute idling limits for both on-road trucks and off-road equipment.**

With the above mitigation measures, any impacts related to construction emissions are considered less than significant. No further mitigation is required.

Operational Emissions

Electrical generation of power will be used for pumping and water treatment. Electrical consumption has no single uniquely related air pollution emissions source because power is supplied to and drawn from a regional grid. Electrical power is generated regionally by a combination of non-combustion (nuclear, hydroelectric, solar, wind, geothermal, etc.) and fossil fuel combustion sources. There is no direct nexus between consumption and the type of power source or the air basin where the source is located. Operational air pollution emissions from electrical generation are therefore not attributable on a project-specific basis.

Conclusion

With the incorporation of MMs **AQ-1** and **AQ-2**, the development of the State Street Water Treatment Project would have a less than significant potential to 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. *Less Than Significant Impact* – The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

LST screening tables are available for 25, 50, 100, 200- and 500-meter source-receptor distances. For this project, there are possible residential in the mobile home park south of the site such that the most conservative 25-meter distance was modeled.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. The most stringent thresholds for a one-acre site were used for this analysis.

Only the on-site emissions resulting from construction of the treatment plant were used for this analysis since the pipeline installation is only in front of a single receptor for a very brief time.

The following thresholds and emissions in Table III-9 are determined (pounds per day):

**Table III-9
LST AND PROJECT EMISSIONS (pounds/day)**

LST 1 acre/25 meters Southwest San Bernardino Valley	CO	NOx	PM-10	PM-2.5
LST Threshold	863	118	5	4
Max On-Site Emissions				
2022	16	18	3	2
2023	16	13	1	1

LSTs were compared to the maximum daily construction activities. As seen in Table III-9, even without use of mitigation, emissions easily meet the LST for construction thresholds. LST impacts are less than significant.

Additionally, construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure. As such, the proposed project would have a less than significant potential to expose sensitive receptors to substantial pollutant concentrations.

- d. *Less Than Significant Impact* – Project operations (pumping and treatment, and distribution) are an essentially closed system with negligible odor potential. Groundwater contains minimal organic matter capable of odor generation. Chlorine storage and dispensing is prevented from being released to the atmosphere by a required containment system.

The site uses low concentrations of chlorine for water disinfection, but it will be injected into the water stream and have no airborne pathways. The solution will be stored in tanks and the solution will be pumped to the inline mixer. The dosing is controlled by a metering pump installed close to the storage tank. The quality of the disinfected water coming out of the online mixer will be analyzed by a Chlorine Analyzer. Chemical levels will be diluted to below their odor threshold. Therefore, the potential for objectionable odors posing a health risk to humans on- or off-site is considered a less than significant impact.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this Section of the Initial Study was obtained from a Biological Resources Report (BRR) prepared by ELMT Consulting titled "Biological Resources Report for the City of Chino State Street Water Treatment Project in San Bernardino County, California," dated February 2, 2022, which is provided as Appendix 3 to this document.

Site Survey Results

The overall project site is relatively flat with no areas of significant topographic relief, ranges in elevation from 881 to 963 feet above mean sea level, and slopes marginally from north to south. Based on the NRCS USDA Web Soil Survey, the project site is underlain by Tujunga loamy sand (0 to 5 percent slopes) and Hanford sandy loam (0 to 2 percent slopes). Soils on-site have been mechanically disturbed and heavily compacted from historic land uses (i.e., historic agricultural activities, grading, and existing development). Historic aeriels indicate that these disturbances have been ongoing since at least 1938.

Vegetation

The site supports two (2) land cover types that would be classified as disturbed and developed. The existing facilities support heavily disturbed areas that no longer comprise a plant community. These disturbed areas are typically unvegetated except for pockets of ornamental landscaping and compacted gravel lots that support some weedy/early successional plant species. Plant species observed during the field investigation

include creeping fig (*Ficus pumila*), American sycamore (*Platanus occidentalis*), tree of heaven (*Ailanthus altissima*), ornamental pine (*Pinus* sp.), magnolia tree (*Magnolia* sp.), Mexican fan palm (*Washingtonia robusta*), goosefoot (*Chenopodium* sp.), tumbleweed (*Amaranthus albus*), ragweed (*Ambrosia psilostachya*), Mediterranean mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), cheeseweed (*Malva parviflora*), and non-native grasses (*Bromus* spp., *Digitaria sanguinalis*, and *Cynodon dactylon*).

The proposed pipeline alignments will extend along previously developed road right-of-way.

Special-Status Plants

According to the California Natural Diversity Database (CNDDB) and California Native Plant Survey (CNPS), seventeen (17) special-status plant species have been recorded in the Ontario quadrangle. No special-status plant species were observed on-site during the field investigation. The project site consists of heavily disturbed and developed land with associated ornamental vegetation that has been subject to a variety of anthropogenic disturbances that is surrounded almost entirely by existing development. These disturbances have eliminated the natural plant communities that once occurred on-site which has removed ability of the habitat on the project site to provide suitable habitat for special-status plant species known to occur in the general vicinity. Based on habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the project site does not provide suitable habitat for any of the special-status plant species known to occur in the area and all are presumed to be absent. No focused surveys are recommended.

Special-Status Wildlife

According to the CNDDB, forty (40) special-status wildlife species have been reported in the Ontario quadrangle (refer to Attachment D of Appendix 3). No special-status wildlife species were observed on-site during the habitat assessment. The project site consists of heavily disturbed and developed land. These disturbances have eliminated the natural plant communities that once occurred on-site which has greatly reduced suitability for wildlife species, including that the biologist concluded that there is no potential to support burrowing owl (*Athene cunicularia*) on the project site. Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the proposed project site has a moderate potential to provide suitable habitat for Cooper's hawk (*Accipiter cooperii*). It was further determined that the project site does not have the potential to support any of the other special-status wildlife species known to occur in the area since the site has been heavily impacted by on-site disturbances and surrounding development.

Cooper's hawk is not federally or state listed as endangered or threatened. In order to ensure impacts to the Cooper's hawk do not occur from implementation of the proposed project, a pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction nesting bird clearance survey, impacts to the aforementioned species will be less than significant and no mitigation will be required.

Special-Status Plant Communities

According to the CNDDB, one (1) special-status plant communities have been reported in the Ontario USGS 7.5-minute quadrangle: Riversidean Alluvial Fan Sage Scrub. Based on the results of the field investigation, no special-status plant communities were observed onsite. Therefore, no special-status plant communities will be impacted by project implementation.

Critical Habitat

The project site is not located within federally designated Critical Habitat. The nearest Critical Habitat designation is located approximately 5.9 miles northwest of the site for coastal California gnatcatcher (*Polioptila californica californica*). Therefore, no impacts to federally designated Critical Habitat will occur from implementation of the proposed project.

Jurisdictional Areas

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill materials into "waters of the

United States” pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the California Department of Fish and Wildlife (CDFW) regulates alterations to streambed and bank under Fish and Wildlife Code Sections 1600 et seq., and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

The project site does not support any discernible drainage courses, inundated areas, wetland features, or hydric soils that would be considered jurisdictional by the Corps, Regional Board, or CDFW. A query of the National Wetland Inventory (NWI) database found no potential blue-line streams, riverine, or other aquatic resources within or adjacent to the project site. Therefore, project activities will not result in impacts to Corps, Regional Board, or CDFW jurisdictional areas and regulatory approvals will not be required.

Conclusion

Based on literature review and field survey, and existing site conditions discussed in this report, implementation of the project will have no significant impacts on federally or State listed species known to occur in the general vicinity of the project site. Additionally, the project will have no effect on designated Critical Habitat, since there is no federal nexus, or regional wildlife corridors/linkage because none exists within the area. No jurisdictional drainage and/or wetland features were observed on the project site during the field investigation. No further surveys are recommended. With completion of the recommendations provided below, no impacts to year-round, seasonal, or special-status avian residents or special-status species will occur from implementation of the proposed project.

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – Implementation of the proposed project is not anticipated to have a potential for an adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). As stated above, no sensitive species were observed within the project area during the reconnaissance-level field survey and due to the environmental conditions on site, none are expected to occur. The site supports two (2) land cover types that would be classified as disturbed and developed. The existing facilities support heavily disturbed areas that no longer comprise a plant community. However, based on habitat requirements for specific species and the availability and quality of on-site habitats, the proposed project site has a moderate potential to provide suitable habitat for Cooper’s hawk (*Accipiter cooperii*). It was further determined that the project site does not have the potential to support any of the other special-status wildlife species known to occur in the area—including burrowing owl (*Athene cunicularia*)—since the site has been heavily impacted by on-site disturbances and surrounding development. Cooper’s hawk is not federally or state listed as endangered or threatened. In order to ensure impacts to the Cooper’s hawk do not occur from implementation of the proposed project, a pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. To avoid impacting nesting birds, including Cooper’s hawk, as required by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC), the following mitigation measure shall be implemented:

BIO-1 *Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures,*

and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).

Thus, with implementation of the above measure, the proposed project would have a less than significant potential to result in 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 U.S. Fish and Wildlife Service.

- b. ***Less Than Significant Impact*** – Implementation of the proposed project has minimal potential to have an adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. As stated in the BRR provided as Appendix 3, the project area does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the Project will not result in any loss or adverse modification of Critical Habitat. The nearest Critical Habitat designation is located approximately 5.9 miles northwest of the site for coastal California gnatcatcher (*Poliophtila californica californica*). Furthermore, no intermittent or ephemeral dry washes that would meet the definitions of State and federal jurisdictional waters as defined by Section 1600 of the State of California FGC or “Waters of the United States” (WoUS) as defined by Section 404 of the Clean Water Act (CWA) occur on the project site. Therefore, no regulatory permits from these agencies will be required for this project. Based on the field survey conducted by ELMT Consulting and the information contained in Appendix 3, no significant impacts to riparian habitat or other sensitive communities are anticipated to occur as a result of implementation of the proposed project.
- c. ***No Impact*** – According to the data gathered by ELMT Consulting in Appendix 3, the project site does not support any discernible drainage courses, inundated areas, wetland features, or hydric soils that would be considered jurisdictional by the Corps, Regional Board, or CDFW. A query of the NWI database found no potential blueline streams, riverine, or other aquatic resources within or adjacent to the project site. Therefore, project activities will not result in impacts to Corps, Regional Board, or CDFW jurisdictional areas and regulatory approvals will not be required. Implementation of the proposed project will have no potential to impact 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 mitigation is required.
- d. ***Less Than Significant With Mitigation Incorporated*** – Based on the field survey of the project site, the project will not substantially interfere with the movement of any native resident or migratory species or with established native or migratory wildlife corridors, or impede the use of native nursery sites. Habitat linkages provide connections between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet still inadequate for others. Wildlife corridors are features that allow for the dispersal, seasonal migration, breeding, and foraging of a variety of wildlife species. Additionally, open space can provide a buffer against both anthropogenic disturbance and natural fluctuations in resources.

According to the San Bernardino County General Plan, the project site has not been identified as occurring within a Wildlife Corridor or Linkage. As designated by the San Bernardino County General Plan Open Space Element, the nearest major open space area documented in the vicinity of the

project site is the Chino Dairy Preserve, located approximately 2.81 miles to the southeast, which is separated from the project by existing developments.

The proposed project will be confined to existing areas that have been heavily disturbed and/or developed that are isolated from regional wildlife corridors and linkages. In addition, there are no riparian corridors, creeks, or useful patches of steppingstone habitat (natural areas) within or connecting the site to a recognized wildlife corridor or linkage. As such, implementation of the proposed project is not expected to impact wildlife movement opportunities. Therefore, impacts to wildlife corridors or linkages are not expected to occur.

However, the State does protect all migratory and nesting native birds. Further, the project site and surrounding area consists of habitat that is suitable to support nesting birds, including Cooper's hawk. The site was determined to not contain habitat that could support burrowing owl (*Athene cunicularia*). Thus, the project area may include areas that function as nesting locations for native birds. To avoid impacting nesting birds as required by the MBTA and California FGC MM **BIO-1**, shall be implemented. Thus, with implementation of MM **BIO-1**, any effects on wildlife movement or the use of wildlife nursery sites can be reduced to a less than significant impact.

- e. *Less Than Significant Impact* – Development of the proposed project would have a less than significant potential to conflict with any local policies or ordinances protecting biological resources. Impacts to biological resources have been addressed above under issues IV(a-d). Due to the nature of the proposed project—installing pipelines belowground within mostly within existing roadways, rehabilitating wells and installing a water treatment plant—no trees or other biological resources that might be protected exist within the project footprint. Therefore, the potential for the project to conflict with local policies or ordinances pertaining to biological resources would be considered less than significant.
- f. *Less Than Significant Impact* – Development of the proposed project would have a less than significant potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, as none pertain to the project area. Impacts to biological resources have been addressed above under issues IV(a-d). Due to the nature of the proposed project—installing pipelines belowground within mostly within existing roadways, rehabilitating wells and installing a water treatment plant—no other biological resources that might be protected exist within the project footprint. Therefore, the potential for the project to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, as none pertain to the project area would be considered less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: A cultural resources report has been prepared to evaluate the potential for cultural resources to occur within the project area of potential effect entitled "Identification and Evaluation of Historic Properties State Street Water Treatment Plant Project, In and near the City of Chino, San Bernardino County, California," prepared by CRM TECH February 21, 2022 (Appendix 4). The following summary information has been abstracted from this report. It provides an overview and findings regarding the cultural resources found within the project area.

Background

The purpose of the study is to provide the City of Chino and the U.S. Bureau of Reclamation (BOR) with the necessary information and analysis to determine whether the proposed undertaking would have an effect on any "historic properties" or "historical resources," as defined by the pertinent federal and state statutes and regulations, that may exist in or near the area of potential effect (APE). The study was designed to comply with both CEQA and Section 106 of the National Historic Preservation Act (NHPA). Furthermore, the study was utilized in the AB 52 consultation process to communicate the potential resources within the project site to area Tribes. In order to accomplish this objective, CRM TECH performed a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey.

Throughout the course of the study, no potential "historic properties"/"historical resources" were encountered within the APE, and the subsurface sediments in the vertical extent of the APE appear to be relatively low in sensitivity for buried deposits of potentially significant archaeological remains from the prehistoric era. Although evidence of development was noted at both well sites in the early 20th century, no physical remains of the early features were observed within or adjacent to the APE during the field survey. Along the pipeline alignment, all of the existing roadways trace their origin to the historic period, but as working components of the modern urban infrastructure they do not demonstrate any distinctively historical characteristics and are therefore not considered potential "historic properties"/"historical resources."

Based on these findings, and pursuant to 36 CFR 800.4(d)(1) and Calif. PRC §21084.1, CRM TECH recommends to the City of Chino and the BOR a conclusion that *no "historic properties" or "historical resources" will be affected by the proposed undertaking*. No further cultural resources investigation is recommended for the undertaking unless project plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during earth-moving operations associated with the undertaking, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a

significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

Per the above discussion and definition, no archaeological sites or isolates were recorded within the Project boundaries; thus, none of them requires further consideration during this study. In light of this information and pursuant to PRC §21084.1, the following conclusions have been reached for the Project:

- No historical resources within or adjacent to the project area have any potential to be disturbed as they are not within the proposed area in which the facilities will be constructed and developed, and thus, the project as it is currently proposed will not cause a substantial adverse change to any known historical resources.
- No further cultural resources investigation is necessary for the proposed project unless construction plans undergo such changes as to include areas not covered by this study.

However, if buried cultural materials are accidentally discovered during any earth-moving operations associated with the Project, the following mitigation measure shall be implemented:

CUL-1 Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the City. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

With the above mitigation incorporation, as well as the mitigation identified under Tribal Cultural Resources below, the potential for impacts to cultural resources will be reduced to a less than significant level. No additional mitigation is required.

- c. *Less Than Significant With Mitigation Incorporated* – As noted in the discussion above, no available information suggests that human remains may occur within the APE and the potential for such an occurrence is considered very low. State law (Section 7050.5 of the Health and Safety Code) as well as local laws requires that the Police Department, County Sheriff and Coroner's Office receive notification if human remains are encountered. However, the following mitigation measure shall be implemented to ensure that construction related activities protect such findings:

CUL-2 Should human remains or funerary objects be encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.

Additionally, during the AB 52 process, the Gabrieleño Band of Mission Indians – Kizh Nation, requested that mitigation measures addressing discovery of human remains and procedures for burials and funerary remains be implemented as part of this project should human remains or funerary remains be discovered during construction of the proposed project. These measures shall be enforced through MMs **TCR-2** and **TCR-3**, which are discussed under Subsection XVIII, Tribal Cultural Resources, below. With the implementation of the above mitigation measures, any impacts under this issue are considered less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VI. ENERGY: Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project would install pretreatment at each wellhead, a GAC water treatment system, an IX water treatment system, an 8,500-gallon brine waste storage tank, a 2,500-gallon softener waste storage tank, and up to about 22,480 LF of water transmission, brine, softener waste, and sewer waste pipeline. Energy consumption encompasses many different activities. For example, construction can include the following activities: delivery of equipment and material to a site from some location (note it also requires energy to manufacture the equipment and material, such as harvesting, cutting and delivering wood from its source); employee trips to work, possibly offsite for lunch (or a visit by a catering truck), travel home, and occasionally leaving a site for an appointment or checking another job; use of equipment onsite (electric or fuel); and sometimes demolition and disposal of construction waste. For the proposed project the number of construction workers will be limited due to the small size of the project and site. Demolition, beyond the removal of small sections of concrete and asphalt to install the connecting pipeline, is not anticipated to be required for this project. To minimize energy costs of construction debris management, laws are in place that require diversion of all material subject to recycling. Energy consumption by equipment will be reduced by requiring shutdowns when equipment is not in use after five minutes and ensuring equipment is being operated within proper operating parameters (tune-ups) to minimize emissions and fuel consumption. These requirements are consistent with State and regional rules and regulations. Under the construction scenario outlined in the project description, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption during construction.

Please refer to the Project Description above and to Appendix 1 to this document for specific details regarding the energy requirements for the proposed State Street Water Treatment Plant Project operations. The State Street Facility and the Well 12 Facility are connected to Southern California Edison (SCE) service. At both the State Street Facility and the Well 12 Facility, the primary service is routed underground from a utility pole near the site entrance to a pad mounted utility transformer, which steps the voltage down to 480/277VAC, 3-phase.

In order to meet the new pumping rate after the completion of well rehabilitation at the State Street Facility, the new well pump will need to be upgraded. A new electrical distribution system shall be installed to support the larger well pump motor, and other new loads from the treatment plant. Since the existing well pump is to be removed and replaced, the existing power distribution system at the facility shall be demolished and upgraded to accommodate the added demand. The main switchboard shall also include an open transition manual transfer switch (MTS) to allow for a portable generator to be connected to provide backup power in an event of power outage. A new 1000kVA (preliminary) pad-mounted utility transformer shall be provided by Southern California Edison (SCE) to supply sufficient power to the new distribution system. Transformer size shall be coordinated and finalized with SCE during final design. SCE has indicated that it has available capacity to supply the project with the installation of the new transformer.

Similar to the Well 14 pump, the well pump at the existing Well 12 facility is also planned to be replaced and upsized. The existing power distribution system shall be demolished and upgraded to accommodate the larger well pump motor.

At both sites, additional lighting will be provided for illumination throughout the facility interior and exterior. Additional lights will be installed at strategically located areas around the site to provide sufficient lighting for security and safety. All fixtures will be specified as LED technology for extended life and energy efficiency. Exterior light fixtures will be equipped with photocells for dusk to dawn operation.

As stated in Section III, Air Quality, the construction of the proposed State Street Water Treatment Project would require mitigation to minimize emissions impacts from construction equipment use. This mitigation measure also applies to energy resources as it requires equipment not in use for 5 minutes to be turned off, and for electrical construction equipment to be used where available. This measure (MM **AQ-2**) would prevent a significant impact during construction due to wasteful, inefficient, or unnecessary consumption of energy resources, and would also conform to the CARB regulations regarding energy efficiency. The proposed water treatment project must be constructed in conformance with a variety of existing energy efficiency regulatory requirements or guidelines including, but not limited to the following:

- Compliance California Green Building Standards Code, AKA the CALGreen Code (Title 24, Part 11), which became effective on January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of building through the use of building concepts encouraging sustainable construction practices.
- Compliance with the Building Energy Efficiency Standards (CBSC) would ensure that the building energy use associated with the proposed project would not be wasteful or unnecessary.
- Compliance with diversion of construction and demolition materials from landfills.
- Compliance with AQMD Mandatory use of low-pollutant emitting finish materials.
- Compliance with AQMD Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
- Compliance with diesel exhaust emissions from diesel vehicles and off-road diesel vehicle/equipment operations.
- Compliance with these regulatory requirements for operational energy use and construction energy use would not be wasteful or unnecessary use of energy.

Further, Southern California Edison (SCE) is presently in compliance with State renewable energy supply requirements and SCE will supply electricity to the project. The proposed project does not include any substantive new stationary or mobile sources of emissions, and therefore, by its very nature, will not generate substantive amounts of energy demand from project operations. The project does not propose a trip-generating land use or facilities that would generate any substantive amount of on-going energy demands. While it is anticipated that the project would require intermittent maintenance, such maintenance would be minimal requiring a negligible amount of traffic trips on an annual basis. As such, under the operational scenario for the proposed project, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption that could result in a significant adverse impact to energy issues based on compliance with the referenced laws, regulations and guidelines. Impacts under this issue are considered less than significant with the implementation of MM **AQ-2**, as identified above.

- b. *Less Than Significant Impact* – Based on the analysis in the preceding discussion, the proposed project will not conflict with current State energy efficiency or electricity supply requirements or any local plans or programs for renewable energy or energy efficiency requirements. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VII. GEOLOGY AND SOILS: Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. Ground Rupture

Less Than Significant Impact – According to the San Bernardino Countywide Plan Earthquake Fault Zone Map of the project area (Figure VII-1) the proposed project is not located within an Alquist-Priolo Fault Zone. The proposed project is located south of the San Gabriel Mountains, where the most active faults are located, and is located north of the Chino Fault zone to the south. Additionally, the San Andreas Fault is located approximately 8 miles north of the proposed project footprint. There is a potential for the proposed project facilities to be subject to relatively strong ground motions. However, based on this information, the risk for ground rupture at the site location is low; therefore, it is not likely that employees servicing either the State Street Facility site or the Well 12 site would be subject to seismic hazards from rupture of a known earthquake fault. Furthermore, the project

would be constructed to meet current California Building Code, which includes seismic safety standards. Therefore, any impacts under this issue are considered less than significant; no mitigation is required.

Strong Seismic Ground Shaking

Less Than Significant Impact – As stated in the discussion above, several faults run through the southern California region in which the proposed project is located. The San Bernardino Countywide Plan Earthquake Fault Zone Map of the project area (Figure VII-1) shows the surrounding faults which include the Chino Fault, the Sierra Madre Fault, the San Jacinto Fault, the Cucamonga Fault, and the San Andreas Fault. Like all other development projects in the City and throughout the Southern California Region, the proposed project will be required to comply with all applicable seismic design standards contained in the current California Building Code (CBC), including Section 1613 Earthquake Loads. Compliance with the CBC will ensure that structural integrity will be maintained in the event of an earthquake. Additionally, underground pipelines are not typically susceptible to severe damage from ground shaking. Many such facilities exist and function within areas susceptible to strong ground shaking effects. Therefore, there is a less than significant potential for people or structures to be exposed to strong seismic ground shaking. No mitigation is required.

Seismic-related Ground Failure Including Liquefaction

No Impact – The Well 12 and State Street Facility sites are entirely developed and contain an existing well; the pipeline alignments will occur within existing roadways or within the existing Well 12 and State Street Facility sites. The San Bernardino County Liquefaction and Landslide Map, provided as Figure VII-2, depicts the project area liquefaction and landslide hazard zones. Based on the liquefaction potential identified at the project location on Figure VII-2, the proposed project is not at a location that has any potential to be subject to liquefaction. Therefore, the project will not expose people or structures to potential substantial adverse liquefaction hazards, including the risk of loss, injury, or death involving landslides. No impacts under this issue are anticipated and no mitigation is required. No mitigation is required.

Landslides

No Impact – According to the San Bernardino County Liquefaction and Landslide Map, provided as Figure VII-2, the proposed project is not located in an area with any known earthquake induced landslide hazards. Based on a reconnaissance of the project area, the project area is generally flat and is completely developed. Therefore, the project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. No impacts under this issue are anticipated and no mitigation is required.

- b. *Less Than Significant With Mitigation Incorporated* – The entirety of the project area has been developed or has been graded, compacted, and paved with asphalt because the whole of the project area has been developed. As a result, the potential for soil erosion, loss of topsoil, and/or placing structures on unstable soils is generally considered less than significant. City and County grading standards, best management practices and the Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) are required to control the potential significant erosion hazards. The pipeline alignments will result in land disturbance in the areas that will require removal of pavement to accommodate the trenching required to install the various segments of pipeline. Adequate drainage facilities exist to accommodate existing drainage flows, and no change will result once the roadways are repaved and the pipelines are in place belowground. Additionally, the State Street Facility and Well 12 sites are entirely developed and will require removal of existing concrete to modify the sites to include on-site infrastructure. This project will result in the disturbance of more than one acre of land and will require filing a Notice of Intent (NOI), securing a National Pollutant Discharge Elimination System (NPDES), general construction stormwater discharge permit, and preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP

will include but not be limited to the following measures to mitigate potential impacts associated with erosion and surface water quality degradation during construction:

- GEO-1** *Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of the material. If covering is not feasible, then measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup.*
- GEO-2** *Excavated areas shall be properly backfilled and compacted. Paved areas disturbed by this project will be repaved in such a manner that pipeline connections within adjacent roadways and other disturbed areas are returned to as near the pre-project condition as is feasible.*
- GEO-3** *All exposed, disturbed soil (trenches, stored backfill, etc.) will be sprayed with water or soil binders twice a day or more frequently if fugitive dust is observed migrating from either of the well sites within which the water facilities are being installed.*
- GEO-4** *The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.*

The following mitigation measure will be implemented to ensure the discharge of surface runoff from the sites does not result in significant soil erosion or loss of topsoil.

- GEO-5** *The City shall identify any additional construction-related erosion and sedimentation prevention BMPs to ensure that the discharge of surface water does not cause erosion downstream of the discharge point. This shall be accomplished by reducing the energy of any site discharge through an artificial energy dissipater or equivalent device. If any substantial erosion or sedimentation occurs, any erosion or sedimentation damage shall be restored to pre-discharge conditions.*

Implementation of the above measures in conjunction with mitigation measures identified in the Hydrology/Water Quality Section will adequately mitigate potential impacts associated with the water-related erosion of soil.

- c. *Less Than Significant Impact* – As stated under issues VII(a[iii]) and VII(a[iv]) above, the project footprint is not located in areas that are susceptible to landslides and liquefaction. This indicates that the project footprint and general area are unlikely to be underlain by unstable soils, or be affected by subsidence, lateral spreading, or collapse. Additionally, the proposed project footprint is currently fully developed, which minimizes the potential for geologic hazards such as subsidence, liquefaction, shrinkage, or collapse to occur at the project site. Furthermore, damage to pipelines can occur, but can be repaired and placed back into operation with no loss of human life. Therefore, due to the nature of the proposed project, and the type of soil unit underlying the project site, the proposed project has a less than significant potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. No further mitigation is required.
- d. *Less Than Significant Impact* – According to the United States Department of Agriculture (USDA) Web Soil Survey Soil map prepared for the project site (Appendix 5), the proposed project sites (Well 12 and Well14/Reservoir 5) are located on Tujunga loamy sand, 0 to 5 percent slopes and Hanford sandy loam, 0 to 2 percent slopes Expansive soils are typically in the clay soil family, which are not present within the project footprint; furthermore, while damage to pipelines can occur,

damaged pipelines can be repaired and placed back into operation with no loss of human life. Given the above, the proposed project would have a less than significant potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

- e. *No Impact* – This project will develop an 8,500-gallon brine waste storage tank and a 2,500-gallon softener waste storage tank, and up to about 22,480 LF of water transmission, brine, softener waste, and sewer waste pipeline. Additionally, the proposed project will require installation of a new restroom at the State Street Water Treatment site, which will connect to the municipal wastewater collection system. Therefore, given that the brine waste, softener waste, and wastewater will be discharged into the respective municipal collection systems, no impact to underlying soil from wastewater disposal can occur and no mitigation is required.
- f. *Less Than Significant With Mitigation Incorporated* – No unique geologic features exist within the project footprint, and no unique geologic features are known or suspected to occur beneath the sites. The potential for discovering paleontological resources during development of the project is considered highly unlikely based on the fact that the footprint has been previously engineered and disturbed at depth. However, because the project area has not been surveyed in recent history, and the fact that these resources are located beneath the surface and can only be discovered as a result of ground disturbance activities, the following measure shall be implemented:

GEO-6 Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act and only where applicable, the National Environmental Policy Act, that shall be implemented to minimize any impacts to a paleontological resource.

With the implementation of the above mitigation measure, the project would have a less than significant potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VIII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the *Air Quality and GHG Impact Analysis, State Street Water Treatment Project, Chino (Unincorporated San Bernardino County), California* prepared by Giroux and Associates dated December 9, 2021. This document is provided as Appendix 2 to this document.

Thresholds of Significance

In response to the requirements of SB 97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15064.4 specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO₂ equivalent/year. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the above guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

Impact Analysis

a&b. *Less Than Significant Impact* – Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. Many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed project evaluated in the greenhouse gas (GHG) analysis cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the proposed project may participate in the potential for GCC by its incremental contribution of greenhouse gases combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., company owned) and indirect sources (i.e., not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

Project Related GHG Emissions Generated

Construction Activity GHG Emissions

The project is assumed to occur over a 1.5-year period. During project construction, the CalEEMod2020.4.0 computer model predicts that the construction activities will generate the annual CO₂e emissions identified in Table VIII-1.

**Table VIII-1
CONSTRUCTION EMISSIONS (metric tons CO₂(e))**

On-Site	CO₂e
Year 2022	151.8
Year 2023	246.9
Off-Site	
Year 2023	43.5
Total	442.2
Amortized	14.7

*CalEEMod Output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less than significant.

Operational GHG Emissions

Except for occasional maintenance, the only operational source of GHG emissions would be associated with pumping and treatment operations. Electricity is generated from a variety of

resources at various locations in the western United States. The California Climate Action Registry Protocol (2009) states that each megawatt-hour (MW-HR) of electricity consumption in California results in the release of 0.331 MT of CO₂(e).

Below is preliminary data on power consumption provided by the project engineer which, as a worst case, assumes that the equipment will be operating continuously at full load. This assumption will provide a maximum estimate.

**Table VIII-2
OPERATIONAL POWER USAGE ESTIMATES**

Location	Connected Load (kW)	kWh per day	kWh per year
Well 12	684	16,416	5,991,840
Chino State Street	749	17,976	6,561,240

The total project consumption is almost 13 MW per year. Electricity use will result in GHG emissions from the fossil fueled fraction of Southern California's electrical resource calculated as follows:

$$13 \text{ MWH/year} \times 0.331 \text{ MT/MWH} = \mathbf{4.3 \text{ MT/year}}$$

The screening threshold of 10,000 MT of CO₂(e) GHG emissions will not be exceeded and therefore operational GHG emissions would not exceed applicable emission thresholds.

Consistency with GHG Plans, Programs and Policies

In March 2014, the San Bernardino Associated Governments and Participating San Bernardino County Cities Partnership (Partnership) created a final draft of the San Bernardino County Regional Greenhouse Gas Reduction Plan (Reduction Plan) for each of the 25 jurisdictional Partner Cities in the County. The plan was recently updated in March of 2021. The Reduction Plan was created in accordance with AB 32, which established a greenhouse gas limit for the state of California. The Reduction Plan seeks to create an inventory of GHG gases and develop jurisdiction specific GHG reduction measures and baseline information that could be used by the Partnership Cities of San Bernardino County, including the County itself.

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. The project will generate minimal GHG emissions as shown. There are no reduction measures which are applicable to this project and therefore no consistency is required and impacts under this issue would therefore be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant With Mitigation Incorporated* – The project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. However, in certain instances hazardous materials are used routinely in support treatment operations, and thus, some activities in support of this project may generate routine transport of hazardous materials. Construction activities would be required for the installation of proposed improvement upgrades at the existing Well 12 and State Street Facilities. Construction activities required for implementation of the facilities would potentially involve trenching, excavation, grading, and other ground-disturbing activities. The anticipated construction activities described above would temporarily require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials. Operational activities would require the installation of treatment facilities that use chemicals to ensure the water derived from the rehabilitated Wells 12 and 14 would be safe for drinking. Specifically, the project would install two Chlorine Gas Dosing Systems, thus requiring storage of Cl₂ (chlorine gas). Additionally, the proposed water treatment process will include GAC, which will remove 1,2,3-TCP from the Wells 30, 32, and 33 water, and is an adsorbent material that removes a variety of natural organic compounds, taste and odor compounds, and synthetic organic compounds. In order to remove nitrate from the source

water, IX will be utilized, which is a contaminant removal process that exchanges one set of ions for another. Chemicals stored onsite for IX treatment include sodium chloride (NaCl) and hydrochloric acid (HCl). These materials would not enter the atmosphere and in the quantities and forms used, would not pose a significant hazard for nearby residents and other sensitive receptors. The established handling protocols per federal, State, and local laws and regulations would ensure operational impacts for the proposed State Street Water Treatment Project facilities would be less than significant.

Although the City is required to manage the use of and disposal of hazardous or toxic materials in accordance with existing laws and regulations, the implementation of MMs **HAZ-1** through **HAZ-5**, outlined below, is required to ensure that the use and generation of hazardous substances in support of the proposed project would not pose a significant hazard to workers, adjacent land uses, or the environment. These mitigation measures will be applied to the facilities proposed by this project and would reduce potential impacts to below significance thresholds.

- HAZ-1** *A Hazardous Materials Business Plan prepared and submitted to the Certified Unified Program Agency shall incorporate best management practices designed to minimize the potential for accidental release of such chemicals and shall meet the standards required by California law for Hazardous Materials Business Plans. The facility managers shall implement these measures to reduce the potential for accidental releases of hazardous materials or wastes. The Hazardous Materials Business Plan shall be approved prior to operation of the facilities proposed by this project.*
- HAZ-2** *The Hazardous Materials Business Plan shall assess the potential accidental release scenarios and identify the equipment and response capabilities required to provide immediate containment, control, and collection of any released hazardous material. Prior to issuance of the certificate of occupancy, the proposed project facilities shall ensure that necessary equipment has been installed and training of personnel has occurred to obtain sufficient resources to control and prevent the spread of any accidentally released hazardous or toxic materials.*
- HAZ-3** *Prior to occupancy of any site for which storage of any acutely hazardous material will be required, such as chlorine gas, modeling of pathways of release and potential exposure of the public to any released hazardous material shall be completed and specific measures, such as secondary containment, shall be implemented to ensure that sensitive receptors will not be exposed to significant health threats based on the toxic substance involved.*
- HAZ-4** *All hazardous materials during both operation and construction of the proposed project facilities shall be delivered to a licensed treatment, disposal, or recycling facility and be disposed of in accordance with State and federal law.*
- HAZ-5** *Before determining that an area contaminated as a result of an accidental release during project operation or construction is fully remediated, specific thresholds of acceptable clean-up shall be established and sufficient samples shall be taken and tested within the contaminated area to verify that these clean-up thresholds have been met in compliance with State and federal law.*

No additional mitigation is necessary to ensure the impact of managing these chemicals result in a less than significant impact on the environment. The activities associated with the State Street Water

Treatment Plant Project would not involve significant potential for routine transport or use of substantial volumes of hazardous materials or routine generation of hazardous wastes. Therefore, impacts are considered less than significant with mitigation incorporated.

- b. *Less Than Significant With Mitigation Incorporated* – Construction and operational activities associated with implementation of the proposed project facilities could create hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials used in construction activities and equipment.

Construction

Construction activities would involve the use of adhesives, solvents, paints, thinners, petroleum products, and other chemicals. Cal/OSHA regulations provide for the proper labeling, storage, and handling of hazardous materials to reduce the potential harmful health effects that could result from worker exposure to hazardous materials. If not properly handled, however, accidental release of these substances could expose construction workers, degrade soils, or become entrained in stormwater runoff, resulting in adverse effects on the public or the environment. The City is required to comply with all relevant and applicable federal, State, and local laws and regulations that pertain to the accidental release of hazardous materials during construction of proposed facilities such as Health and Safety Code Sections 25500 et seq. Compliance with all applicable federal, State, and local regulations can reduce potential impacts to the public or the environment regarding accidental release of hazardous materials to less than significant impact, but a contingency mitigation measure is provided to ensure accidental releases and any related contamination would not significantly affect the environment at proposed project locations:

HAZ-6 *All accidental spills or discharge of hazardous material during construction activities shall be reported to the Certified Unified Program Agency and shall be remediated in compliance with applicable federal, State, and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste shall be collected and disposed of at a licensed disposal or treatment facility. This measure shall be incorporated into the Stormwater Pollution Prevention Plan (SWPPP) prepared for the proposed State Street Water Treatment Project facilities. Prior to accepting the site as remediated, the area contaminated shall be tested to verify that any residual concentrations meet the standard for future residential or public use of the site.*

As some structures may need to be demolished, such structures would need appropriate abatement of identified asbestos prior to demolition. Federal and State regulations govern the demolition of structures where materials containing lead and asbestos are present. ACMs are regulated both as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of Cal/OSHA. These requirements include SCAQMD Rules and Regulations pertaining to asbestos abatement (including Rule 1403); Construction Safety Orders 1529 (pertaining to asbestos) and 1532.1 (pertaining to lead) from CCR Title 8; CFR Title 40, Part 61, Subpart M (pertaining to asbestos); and lead exposure guidelines provided by the U.S. Department of Housing and Urban Development (HUD). Asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services.

In addition, Cal/OSHA has regulations concerning the use of hazardous materials, including requirements for safety training, availability of safety equipment, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous materials, describing the hazards of chemicals, and documenting employee-training programs. All demolition that could result in the release of lead and/or asbestos would be conducted according to Cal/OSHA standards. Adherence to existing regulations and the mitigation measure provided below would ensure that potential impacts related to ACMs and LBPs would be less than significant.

The use of hazardous materials and substances during construction would be subject to the federal, State, and local health and safety requirements for the handling, storage, transportation, and disposal of hazardous materials, summarized in the Regulatory Setting. With compliance with these regulations, and preparation and implementation of MM **HAZ-6**, hazardous material impacts related to construction activities would be less than significant.

Operation

Operation of the proposed project facilities could include the storage and use of chemicals. The project GAC backwash tank, brine waste storage tank, and backwash waste tanks would be designed in accordance with the applicable hazardous materials storage regulations for long-term use summarized in the Regulatory Setting. The delivery and disposal of chemicals to and from water treatment facility sites would occur in full accordance with all applicable federal, State, and local regulations. Additionally, any use of sodium hypochlorite, a diluted hazardous material, would not enter the atmosphere and in the quantities and form used, would not pose a significant hazard for nearby sensitive uses. The established handling protocols per federal, State, and local laws and regulations would ensure operational impacts would be less than significant.

As noted above under issue IV(a), a Hazardous Materials Business Plan (HMBP) must be prepared per MMs **HAZ-1** and **HAZ-2** and implemented for the proposed facility upgrades as required by the County of San Bernardino CUPA. The HMBP would minimize hazards to human health and the environment from fires, explosions, or an accidental release of hazardous materials into air, soil, surface water, or groundwater. Compliance with all applicable federal, State, and local regulations regarding the handling, storage, transportation, and disposal of hazardous materials, and preparation and implementation of the HMBP would reduce potential impacts to the public, employees, or the environment as a result of reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impacts are less than significant with the incorporation of mitigation.

- c. *Less Than Significant With Mitigation Incorporated* – The project will not emit hazardous emissions or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The proposed State Street Water Treatment Plant is located within the site containing the existing Well 14 and Reservoir 5, which is located within one quarter mile of Oaks Middle School and Mission Elementary School. The proposed project will include the development of the State Street Water Treatment Plant, which will require use of several materials that are potentially hazardous when not handled according to federal, State, and local regulations. These materials will be enclosed within a container that can control accidental release. The pipeline alignments, which will not involve the use of hazardous materials and will be located underground, would be located within one quarter mile of Oaks Middle School and Mission Elementary School. As previously stated, construction activities would use limited quantities of hazardous materials, such as gasoline and diesel fuel. As a general rule, well and ancillary facility construction activities do not require any acutely hazardous materials. Additionally, the City is required to comply with all relevant and applicable federal, State, and local laws and regulations that pertain to the release of hazardous materials during construction of proposed facilities. Compliance with all applicable federal, State, and local regulations and MMs **HAZ-1** through **HAZ-6** would reduce potential impacts to the public or the environment regarding hazardous waste discharges or emissions within one-quarter mile of a school during construction. Impacts would be less than significant with implementation of mitigation.

Operation of the proposed project would consist of facilities designed to extract and treat water from the Chino Groundwater Basin, which would require storage of some hazardous materials. However, the City is required to manage the use of and disposal of hazardous or toxic materials in accordance with existing laws and regulations, the implementation of MMs **HAZ-1** through **HAZ-6** is required to ensure that the use and generation of hazardous substances in support of the proposed project would not pose a significant hazard to schools located in close proximity to the project. Furthermore, the quantity and types of hazardous materials utilized at the project would limit the potential for exposure at nearby schools even further. Adherence to federal, State, and local policies and regulations, as

well as the implementation of the above mitigation measures will ensure that the project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school during either construction or operations of the Project.

- d. *Less Than Significant Impact* – According to the California State Water Board’s GeoTracker site, which provides information regarding Leaking Underground Storage Tanks (LUST), there are no active LUST locations within or around the project alignment (Figure IX-1 and IX-2). There are 5 LUST Cleanup sites adjacent to the overall project footprint (Figure IX-3 through IX-12); the source of contamination has been remediated at these LUST Cleanup sites. Therefore, these remediated LUST Cleanup sites will have no potential to pose a hazard to the public or the environment. Given that there are no open LUST cases within the vicinity of the proposed project or within the project sites themselves, impacts under this issue are considered less than significant and no mitigation is required.
- e. *No Impact* – There nearest public airport is the Ontario International Airport, located approximately 3.3 miles east of the project. According to the LA/Ontario International Airport Land Use Compatibility Plan, Compatibility Policy Map: Safety Zones (Figure IX-13), the proposed project is not located within an Airport Safety Zone. Though the project is being proposed by the City of Chino, the proposed project is greater than two miles north of the Chino Airport, and furthermore, is located well outside of the Airport Safety Review Area according to the San Bernardino Countywide Plan Airport Safety and Planning Areas Map. There are no private airstrips located within two miles of the project site. As such, given that the propose project is located outside of any Airport safety zones, and no airport or airstrips are located within 2 miles of the proposed project, the project has no potential to cause or experience any adverse impact related to private airstrip operations. No impacts will occur as a result of project implementation. No mitigation is required.
- f. *Less Than Significant With Mitigation Incorporated* – According to the San Bernardino Countywide Plan Evacuation Route Map (Figure IX-14), no evacuation routes have been identified within the project footprint. There are nearby routes that have been identified, such as at Euclid Avenue to the east of the project footprint, though the proposed project would not disrupt traffic at any identified evacuation route within either the City of Chino, City of Montclair, or the County of San Bernardino. A limited potential to interfere with an emergency response or evacuation plan will occur during construction. This is due to the installation of pipelines within roadways. At no time during the installation of pipeline will the entirety of these roadways be closed. The project would require one lane to be closed, which would allow for through-traffic so long as a traffic management plan is developed and implemented. As such, please refer to the Transportation/Traffic Section of this document, Section XVII. MM **TRAN-1** and **TRAN-2** would address any potential traffic disruption and emergency access issues on area roadways are included in this section. Impacts are reduced to a less than significant level with mitigation incorporated. No additional mitigation is required.
- g. *No Impact* – According to the San Bernardino Countywide Plan Fire Hazard Severity Zones Map of the project area, the proposed project is not located within a high or very high fire hazard severity zone (Figure IX-15). The proposed project area is located in an urban area removed from the high fire hazard areas that are located adjacent to the San Gabriel Mountains. Therefore, project implementation would not result and a potential to expose people or structures to fire hazards. Potential project-related impacts are less than significant; no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i) result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?; or,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant With Mitigation Incorporated* – The proposed State Street Water Treatment Project facilities are located within Unincorporated San Bernardino County and the City of Chino, with a small portion of the pipeline alignment in the City of Montclair. The project in and of itself will result in construction of new water treatment systems that would allow the City to reduce levels of 1,2,3-TCP, perchlorate, and nitrate to acceptable DDW levels. For a developed area, the only three sources of potential violation of water quality standards or waste discharge requirements are from generation of municipal wastewater; from stormwater runoff; and potential discharges of pollutants, such as accidental spills. The Cities and County implement National Pollutant Discharge Elimination System (NPDES) requirements for surface discharge for all qualified projects. The Project site is beyond one acre in size; therefore, it is required to obtain coverage under an NPDES permit. To address stormwater and accidental spills within this environment, any new project must ensure that site development implements a SWPPP to control potential sources of water pollution that could violate any standards or discharge requirements during construction. Also, a Water Quality Management Plan (WQMP) must be prepared and implemented to ensure that project-related surface runoff meets discharge requirements over the long term. Implementation of the following

mitigation measure is also considered adequate to reduce potential impacts to operational surface runoff to a less than significant level.

HYD-1 *The Project-Specific Water Quality Management Plan (WQMP) which defines catch basins and other drainage capture mechanisms as permanent Best Management Practices shall be implemented to prevent long-term surface runoff from discharging pollutants from site on which construction has been completed. The WQMP shall be implemented with the goal of achieving a reduction in pollutants following construction to control urban runoff pollution to the maximum extent practicable based on available, feasible best management practices at the time of construction. The stormwater discharge from the project site shall be treated to control pollutant concentrations for all pollutants, but especially for those identified pollutants that impair downstream surface water quality (Santa Ana River) at the time construction occurs. Source Control BMPs reduce the potential for urban runoff and pollutants from coming into contact with one another. Source Control BMPs that may be incorporated into the project are described in County's Technical Guidance Manual (TGM).*

The SWPPP would specify the Best Management Practices (BMPs) that the project would be required to implement during construction activities to ensure that all potential pollutants of concern are controlled, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property as stormwater runoff. Compliance with the terms and conditions of the NPDES and the SWPPP is mandatory and is judged adequate mitigation by the regulatory agencies for potential impacts to stormwater during construction activities. Implementation of the following mitigation measure is also considered adequate to reduce potential impacts to construction-related stormwater runoff to a less than significant level.

HYD-2 *The City shall require that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:*

- *The use of silt fences;*
- *The use of temporary stormwater desilting or retention basins;*
- *The use of water bars to reduce the velocity of stormwater runoff;*
- *The use of wheel washers on construction equipment leaving the site;*
- *The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;*
- *The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and*
- *Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.*

With implementation of these mandatory Plans and their BMPs, as well as MM HAZ-1 through HAZ-6 and HYD-1 above, the development of the State Street Water Treatment Project will not cause a violation of any water quality standards or waste discharge.

- b. *Less Than Significant Impact* – The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Basin. The proposed project would enable two existing City Wells contribute once again to the City's available water supply, as Wells 12 and 14 have out of service due to unacceptable levels of 1,2,3-TCP, perchlorate, and nitrate. The rehabilitation of these existing wells would therefore expand the City's water supply from that which is available at present, but not from that which has been historically present as the supply capacity of these two wells was been previously analyzed when the wells were online. Ultimately, the proposed project will expand the infrastructure from Well 12 to reach the Well 14 site where the raw water will be treated by a new Water Treatment Plant to reduce levels of 1,2,3-TCP, perchlorate, and nitrate to acceptable DDW levels. In effect, the treatment program will expand the available groundwater from the Chino Basin aquifer. According to the City's 2020 Urban Water Management Plan (UWMP), the City currently produces groundwater from the Chino Basin. The City's share of the Operating Safe Yield is 7.357 percent. Over the past five years, the City has produced 4,308 acre-feet-per-year (AFY) to 5,162 AFY, with an average of 4,939 AFY from the Chino Basin. The proposed project would enable the City to treat about 1,600 AFY from the Wells 12 and 14 combined supplies. The proposed project would not create a greater area of impervious surface than that which exists within the project footprint, and also would not require greater water supplies from the aquifer in order to operate, particularly because the proposed project would treat a comparable amount of water for potable use to that which the City of Chino supply at present, and would operate within the Operating Safe Yield of the Chino Basin. Thus, the State Street Water Treatment Project is not forecast to cause a significant demand for new groundwater supplies. The potential impact under this proposed project is considered less than significant; no mitigation measures are required.

- c. i. Result in substantial erosion or siltation onsite or offsite?

Less Than Significant Impact – The proposed project is not anticipated to significantly change the volume of flows downstream of the project site, and would not be anticipated to change the amount of surface water in any water body in an amount that could initiate a new cycle of erosion or sedimentation downstream of the project site. The onsite drainage system will capture the incremental increase in runoff from the project site associated with project development. Furthermore, once installed, the roadways within which the pipeline alignments will be located would be returned to their original condition or better and as such would not create any potential for greater erosion on or offsite. The new State Street Water Treatment Project site currently has no below-grade drainage facilities. During small rain events, water most likely infiltrates into the site soils. Large rain events likely see surface flows towards the southerly end of the site where they eventually drain onto Benson Avenue. Drainage at the site will be handled in a similar way for the proposed improvements. Site grades will promote surface flow towards one of the on-site catch basins, which drain directly into the proposed on-site percolation pond. Areas outside of access roads and treatment pads will be pervious, such as crushed rock or gravel. The Well 12 site will be improved, but will not require additional runoff infiltration or capture facilities as such facilities are already in place at the project site. The downstream drainage system will not be altered and given the control of future surface runoff from the State Street Water Treatment Project site, the potential for downstream erosion or sedimentation will be controlled to a less than significant impact level.

- c. ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?

Less Than Significant Impact – The proposed project will alter the existing drainage courses or patterns onsite but will maintain the existing offsite downstream drainage system through control of future discharges from the site, which would prevent flooding onsite or offsite from occurring. The proposed onsite drainage system will capture the incremental increase in runoff from the project site associated with project development at the State Street Water Treatment Project site. The new State Street Water Treatment Project site currently has no below-grade drainage facilities. During small rain events, water most likely infiltrates into the site soils. Large rain events likely see surface flows

towards the southerly end of the site where they eventually drain onto Benson Avenue. Drainage at the site will be handled in a similar way for the proposed improvements. Site grades will promote surface flow towards one of the on-site catch basins, which drain directly into the proposed on-site percolation pond. Areas outside of access roads and treatment pads will be pervious, such as crushed rock or gravel. The Well 12 site will be improved, but will not require additional runoff infiltration or capture facilities as such facilities are already in place at the project site. Thus, the implementation of onsite drainage improvements and applicable requirements will ensure that drainage and stormwater will not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Impacts under this issue are considered less than significant with no mitigation required.

- c. iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact – The proposed project will alter the site such that drainage within the site will be modified, but will maintain the existing offsite downstream drainage system through control of future discharges from the site, which would prevent the project from exceeding the capacity of existing or planned stormwater drainage systems and from providing substantial additional sources of polluted runoff. The new State Street Water Treatment Project site currently has no below-grade drainage facilities. During small rain events, water most likely infiltrates into the site soils. Large rain events likely see surface flows towards the southerly end of the site where they eventually drain onto Benson Avenue. Drainage at the site will be substantially contained on-site for the proposed improvements. Site grades will promote surface flow towards one of the on-site catch basins, which drain directly into the proposed on-site percolation pond. Areas outside of access roads and treatment pads will be pervious, such as crushed rock or gravel. The pipeline alignments will be installed within existing roadways that would be returned to their original or better condition once the pipeline has been installed, and therefore no changes to the stormwater drainage system within these roadways are anticipated. Thus, the implementation of onsite drainage improvements at the State Street Water Treatment Plant site and applicable requirements throughout the project footprint will ensure that that drainage and stormwater will not create or contribute runoff that would exceed the capacity of existing or planned offsite stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts under this issue are considered less than significant with no mitigation required.

- c. iv. Impede or redirect flood flows?

Less Than Significant Impact – According to the San Bernardino Countywide Plan Flood Hazard Map (Figure X-1), the proposed project footprint is not located in an area that contains any flood hazards. Furthermore, development of this site is not anticipated to redirect or impede flood flow at the project site, particularly given that drainage on site will be directed to the onsite drainage systems, which will be capable of intercepting the future flow rate from the project site. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

- d. *No Impact* – According to the San Bernardino Countywide Plan Dam and Basin Hazards Map depicting the project area, the proposed project is not located in an area susceptible to dam inundation (Figure X-2). Therefore, dam inundation is not likely, and implementation of the proposed project would not expose people or structures to any significant risk of releasing pollutants involving flooding as a result of a levee or dam to risk than that which presently exists within the project footprint. No mitigation is required.

- e. *Less Than Significant Impact* – The purpose of the proposed project is to reduce levels of 1,2,3-TCP, perchlorate, and nitrate to acceptable DDW levels within the City of Chino's respective service areas by developing a Water Treatment Plant that would treat water from Wells 12 and 14, which are currently inactive as a result of the presence of these contaminants. Water quality results for the City Wells 12 and 14 show concentrations of 1,2,3-TCP, nitrate, and perchlorate at levels above the respective DLRs/MCLs for these constituents. The proposed project would ensure that the water

quality from these two wells improves to a level that is below the DLRs/MCLs for each constituent. As such, the proposed project would result in the City conforming to DDW standards, and therefore, the proposed project would have a less than significant potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – The project consists of development of a State Street Water Treatment Plant at the existing State Street Facility site, and the installation of various pipeline alignments as supporting infrastructure. The pipeline alignments have no General Plan Land Use Designation because pipelines and the roadways in which the pipeline will be installed are considered essential infrastructure. The State Street Facility is located in the County of San Bernardino and has a land use designation of Public Quasi Public. Well 12 is located in the City of Chino within land that has been designated as Public Facility use. Each of these sites contains existing City water infrastructure, including wells and reservoirs at both the Well 12 and Well 14 sites. As such, development at these project sites would not physically divide an established community, particularly given that the addition of the State Street Water Treatment Plant is a complimentary use to that which exists on the State Street Facility site. Furthermore, with the exception of the pipelines proposed as part of this project, the proposed project facilities would be located internally within the Well 12 and State Street Facility sites, thus minimizing the potential for dividing an established community. The development of the pipeline alignments would not result in physically dividing an established community, particularly because this action will occur within existing road rights-of-way and once constructed, the pipeline will be installed belowground and the roadways will continue to function as they do at present. No impacts are anticipated and no mitigation is required.
- b. *Less Than Significant Impact* – Please refer to the discussion under issue XI(a) above. The proposed State Street Facility, which is located in the County of San Bernardino is zoned as IC Community Industrial. Well 12 is located in the City of Chino on land with a zoning classification of P: Public. The types of improvements proposed by this project are considered land use independent, and can be constructed within any land use designation or zoning classification. Additionally, several features of the proposed project, such as the water transmission pipelines, will be constructed below ground within existing road rights-of-way, and will have no permanent effect on the efficiency of the surrounding roadway systems. Therefore, implementation will not 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. Any impacts are considered less than significant. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. MINERAL RESOURCES: Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION:

a&b. *No Impact* – The proposed project will occur within sites containing existing water infrastructure facilities including Well 12 at one location, and Well 14 and Reservoir 5 at the State Street Facility location. Additionally, the project will occur within existing paved roadways as the proposed pipeline alignments would be installed. No mineral resources are known to be located within the project footprint and no mining operations exist within the project footprint. According to a review of the California Department of Conservation Mineral Land Classification (MLC) studies index, there are no active mining activities within the project footprint. Past mining activities have left several large pits in the Cities of Montclair and Upland, which are now being used for flood control and water conservation purposes. Future utilization of sand and gravel resources within the project footprint and general project area is unlikely due to the extensive urban development that presently exists. Furthermore, the San Bernardino Countywide Plan Mineral Resource Map (Figure XII-1) indicates that the proposed project is located within a Mineral Resources Zone (MRZ) 2, where aggregate resources have a moderate potential to exist. Based on the developed nature of the project site and surrounding area, as well as the existing land use designations (Public Facility and Public Quasi Public), the development proposed by the project will not cause any loss of mineral resource values to the region or residents of the state, nor would it result in the loss of any locally important mineral resources identified in either the City of Chino or County of San Bernardino General Plans. No impacts would occur under this issue. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. NOISE: Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

Background

Noise is generally described as unwanted sound. The proposed State Street Water Treatment Project will occur within sites and areas containing existing development. The proposed project sites include the Well 12 site, and the State Street Facility site. These sites contain existing wells, reservoirs, and other water system infrastructure, while the roadways within which the preferred pipeline alignments will be installed function as roadways connecting the communities within Unincorporated San Bernardino County and the City of Chino with the City of Montclair and surrounding development. The project site is located in an area surrounded by the following land uses: Industrial (City of Montclair, City of Chino, County of San Bernardino, City of Ontario), LI: Limited Industrial (County), Single Family Residential (City of Montclair, County of San Bernardino, City of Ontario, City of Chino), Commercial (City of Montclair, County of San Bernardino, City of Chino), Medium Density Residential (City of Montclair and County of San Bernardino). The proposed project sites are located on Public and Public Quasi Public designated land within the City of Chino and County of San Bernardino. Generally, the State Street Water Treatment Facility will be located at a site that experiences a high background level because it is located adjacent to the railroad line which traverses the northern boundary of the project site just north of State Street. A majority of the operational noise will be generated at this site. No sensitive uses are located within 800 feet of this site due to the industrial nature of this corridor. The Well 12 site is located within the City of Chino, and once the improvements at Well 12 have been made, the Well will continue to generate noise at a similar rate of that which has been previously analyzed at the time Well 12 was installed. Furthermore, noise generated from the pump system at Well 12 will be enclosed, thus minimizing the potential for noise to spill over at nearby residential uses.

The unit of sound pressure ratio to the faintest sound detectable to a person with normal hearing is called a decibel (dB). Sound or noise can vary in intensity by over one million times within the range of human hearing. A logarithmic loudness scale, similar to the Richter scale for earthquake magnitude, is therefore used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all sound frequencies within the entire spectrum. Noise levels at maximum human sensitivity from around 500 to 2,000 cycles per second are factored more heavily into sound descriptions in a process called "A-weighting," written as "dBA."

Leq is a time-averaged sound level; a single-number value that expresses the time-varying sound level for the specified period as though it were a constant sound level with the same total sound energy as the time-varying level. Its unit is the decibel (dB). The most common averaging period for Leq is hourly.

Because community receptors are more sensitive to unwanted noise intrusion during more sensitive evening and nighttime hours, state law requires that an artificial dBA increment be added to quiet time noise levels. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a 24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

Below is an outline of the noise ordinances that apply to the project area. Note that a majority of the operational noise will occur within the City of Chino and Unincorporated San Bernardino County. Construction noise can be expected to occur within the Cities of Chino and Montclair, as well as in San Bernardino County. Construction noise may also spill over into the City of Ontario.

San Bernardino County Development Code
83.01.080 Noise.

- B. Noise Impacted Areas. Areas within the County shall be designated as "noise-impacted" if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Subdivision (d) (Noise Standards for Stationary Noise Sources) and Subdivision (e) (Noise Standards for Adjacent Mobile Noise Sources), below. New development of residential or other noise-sensitive land uses shall not be allowed in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to these standards. Noise-sensitive land uses shall include residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses.
- C. Noise Standards for Stationary Noise Sources.
 - 1. Noise Standards. Table 83-2 (reproduced herein as **Table XIII-1**) describes the noise standard for emanations from a stationary noise source, as it affects adjacent properties.

Table XIII-1
COUNTY OF SAN BERNARDINO NOISE STANDARDS FOR STATIONARY NOISE SOURCES (dBA L_{eq})

Affected Land Uses (Receiving Noise)	7:00 a.m. – 10:00 p.m.	10:00 p.m. – 7:00 a.m.
Residential	55	45
Professional Services	55	55
Other Commercial	60	60
Industrial	70	70

dBA = A-weighted decibel; L_{eq} = equivalent noise level
Source: San Bernardino County Development Code, Table 83-2

- 2. Noise Limit Categories. No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:
 - a. The noise standard for the receiving land use as specified in Subdivision (b) (Noise-Impacted Areas), above, for a cumulative period of more than 30 minutes in any hour.
 - b. The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour.
 - c. The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour.

- d. The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour.
- e. The noise standard plus 20 dBA for any period of time.
- D. Noise Standards for Adjacent Mobile Noise Sources. Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 (reproduced herein as **Table XIII-2**).

Table XIII-2
COUNTY OF SAN BERNARDINO NOISE STANDARDS FOR ADJACENT MOBILE NOISE SOURCES

Land Use		dBA L _{dn} (or CNEL)	
Categories	Uses	Interior ¹	Exterior ²
Residential	Single and multi-family, duplex, mobile homes	45	60 ³
Commercial	Hotel, motel, transient housing	45	60 ³
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	N/A
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65

dBA = A-weighted decibel; L_{dn} = Day-Night Average Level; CNEL = Community Noise Equivalent Level

1 The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.

2 The outdoor environment shall be limited to:

- Hospital/office building patios
- Hotel and motel recreation areas
- Mobile home parks
- Multi-family private patios or balconies
- Park picnic areas
- Private yard of single-family dwellings
- School playgrounds

3 An exterior noise level of up to 65 dBA (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dBA (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.

Source: San Bernardino County Development Code, Table 83-3

- E. Increases in Allowable Noise Levels. If the measured ambient level exceeds any of the first four noise limit categories in Subsection (d)(2), above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category in Subsection (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.
- F. Reductions in Allowable Noise Levels. If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 83-2 (reproduced herein as **Table XIII-2**) shall be reduced by 5 dBA.
- G. Exempt Noise. The following sources of noise shall be exempt from the regulations of this Section:
 - 1. Motor vehicles not under the control of the commercial or industrial use.
 - 2. Emergency equipment, vehicles, and devices.
 - 3. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

83.01.090 Vibration.

- A. Vibration Standard. No ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal 0.2 in/sec measured at or beyond the lot line.

C. Exempt Vibrations. The following sources of vibration shall be exempt from the regulations of this Section.

1. Motor vehicles not under the control of the subject use.
2. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

Notwithstanding other sections of this chapter, it is unlawful for any person to create, maintain or cause any ground vibration which is perceptible without instruments at any point on any affected property adjoining the property on which the vibration source is located. For the purpose of this chapter, the perception threshold shall be presumed to be more than 0.05 in/sec RMS vertical velocity.

City of Chino Municipal Code

9.40.030 Designated noise zones.

The properties hereinafter described are assigned to the following noise zones:

- Noise Zone I: All single-, double- and multiple-family residential properties.
- Noise Zone II: All commercial properties.
- Noise Zone III: All manufacturing or industrial properties.

9.40.040 Exterior noise standards.

The following noise standards, unless otherwise specifically indicated, shall apply to all residential property with a designated noise zone:

These criteria are given in terms of allowable noise levels for a given period of time at the residential property boundary. Higher noise levels are permitted during the day (7:00 a.m. to 10:00 p.m.) than the night (10:00 p.m. to 7:00 a.m.). **Table XIII-3** shows the acceptable levels at residential land uses during the daytime and nighttime.

Table XIII-3
CITY OF CHINO EXTERIOR NOISE ORDINANCE CRITERIA FOR RESIDENTIAL PROPERTIES (ZONE 1)

Maximum Time of Exposure	Noise Metric	Noise Level Not to Exceed	
		7:00 a.m. – 10:00 p.m.	10:00 p.m. -7:00 a.m.
30 min/hr	L ₅₀	55 dBA	50 dBA
15 min/hr	L ₂₅	60 dBA	55 dBA
5 min/hr	L _{8.3}	65 dBA	60 dBA
1 min/hr	L _{1.7}	70 dBA	65 dBA
Any period of time	L _{max}	75 dBA	70 dBA

min/hr = minutes per hour; dBA = A-weighted decibel
Source: Chino Municipal Code Section 9.40.040

Each of the noise limits specified here shall be reduced by 5 dBA for impulse or simple tone noises, or for noises consisting of speech or music; provided, however, that if the ambient noise level exceeds the resulting standard, the ambient shall be the standard.

It is unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property, to exceed:

- A. The noise standard for a cumulative period of more than 30 minutes in any hour; or
- B. The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or
- C. The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour; or
- D. The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour; or
- E. The noise standard plus 20 dBA for any period of time.

In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

If the measurement location is on boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.

If the intruding noise source is continuous and cannot be reasonably discontinued or stopped for a time period whereby the ambient noise level can be determined, the measured noise level obtained while the source is in operation shall be compared directly to the allowable noise level standards as specified respective to the measurement location's designated land use and for the time of the day the noise level is measured.

- A. The reasonableness of temporarily discontinuing the noise generation by an intruding noise source shall be determined by the director or his/her duly authorized deputy for the purpose of establishing the existing ambient noise level at the measurement location.

9.40.060 Special Provisions.

- D. Noise sources associated with or vibration created by construction, repair, remodeling or grading of any real property or during authorized seismic surveys, provided said activities do not take place outside the hours for construction as defined in Section 15.44.030 of this code, and provided the noise standard of 65 dBA plus the limits specified in Section 9.40.040(B) as measured on residential property and any vibration created does not endanger the public health, welfare and safety.

9.40.070 Schools, churches, libraries, health care institutions – Special provisions.

It shall be deemed unlawful for any person to create any noise which causes the noise level at any school, hospital or similar health care institution, church or library while the same is in use, to exceed the noise standards specified in Section 9.40.040 prescribed for the assigned noise zone level, unreasonably interferes with the use of such institutions, or which unreasonably disturbs or annoys patients in a hospital, convalescent home or other similar health care institutions, provided conspicuous signs are displayed in three separate locations within one-tenth-mile of the institution or facility indicating a quiet zone.

9.40.110 Vibration

Notwithstanding other sections of this chapter, it is unlawful for any person to create, maintain or cause any ground vibration which is perceptible without instruments at any point on any affected property adjoining the property on which the vibration source is located. For the purpose of this chapter, the perception threshold shall be presumed to be more than 0.05 in/sec RMS vertical velocity.

City of Ontario Municipal Code

Sec. 5-29.04. Exterior noise standards.

- (a) The following exterior noise standards (shown in **Table XIII-4**), unless otherwise specifically indicated, shall apply to all properties within a designated noise zone.

**Table XIII-4
CITY OF ONTARIO EXTERIOR NOISE STANDARDS**

Allowable Exterior Noise Level ¹		Allowed Equivalent Noise Level, L_{eq} ²	
Noise Zone	Type of Land Use	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
I	Single-Family Residential	65 dBA	45 dBA
II	Multi-Family Residential, Mobile Home Parks	65 dBA	50 dBA
III	Commercial Property	65 dBA	60 dBA
IV	Residential Portion of Mixed Use	70 dBA	70 dBA
V	Manufacturing and Industrial, Other Uses	70 dBA	70 dBA

¹ If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.

² Measurements for compliance are made on the affected property pursuant to Section 5-29.15.

Source: Ontario Municipal Code Section 5-29.04(a)

- (b) It is unlawful for any person at any location within the incorporated area of the City to create noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:
- (1) The noise standard for the applicable zone for any 15-minute period; and
 - (2) A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus 20 dBA for any period of time (measured using A-weighted slow response).
- (c) In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.
- (d) The Noise Zone IV standard shall apply to that portion of residential property falling within 100 feet of a commercial property or use, if the noise originates from that commercial property or use.
- (e) If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.

Sec. 5-29.06. Exemptions.

The following activities shall be exempted from the provisions of this chapter:

- (a) Any activity conducted on public property, or on private property with the consent of the owner, by any public entity or its officers, employees, representatives, agents, subcontractors, permittees, licensees or lessees that the public entity has authorized are exempt from the provisions of this chapter. This includes, without limitation, sporting and recreational activities that are sponsored, co-sponsored, permitted or allowed by the City or any school district within the City's jurisdictional boundaries. This also includes, without limitation, occasional outdoor gatherings, public dances, shows or sporting and entertainment events, provided such events are conducted pursuant to an approval, authorization, contract, lease, permit or sublease by the appropriate public entity, specifically the planning commission or City Council;
- (d) Noise sources associated with construction, repair, remodeling, demolition or grading of any real property. Such activities shall instead be subject to the provisions of Section 5-29.09;
- (e) Noise sources associated with construction, repair, remodeling, demolition or grading of public rights-of-way or during authorized seismic surveys.

Sec. 5-29.09. Construction activity noise regulations.

- (a) No person, while engaged in construction, remodeling, digging, grading, demolition or any other related building activity, shall operate any tool, equipment or machine in a manner that produces loud noise that disturbs a person of normal sensitivity who works or resides in the vicinity, or a Police or Code Enforcement Officer, on any weekday except between the hours of 7:00 a.m. and 6:00 p.m. or on Saturday or Sunday between the hours of 9:00 a.m. and 6:00 p.m.

- (b) No landowner, construction company owner, contractor, subcontractor, or employer shall permit or allow any person or persons working under their direction and control to operate any tool, equipment or machine in violation of the provisions of this section.
- (c) Exceptions.
 - 1. The provisions of this section shall not apply to emergency construction work performed by a private party when authorized by the City Manager or his or her designee;
 - 2. The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City, or its employees, contractors or agents, unless:
 - i. The City Manager or a department head determines that the maintenance, repair or improvement is immediately necessary to maintain public services,
 - ii. The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours, or
 - iii. The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes construction during hours of the day that would otherwise be prohibited pursuant to this section; and
 - 3. Any construction that complies with the noise limits specified in Sections 5-29.04 or 5-29.05.

Sec. 5-29.11 Other public agency exceptions.

The provisions of this chapter shall not be construed to prohibit any work at different hours by or under the direction of any other public agency or public or private utility companies in cases of necessity or emergency.

City of Montclair Municipal Code

6.12.040 - Base ambient exterior noise levels.

All ambient noise measurements shall commence at the base ambient noise levels in decibels within the respective times and zones as follows in **Table XIII-5**.

**Table XIII-5
CITY OF MONTCLAIR BASE AMBIENT EXTERIOR NOISE LEVELS**

Zone	Time	Decibels
Residential	10:00 p.m. - 7:00 am.	45 dBA
Residential	7:00 a.m. - 10:00 p.m.	55 dBA
Commercial	10:00 p.m. - 7:00 am.	55 dBA
Commercial	7:00 a.m. - 10:00 p.m.	65 dBA
Industrial	10:00 p.m. - 7:00 am.	60 dBA
Industrial	7:00 a.m. - 10:00 p.m.	70 dBA

dBA = A-weighted decibel

Source: Montclair Municipal Code Section 6.12.040

6.12.050 - Maximum residential/nonresidential noise levels.

It is unlawful for any person within any zone to create any noise or allow the creation of any noise on the property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level, when measured on the exterior of the property, to exceed the base ambient noise level as adjusted in **Table XIII-6**.

Table XIII-6
CITY OF MONTCLAIR MAXIMUM RESIDENTIAL/NONRESIDENTIAL NOISE LEVELS

Noise Level	Maximum Duration Period
Exceeded Level (BANL)	30 minutes in any hour
5—9 Dba	above BANL 15 minutes in any hour
10—14 dBA	above BANL five minutes in any hour
15—16 dBA	above BANL one minute in any hour
16 dBA or greater above BANL	Not permitted

BANL = base ambient noise level; dBA = A-weighted decibel
Source: Montclair Municipal Code Section 6.12.050

6.12.060 - Exemptions.

The following activities shall be exempt from the provisions of this chapter:

- D. Noise sources associated with construction, repair, remodeling or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on any given day and provided that the Building Official determines that the public health and safety will not be impaired. Industrial or commercial construction or public improvements, not otherwise feasible except between these hours, may be approved on a limited, short-term basis, subject to the approval of the Director of Community Development.

6.12.100 – Specific noises prohibited.

Notwithstanding any provision of this chapter, the following specified acts are declared to be unlawful and a nuisance in violation of this chapter:

- D. Machinery, Equipment, Fans and Air Conditioning. It is unlawful for any person to operate, cause to operate, or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus, or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient noise level by 5 dBA.
- G. Exhaust. The discharge into the open air of the exhaust of any steam engine, stationary internal combustion engine, motorboat, or motor vehicle, except through a muffler device that effectively prevents loud or explosive noises therefrom.

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project footprint is located in areas with moderate-to-high background noise given the proximity to the local roadway system at any point within the project area, and at the State Street Water Treatment Facility site, the proposed project is located in a high background noise environment due to the proximity of the adjacent railroad. The San Bernardino Countywide Plan Existing Noise Contour Map and Countywide Plan Future Noise Contour Map as shown on Figure XIII-1 indicates that the proposed project is located within an area with a general noise level varying from less than 60 dBA CNEL to 70 CNEL at present, with greater noise levels projected to occur in the project area in the future. Noise levels at the State Street Facility vary due to the intermittent nature of the adjacent railroad. Noise levels at this location are as such due to the proximity of the proposed project footprint to adjacent roadways, and Figure XIII-1 indicate that the background noise environment in the general project vicinity sometimes exceeds the normally acceptable exterior noise environment. The proposed project would develop a State Street Water Treatment Plant at the existing Well 14 and Reservoir 5 site, which is located approximately 800 feet from the nearest residential sensitive receptor when measured from the

boundary of the State Street Facility site. The proposed project would also construct the proposed pipeline alignments within existing road rights of way, which traverse through areas containing residences adjacent to the roadways, and, as such, the exteriors of the nearest residences, which contain sensitive receptors, are located between 25 and 50 from the pipeline alignments at several points within the project footprint. Additionally, the project would install improvements at the Well 12 site, which is located adjacent to nearby sensitive receptors, including residents within 100 feet.

Short Term Noise

Exterior noise-generating construction activities will be restricted to the hours identified in the applicable City or County Municipal or Development Codes. Specifically, in the City of Montclair, construction would be limited to the hours of 7:00 a.m. and 8:00 p.m. on any given day; in the City of Chino within the hours of 7:00 a.m. and 8:00 p.m. Monday through Saturday; in Unincorporated San Bernardino County construction would be limited to between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays. The limits on hours of construction would be enforced through the implementation of MM NOI-2, outlined below.

Since construction noise is of a temporary nature, the Cities and County do not require noise mitigation as construction carried out within the hours that have been deemed, as identified about by the respective Cities and County, exempt from regulation. Construction equipment generates noise that ranges between approximately 75 and 90 dBA at a distance of 50 feet. Refer to **Table XIII-7**, which shows construction equipment noise levels at 25, 50 and 100 feet from the noise source.

Table XIII-7
NOISE LEVELS OF CONSTRUCTION EQUIPMENT AT
25, 50 AND 100 FEET (in dBA Leq) FROM THE SOURCE

Equipment	Noise Levels at 25 feet	Noise Levels at 50 feet	Noise Levels at 100 feet
Earthmoving			
Front Loader	85	79	73
Backhoes	86	80	74
Dozers	86	80	74
Tractors	86	80	74
Scrapers	91	85	79
Trucks	91	85	79
Material Handling			
Concrete Mixer	91	85	79
Concrete Pump	88	82	76
Crane	89	83	77
Derrick	94	88	82
Stationary Sources			
Pumps	82	79	70
Generator	84	78	72
Compressors	87	81	75
Other			
Saws	84	78	72
Vibrators	82	76	70

Source: U.S. Environmental Protection Agency "Noise"

Receptors located adjacent to the roadways in which the proposed pipeline alignment will be installed may experience increased noise levels during construction, but the proposed project will comply with the City and County restrictions on night-time construction activity. Therefore, through compliance with the various City and County jurisdiction noise standards, construction of the proposed project would not result in the generation of a substantial temporary or permanent noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. However, contingency mitigation is provided below to reduce noise levels at residences and/or minimize or address complaints from local sensitive noise receptors. The short-term noise impacts associated with project construction activities are forecast to be less than significant through implementing the following measures. As construction activities may be a nuisance to nearby residents, the following mitigation is recommended:

NOI-1 *The following construction noise control practices shall be implemented whilst constructing the proposed State Street Water Treatment Project within the entirety of the project footprint:*

- *Construction staging and activities shall be located in areas as far as practicable from sensitive receivers or in areas where receivers can be shielded from construction noise.*
- *Whenever practicable, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously.*
- *All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers.*

NOI-2 *Construction shall be conducted during the hours identified as acceptable by the jurisdiction within which each construction activity takes place. Throughout the entirety of the project footprint, construction between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday. Extended hours of construction and construction on weekends are allowable at various points within the project footprint depending on the jurisdiction as follows: in the City of Montclair, construction shall be limited to the hours of 7:00 a.m. and 8:00 p.m. on any given day; in the City of Chino within the hours of 7:00 a.m. and 6:00 p.m. Monday through Saturday, with no construction allowed on Sundays and federal holidays; in Unincorporated San Bernardino County construction shall be limited to between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays. The above limitations on construction hours shall apply in all cases except where a declared emergency exists.*

NOI-3 *The City shall establish a noise complaint response program and shall respond to any noise complaints received for this project by measuring noise levels at the affected receptor site. If the noise level exceeds an Ldn of 60 dBA exterior or an Ldn of 45 dBA interior at the receptor, the City will implement adequate measures (which may include portable sound attenuation walls, use of quieter equipment, shift of construction schedule to avoid the presence of sensitive receptors, etc.) to reduce noise levels to the greatest extent feasible.*

NOI-4 *All construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by City personnel during construction activities.*

NOI-5 *Equipment not in use for five minutes shall be shut off.*

NOI-6 *Equipment shall be maintained and operated such that loads are secured from rattling or banging.*

- NOI-7** *Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.*
- NOI-8** *No radios or other sound equipment shall be used at this site unless required for emergency response by the contractor.*

Long Term

The long term or permanent change in noise from the proposed State Street Water Treatment Project would be minimal, though it would vary between the different project components. Generally, pipelines are located below-ground and do not generate noise in and of themselves; therefore, development of the pipeline alignments will not generate any routine noise in the long-term. The proposed Water Treatment Plant will introduce a new noise source at the State Street Facility site; however, this new noise would not be greater such that the nearest sensitive receptor would experience an increase in noise as a result of the proposed project, particularly given that the nearest residential sensitive receptor from the State Street Water Treatment Project site is located 800 feet from boundary of the project site. This is because the site is located in a highly industrial area adjacent to the railroad, and thus is located in an existing high background environment. The proposed Well 12 site is located in a more sensitive area, as there are residences along the project boundary; however, the project does not propose any new sources of noise at this site; the existing Well 12 will be rehabilitated and improved, and placed within a new structure, thus minimizing the potential for the well pump to create a source of new noise at nearby residences. As stated above, the increase in noise at both the Well 12 and State Street Facility would not exceed City or County thresholds for exterior (or interior) noise. This is due to the fact that the noise generating activities that would result from the proposed project would be enclosed within structures that would minimize noise generation from operations of the project. Additionally, as stated above, the State Street Facility is located within an area with a general noise level of 60 dBA CNEL due to the proximity of the adjacent roadways and railroad. Furthermore, the Well 12 site is located within an area with a general noise level of 60-70 dBA CNEL due to the proximity of the adjacent roadways.

Based on the existing noise levels in the area surrounding the project from nearby traffic, and due to the fact that the new noise generating activities will occur within enclosed settings, operation of the proposed project would not result in the generation of a substantial temporary or permanent noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

- b. *Less Than Significant Impact* – Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by vibration of room surfaces is called structure borne noises. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous or transient. Vibration is often described in units of velocity (inches per second), and discussed in decibel (VdB) units in order to compress the range of numbers required to describe vibration. Vibration impacts related to human development are generally associated with activities such as train operations, construction, and heavy truck movements.

The FTA assessment states that in contrast to airborne noise, ground-borne vibration is not a common environmental problem. Although the motion of the ground may be noticeable to people outside structures, without the effects associated with the shaking of a structure, the motion does not provoke the same adverse human reaction to people outside. Within structures, the effects of ground-borne vibration include noticeable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. FTA assessment further states that it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. However, some common sources of vibration are trains, trucks on rough roads, and

construction activities, such as blasting, pile driving, and heavy earth-moving equipment. The Federal Transit Association (FTA) guidelines identify a level of 80 VdB for sensitive land uses.

As the proposed project would be constructed within several jurisdictions—primarily within Unincorporated San Bernardino County and the City of Chino—the proposed project would be required to comply with the applicable regulations pertaining to vibration within the Jurisdiction at which construction occurs at a given point within the project footprint. The City of Montclair has not adopted vibration standards, as such compliance with the FTA thresholds would be applicable to construction within those jurisdictions. Within Unincorporated San Bernardino County, construction activities that take place between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays are exempt for the County's vibration standards. Similarly, in the City of Chino vibration created by construction, repair, remodeling or grading are exempt as long as construction takes place between the hours of 7:00 a.m. and 8:00 p.m. Monday through Saturday, with no construction allowed on Sundays and federal holidays, and provided the noise standard of 65 dBA plus the limits specified in Section 9.40.040(B) as measured on residential property and any vibration created does not endanger the public health, welfare and safety. Additionally, the City of Chino identifies that outside of any exempt construction standards, it is unlawful for any person to create, maintain or cause any ground vibration which is perceptible without instruments at any point on any affected property adjoining the property on which the vibration source is located. For the purpose of this chapter, the perception threshold shall be presumed to be more than 0.05 in/sec RMS vertical velocity.

Due to the location of the State Street Facility, and the Well 12 site, and the lack of any sensitive receptors within a reasonable distance of the project sites, construction and operations at these sites will not expose people to generation of excessive groundborne vibration or groundborne noise levels.

Background vibration within the project footprint would generally result from the nearby railroad north of State Street at the State Street Facility, as well as cars and trucks travelling along the roadways in which the proposed pipeline alignments would be installed. The roadways within which the proposed pipelines would be installed are in some cases modestly traveled, but are generally moderate-to-heavily travelled given that they are major north-south, and east-west roadways within the project area. Groundborne vibration is normally perceptible to humans at approximately 65 VdB, while 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible. Construction activity can result in varying degrees of groundborne vibration; in the short term, construction from installing the pipelines has the potential to create some groundborne vibration to the nearest sensitive receptors at some sites within the project footprint. However, any short-term impacts to the nearest sensitive receptors would be considered less than significant through implementing the following mitigation measure:

NOI-9 *During future initiation of construction activities with heavy equipment within 300 feet of occupied residences, vibration field tests shall be conducted at the nearest occupied residences upon receipt. To the extent feasible, if vibrations exceed 72 VdB, the construction activities shall be revised (smaller equipment, reduced activity) to reduce vibration below this threshold.*

Additionally, implementation of MM **NOI-2**, which would limit the hours of construction to the applicable City or County that are exempt, in conjunction with the implementation of the above mitigation measure, the project would comply with the applicable City and County regulations pertaining to vibration, and would prevent significant impacts from occurring as a result of the implementation of the proposed project. Therefore, impacts from project related vibration would be considered less than significant with implementation of mitigation. No further mitigation is required.

- c. ***Less Than Significant Impact*** – The nearest public airport is the Ontario International Airport, located approximately 3.3 miles east of the project. The Chino Airport is located at an even greater distance to the south of the proposed project site, and thus the proposed project footprint is not located within the Chino Airport Noise Contour. According to the San Bernardino Countywide Plan Airport Safety

and Planning Areas Map (Figure XIII-2), the proposed project is not located within the boundaries of the any the Airport Noise Contours, though it is located within the Airport Safety Review Area. In Zone 6, Traffic Pattern Zone—the zone within which the project footprint is located) land uses accommodating very large assemblies of people—such as stadiums—should be avoided; and schools, hospitals, and nursing homes are limited. The proposed project would not conflict with any Airport Safety Review Area requirements, particularly given the type of project that has been proposed, and that once construction has been completed, the majority of the proposed project activities would occur inside structures, which would attenuate noise from the nearby airport and other noise intensive activities in the project vicinity from resulting in significant interior noise. Based on this information, the project will have a less than significant potential to expose people residing or working in the project area to excessive noise levels generated by nearby aircraft or airport operations. No private airstrips are located within the vicinity of the proposed project. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIV. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – Implementation of the project will not induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). The project is considered a vital infrastructure project because it proposes to improve the water quality of Wells 12 and 14, which have observed 1,2,3-TCP concentrations above the DDW DLR/MCL and have observed elevated nitrate levels that exceed the 10 mg/L-N DDW MCL. It is anticipated that construction will require a temporary work force; however, this is short-term and with a maximum of about 30 employees will not induce substantial population growth. It is also anticipated that the City would require as many as 2 additional permanent employees as a result of the installation of the State Street Water Treatment Project. It is unknown whether the new employees will be drawn from the general area or will bring new residents to the project area. Relative to the total number residents of Unincorporated San Bernardino County—approximately 311,659 as of 2018 according to the Southern California Association of Governments (SCAG)³—and to the total number of residents in the City of Chino—approximately 86,757 as of 2018 according to SCAG⁴—an increase of the maximum 2 employees as new residents represents a minor increase in the area population. According to the SCAG Connect SoCal Demographics and Growth Forecast⁵, the forecast 2045 population is anticipated to be 121,300 residents in the City of Chino and 353,100 residents in Unincorporated San Bernardino County. The potential for a minor increase of 2 individuals is not considered a substantial growth in population. Furthermore, though the proposed project is an infrastructure project, and the purpose of the proposed project is not to expand the City's service area, it is to respond to the elevated concentrations of 1,2,3-TCP and nitrate within the City of Chino's existing water supply. Thus, based on the type of project and the small increment of potential population the population generation associated with project implementation, the proposed project will not induce substantial population growth either directly or indirectly.
- b. *No Impact* – The proposed project will occur within sites containing existing wells and reservoirs or within existing road rights of way, neither of which contain housing or persons. No occupied residential homes are located within the project footprint; therefore, implementation of the proposed project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No impacts will occur; therefore, no mitigation is required.

³ https://scag.ca.gov/sites/main/files/file-attachments/unincareasanbernardinocounty_0.pdf?1606013790

⁴ https://scag.ca.gov/sites/main/files/file-attachments/chino_localprofile.pdf?1606014858

⁵ https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf?1606001579

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project area is generally served by both the Montclair Fire Department and the City of Ontario Fire Department due to its unique location within Unincorporated San Bernardino County and the City of Chino, with pipelines that would be located within Unincorporated San Bernardino County, and the Cities of Chino, Ontario, and Montclair. The proposed project is located in close proximity to Montclair Fire Station 152, Ontario Fire Department Station 2, and Ontario Fire Department Station 4. The project only includes two new permanent above ground operational features—the replacement of the Well 12 structure, and the proposed State Street Water Treatment facility structure at the State Street Facility. The Ontario Fire Department provides fire protection and emergency medical services to the City of Ontario. It currently has ten stations, which are comprised of nine 4-man paramedic engine companies and three 4-man truck companies. The Department responds to more than 20,000 calls per year or 55 calls per day, serving and protecting a city population of approximately 185,000 persons.⁶

The Montclair Fire Department responds to a wide variety of service call types. These include fires, ruptures/explosions, emergency medical incidents, rescues, hazardous conditions, public service assistance calls, good intent calls, false calls, severe weather incidents, and natural disasters. The proposed project footprint is located in proximity (by two or three miles) to Montclair Fire Station 152 at 10825 Monte Vista Avenue. According to the City of Montclair General Plan, there is a maximum three-minute response time is available throughout the planning area. The project site is within a distance where any future calls can be responded to within the Fire Department's target response time. The proposed Well 12 and State Street Facilities are currently served by adequate fire protection services. Therefore, the project will add minimal new demand for fire protection services because the proposed State Street Water Treatment Project will not require a permanent on-site staff to operate, and the use is not of a type that would create a substantial fire risk. The Cities of both Montclair and Ontario and County General Funds cover operational expenses, and the proposed project will continue to contribute to the general fund to offset this incremental demand for fire protection services. Any impacts are considered less than significant and no mitigation is required.

- b. *Less Than Significant Impact* – The proposed project area is generally served by the Montclair Police Department (MPD) and the Ontario Police Department (OPD), which are a municipal law enforcement

⁶ <http://www.ontarioca.gov/fire>

agency responsible for the delivery of a full range of law enforcement services. The MPD services a 5.5 square-mile community of roughly 37,000 residents. The MPD has evolved into a community-oriented organization employing 60 sworn officers today, with the police headquarters located at 4870 Arrow Highway, Montclair, CA 91763. The Ontario Police Department (OPD) serves the City of Ontario. OPD Headquarters are located at 2500 S. Archibald Avenue in Ontario, CA 91761. OPD enforces local, state, and federal laws; performs investigations and makes arrests; and responds to City emergencies. The project footprint is located within existing patrol routes for both MPD and OPD and future calls can be responded to within the identified priority call target response times. Given that the proposed project only has two above ground components, one of which is a replacement of an existing facility, at a site that are or will be fenced, a less than significant potential exists for demand for police protection or expansion of police infrastructure. The City (of both Montclair and Ontario) and County General Funds cover operational expenses. The project will not be required to contribute to the applicable City or County General Fund as the project proposes an infrastructure project that would provide a benefit to future and existing Chino residents. Any impacts are considered less than significant and no mitigation is required.

- c. *Less Than Significant Impact* – The proposed project will utilize the existing State Street Facility (Well 14 and Reservoir 5) site to develop a Water Treatment Plant, and will install a new enclosure for Well 12. The associated infrastructure that will be developed as part of this project will be installed below ground or at existing Well 12 and State Street Facility sites. The project is not anticipated to generate any new direct demand for the area schools. The proposed project may place additional demand on school facilities, but such demand would be indirect and speculative as the proposed project would only create an indirect demand for schools as a result of the potential population increase that could arise from the 2 new employment positions. The project area is served by the Ontario-Montclair School District. The State of California requires a portion of the cost of construction of public schools to be paid through a fee collected on residential, commercial, and industrial developments. The development impact fee mitigation program of the Ontario-Montclair School District adequately provides for mitigating the impacts of the proposed project in accordance with current state law, though the proposed project is exempt from such fees because it is a water supply project that would extend vital infrastructure to customers within its service area. As such, no mitigation is required. Furthermore, given that the proposed project is not anticipated to permanently employ more than 2 persons as part of this project, the demand on school services would be minimal and well within the Ontario-Montclair School District's capacity for additional students.
- d. *Less Than Significant Impact* – The proposed project will utilize the existing State Street Facility site to develop a Water Treatment Plant, and will modify the existing Well 12 site to include a new well enclosure. The associated infrastructure that will be developed as part of this project will be installed below ground or at existing State Street Facility or Well 12 sites. The project is not anticipated to generate any new direct demand for parks within the City or County, as project would have a minimal potential to induce substantial population growth within the area. The proposed project would not be required to contribute to Development Impact Fees (DIF) dedicated to parks because the proposed project would contribute to existing area infrastructure, and would not contribute to area demand for parks and recreation facilities. Furthermore, given that the proposed project is not anticipated to permanently employ more than 2 persons as part of this project, the increased demand for area parks would be minimal. Therefore, the proposed project will have a less than significant impact to parks and recreation facilities.
- e. *Less Than Significant Impact* – Other public facilities include library and general municipal services. Since the project will not directly induce substantial population growth, it is not forecast that the use of such facilities will substantially increase as a result of the proposed project. The proposed project would not be required to contribute to DIF dedicated to library and municipal services because the proposed project would contribute to existing area infrastructure, and would not contribute to area demand for library and municipal services. Furthermore, given that the proposed project is not anticipated to permanently employ more than 2 persons as part of this project, the increased demand

for library service would be minimal. Therefore, the proposed project will have a less than significant impact to other public services.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. RECREATION:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – As addressed in the discussion under XIV and XV(d) above, the proposed project does not include a use that would substantially induce population growth; as stated in the discussion under Population and Housing, the proposed project is not anticipated to employ new City personnel in an amount greater than 2 persons; however, it is unknown what portion of the employees will be new residents of the project area. In the Cities and County in and around the project footprint, new facilities contribute to the local jurisdiction's ability to provide needed public services and enhance public access to those same service and systems. As the proposed project sites are government facilities, they are tax exempt, and therefore would not be subject to the payment of property tax that contributes to the City's General Fund. Given that the proposed project consists of a Water Treatment Plant within the existing State Street Facility site, and associated infrastructure within the existing Well 12 site and within roadways, the State Street Water Treatment Project is not anticipated to result in a substantial increase in the use of existing park and recreation facilities. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.
- b. *No Impact* – The proposed project would develop a Water Treatment Plant at the existing State Street Facility site and would develop associated pipeline alignments within adjacent roadways, as well as on site infrastructure and a well enclosure at Well 12. The only new above ground features of the proposed project will be located at the State Street Facility and Well 12, which are both currently in use containing City of Chino water infrastructure. As such, with no recreational facilities located within the project footprint, the proposed project has no potential to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Thus, no impacts are anticipated under this issue. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVII. TRANSPORTATION: Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project is located within the Cities of Chino, and Montclair, as well as the County of San Bernardino. Though above ground components—the Water Treatment Plant and the Well 12 enclosure—are located within the County of San Bernardino or the City of Chino respectively. The County of San Bernardino Congestion Management Program (CMP) Traffic Study Guidelines have been utilized in the following analysis as the County overlaps with the entirety of the project footprint. The County's traffic study guidelines indicate that if a project generates fewer than 100 to 250 peak hour trips and contributes less than 50 peak hour trips to a CMP intersection, a formal traffic study is typically not required as off-site improvements are assumed to be nominal for low traffic generating uses. As such, the proposed project is not anticipated to violate the County's Traffic Study Guidelines due to the limited number of trips required to implement the proposed project (below the County's Traffic Study Guidelines).

In the short-term, the proposed project will require the installation of pipelines within existing road rights-of-way. The roadways within which the pipelines will be installed are generally major roadways that are important to circulation within the area:

Preferred Alignments

- Phillips Boulevard between Well 12 and Vernon Avenue
- Vernon Avenue between Phillips Boulevard and State Street
- State Street between Vernon Avenue and the State Street Facility
- Benson Avenue between Mission Boulevard and the State Street Facility

Alternative Alignments

- Vernon Avenue between Phillips Boulevard and Mission Boulevard
- Mission Boulevard between Vernon Avenue and Benson Avenue

The pipeline installation will require one lane to be closed to complete the installation of the various pipeline alignments; this will ensure that each roadway can still operate during construction. However, the project will require implementation of a traffic management plan in order to comply with the Cities of Chino and Montclair and the County of San Bernardino Master Plan of Roads and Circulation Plans, which will ensure adequate circulation within the area.

During construction, an estimated 30 roundtrips from construction workers would occur per day. A maximum of 30 roundtrips per day will occur to support construction efforts (i.e., delivery or removal of construction materials, etc.). This has a minor potential to create additional traffic on area roadways

for the duration of construction. The construction workers are expected to arrive at and depart from each day's work sites during a one-hour period at the start and end of the work day, respectively, while truck trips would be spread over the course of the work day. Both the worker trips and truck trips would be spread over the various roadways that provide access to the proposed project footprint. These roadways include: W. State Street, Mission Boulevard, Benson Avenue, Vernon Avenue, Howard Street, Central Avenue, Phillips Boulevard, and others outside of the immediate project footprint vicinity. For the purpose of this assessment, this impact is considered to be less than significant. This is because even when large truck trips are assigned a passenger car equivalent (PCE) of three trips, the total number of all trips per day would be about 120 trips per day. As these trips would be spread throughout the day, and would not all occur during AM or PM peak hours, it is anticipated that the proposed project would not contribute an additional 50 peak hour trips per day at any area intersection. However, implementation of the project has the potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, but implementation of the following mitigation measure requiring a construction traffic management plan, would ensure that implementing the project would not result in a significant impact.

TRAN-1 *The construction contractor will provide adequate traffic management resources, as determined by the City of Chino. The City shall require a construction traffic management plan for work in public roads that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during excavation activities. The traffic management plan shall be prepared and approved by the City prior to initiation of excavation or pipeline construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.*

TRAN-2 *The City shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.*

The operation phase of the proposed project would require minimal new trips to the Well 12 site, as such visits would be on a scheduled maintenance or as needed basis, with the about 2 visits to the State Street Facility site per day as a result of onsite operational activities. Furthermore, given that the project sites are located within about 5 to 6 miles to the northwest of the City of Chino Services Yard where the Water Division office is located, the traffic on adjacent roadways as a result of well operations would be minimal. As such, operation of the proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Therefore, with implementation of the above mitigation measure, implementation of the project would have a less than significant impact under this issue.

- b. *Less Than Significant Impact* – The proposed project would install a new water treatment facility and associated infrastructure and improvements as part of the State Street Water Treatment Project. A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes.

As discussed under Response (a) above, construction vehicles on local roadways would be temporarily increased during project construction due to the presence of construction vehicles and equipment. Increases in VMT from construction would be short-term, minimal, and temporary. The duration of the potential significant impacts would be limited to the period of time needed to construct individual projects. As such, VMT standards, which are intended to monitor and address long-term transportation impacts resulting from future development, do not apply to temporary impacts associated with construction activities. Therefore, no construction impact associated with VMT per CEQA Guidelines Section 15064.3 would occur.

The proposed project would not cause substantial long-term/ongoing transportation effects, because proposed project facilities, once constructed, would only require visits to the site by no more than 2 employees daily, resulting in a maximum of about 2 daily roundtrips. The Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA (2018) states, "Projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant VMT impact." As such, the proposed project would generate less than 110 trips per day, which is the recommended screening threshold. Therefore, the proposed project would not result in a substantial addition of VMT per service population or induce additional roadway vehicle travel by increasing physical roadway capacity or adding new roadways to the network. Therefore, no operational impact associated with VMT per CEQA Guidelines Section 15064.3 would occur.

Thus, development of the City's State Street Water Treatment Project is not anticipated to result in significant impact related to vehicle miles travelled, and thus would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Impacts under this issue are considered less than significant.

- c. *Less Than Significant With Mitigation Incorporated* – The project will temporarily alter existing roadways during construction of the proposed pipelines. However, this alteration will not create any hazards due to design features of incompatible uses. The proposed project would install pretreatment at each wellhead, a GAC water treatment system, an IX water treatment system, an 8,500-gallon brine waste storage tank, a 2,500-gallon softener waste storage tank, and up to about 22,480 LF of water transmission, brine, softener waste, and sewer waste pipeline. This effort will occur within existing rights-of-way within Phillips Boulevard, Vernon Ave, Mission Boulevard, State Street, and Benson Avenue. As stated under issue XVII(a) above, the with the implementation of MMs **TRAN-1** and **TRAN-2** above, which require implementation of a construction traffic management plan, any potential increase in hazards due to design features or incompatible use will be considered less than significant in the short term. In the long term, no impacts to any hazards or incompatible uses in existing roadways are anticipated because once the pipelines are constructed, the roadway will be returned to its original condition, or better and the proposed Water Treatment Plant will be confined to the existing State Street Facility site, while the Well 12 improvements would be confined to that project site. Thus, any impacts are considered less than significant with implementation of mitigation. No additional mitigation is required.
- d. *Less Than Significant With Mitigation Incorporated* – Please refer to the discussion under issue XVII(a) above. The proposed project will require closure of one lane within the roadway in which each pipeline segment will be installed. The proposed State Street Water Treatment Project would install pretreatment at each wellhead, a GAC water treatment system, an IX water treatment system, an 8,500-gallon brine waste storage tank, a 2,500-gallon softener waste storage tank, and up to about 22,480 LF of water transmission, brine, softener waste, and sewer waste pipeline. This effort will occur within existing rights-of-way within Benson Phillips Boulevard, Vernon Ave, Mission Boulevard, State Street, and Benson Avenue. During construction, a potential exists for short-term hazards and constraints on both normal and emergency access within the affected area, especially due to the construction of the proposed pipeline alignment, as it will require partial lane closure within existing rights-of-way. There are no emergency access roadways located within the project footprint as shown on Figure IX-14, which depicts evacuation routes within the project area. Adequate emergency

access will be provided along these routes throughout construction. Though closure of one lane will have a short-term impact on traffic, the implementation of mitigation measures **TRAN-1** and **TRAN-2** will ensure that impacts are reduced to a level of less than significant. No additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial change in the significance of tribal cultural resources, 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 the California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

A Tribal Resources is defined in the Public Resources Code section 21074 and includes the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1;
- 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purpose of this paragraph, the lead agency shall consider the significance of the resources to a California American tribe;
- A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape;
- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal resource if it conforms with the criteria of subdivision (a).

Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – The City has been contacted by two Tribes under Assembly Bill (AB) 52: the Gabrieleño Band of Mission Indians and the Soboba Band of Luiseño Indians. The tribes were contacted to initiate the AB-52 process on October 29, 2021 to notify the tribes of the proposed project through mailed letters. During the 30-day consultation period, the Gabrieleño Band of Mission Indians (Gabrieleño Band) was the only tribe to respond. The Gabrieleño Band requested that mitigation be incorporated to ensure protection of potential tribal cultural resources within the project site. As part of the consultation, the Gabrieleño Band has requested any and all information that the City may possess or has access to attain regarding the history of the subsurface soils that will be impacted as part of this project's ground disturbance activities. The key information requested is information about whether the "original" soils of the project location have been "removed" and "replaced" by new soils (e.g., engineered, cleaned, imported) or have the original soils just been excavated, placed onsite and then "backfilled" into the same location. The City does not have a plethora of data on the soils within the large project footprint, given the expanse of area that must be excavated to install the proposed pipelines within roadways. In the absence of documentation, the Tribe has requested that protective measures shall be created and implemented, as such the following mitigation shall be implemented:

TCR-1 *Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities*

- A. *The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.***
- B. *A copy of the executed monitoring agreement shall be submitted to the Lead Agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.***
- C. *The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.***
- D. *On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for The project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to The project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.***

- E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the including for educational, cultural and/or historic purposes.*

TCR-2 *Unanticipated Discovery of Human Remains and Associated Funerary Objects*

- A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.*
- B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.*
- C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).*
- D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)*
- E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.*
- F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.*

TCR-3 *Procedures for Burials and Funerary Remains:*

- A. As the Most Likely Descendant (MLD), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient times, as well as historic times, Tribal Traditions included, but were 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.*
- B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.*

- C. 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. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.***
- D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe 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.***
- E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.***
- F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should 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 Tribe and the City at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.***
- G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.***

The above mitigation measures will ensure that a Native American monitor is available to monitor the site and to recover unearthened tribal cultural resources, and ultimately to ensure appropriate treatment of such resources, which is sufficient to ensure protection of such resources by the Gabrieleño Band and City standards. Furthermore, the above mitigation measures would ensure appropriate procedures are followed in the event of the unanticipated discovery of human remains and associated funerary objects, including procedures for burials and funerary remains treatment. Ultimately, the implementation of the above measures would prevent significant adverse impacts to tribal cultural resources, and impacts under this issue are considered less than significant with mitigation. No further mitigation is required beyond that which was identified under Section V, Cultural Resources, above.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. Water

Less Than Significant Impact – The proposed State Street Water Treatment Project is located within the Cities of Chino and Montclair, and the County of San Bernardino. The project in and of itself will result in construction of new water systems that would allow the City to reduce levels of 1,2,3-TCP, perchlorate, and nitrate to acceptable DDW levels. The entirety of the project would not result in any significant environmental effects. The project will not substantially increase the amount of water available to City of Chino customers, but it will expand the infrastructure from Well 12 to a new water treatment facility at the Well 14 and Reservoir 5 site where the proposed State Street Water Treatment facility will be located, at which the raw water will be treated to reduce levels of 1,2,3-TCP, perchlorate, and nitrate to acceptable DDW levels. The proposed project is considered a vital infrastructure project that would provide the City's customers with water containing contaminant levels acceptable to the DDW. Therefore, development of the State Street Water Treatment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded water facilities. Impacts are less than significant.

Wastewater

Less Than Significant Impact – The proposed State Street Water Treatment Project would develop a Water Treatment Plant and associated infrastructure that would reduce levels of 1,2,3-TCP, perchlorate, and nitrate to acceptable DDW levels. The pipeline alignments associated with the proposed project would be located below ground, and would not require access to restroom facilities; however, the Water Treatment Plant would require new restroom facilities. Additionally, the proposed project will require installation of brine line, softener waste, and sewer waste pipeline. The Inland Empire Brine Line is a pipeline that was constructed to protect the Santa Ana River Watershed from desalter concentrate and various saline wastes. Organizations whose processes create high-saline

waste that does not qualify for use, reclamation or return to the region through the municipal sewer system domestic-treatment plants, but does qualify for ocean discharge, can use the brine line to transport the waste. The brine pipeline carries the waste directly to specially equipped treatment plants operated by the County Sanitation Districts of Los Angeles County's sewer system. The Non-Reclaimable Wastewater System (NRWS) and the County Sanitation Districts of Los Angeles County have enough capacity to accommodate the additional flows. As such, the installation of the brine pipeline would not result in a significant impact as a result of implementation of the proposed project. Furthermore, the proposed sewer connection would be to the City of Montclair wastewater collection system, which is treated by the Inland Empire Utilities Agency (IEUA), and given the relatively minimal amount of waste that would be disposed of by the onsite restroom facilities, the proposed project would be served within the existing capacities of IEUA's wastewater treatment systems. Therefore, development of the State Street Water Treatment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded wastewater facilities. Impacts are less than significant.

Stormwater

Less Than Significant Impact – The surface runoff from the site, nonpoint source storm water runoff, will be managed in accordance with the WQMP as discussed in the Hydrology and Water Quality Section (Section X) of this Initial Study. The onsite drainage will capture the incremental increase in runoff from the project site associated with project development at each of the proposed project sites. Runoff will be managed onsite through a stormwater management system. During GAC changeout, GAC backwash water will be filtered through bag filters and sent to the sewer via a new pipeline connection. As such, surface water will be adequately managed on the State Street Facility and Well 12 sites. The roadways within which the pipeline will be installed will be returned to their original condition upon completion of the placement of each section of pipeline. The roadways will generate essentially the same amount of stormwater as they do at present because no expansion of roadway or change in drainage patterns are anticipated. Conveyance of stormwater to drainage alignments and storm drains within these roadways will remain intact and unchanged once construction has been completed. Therefore, development of the State Street Water Treatment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded stormwater facilities. Impacts are less than significant.

Electric Power

Less Than Significant Impact – The existing electrical services are by Southern California Edison (SCE) and at both the State Street Facility and the Well 12 Facility, the primary service is routed underground from a utility pole near the site entrance to a pad mounted utility transformer, which steps the voltage down to 480/277VAC, 3-phase. Updated electrical facilities will be required upon installation of the new Well 12 pump, enclosure and related facilities, and at the State Street Water Treatment site. A new 1000kVA (preliminary) pad-mounted utility transformer shall be provided by Southern California Edison (SCE) to supply sufficient power to the new distribution system. Transformer size shall be coordinated and finalized with SCE during final design. SCE has indicated that it has available capacity to supply to project with the installation of the new transformer. As such, though the proposed project will install new electrical power facilities within the project sites, the development of such facilities in support of the State Street Water Treatment Project would not result in a significant environmental effect. Impacts under this issue are considered less than significant.

Natural Gas

No Impact – Development of the State Street Water Treatment Project would not require installation of natural gas. Therefore, the project would not result in a significant environmental effect related to the relocation or construction of new or expanded natural gas facilities. No impacts are anticipated.

Telecommunications

No Impact – Development of the State Street Water Treatment Project would require connection to wireless internet service and phone service. This connection is available at the project site, so the development of onsite infrastructure to connect to such systems would be required. The connection

to telecommunication systems would not result in a significant environmental effect. Therefore, the project would not result in a significant environmental effect related to the relocation or construction of new or expanded telecommunication facilities. Impacts under this issue are considered less than significant.

- b. *Less Than Significant Impact* – Please refer to issue X(b), Hydrology and Water Quality, above. The project will be supplied with water by the City of Chino. The proposed project would not require the provision of expanded water supply to operate the proposed State Street Water Treatment Plant, though construction of the site and of the pipeline alignment would require a temporary supply of water. The project proponent, the City of Chino, supplies water to the area. The City of Chino's water supply sources include: groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by Chino Basin Desalter Authority; imported surface water from Metropolitan Water District of Southern California (MWD) through IEUA, treated and purchased through Water Facilities Authority (WFA); and recycled water purchased from Inland Empire Utilities Agency. The proposed project may require approximately 5,000 GPD of water for a period of about 60 days during construction to control fugitive dust. This temporary increase in water demand for construction purposes is considered less than significant because the project will be conducted within the existing City entitlements to potable water. As stated under issue X(b), above, according to the City's 2020 UWMP, the City's share of the Operating Safe Yield of Chino Basin groundwater is 7.357 percent. Over the past five years, the City has produced 4,308 acre-feet-per-year (AFY) to 5,162 AFY, with an average of 4,939 AFY from the Chino Basin. The proposed project would enable the City to treat about 1,600 AFY from the Wells 12 and 14 combined supplies. The proposed project would not require greater water supplies from the aquifer in order to operate, particularly because the proposed project would treat a comparable amount of water for potable use to that which the City of Chino supplies at present, and would operate within the Operating Safe Yield of the Chino Basin. Based on the limited and short-term demand for potable water during construction of the proposed pipeline replacement project, sufficient water supplies are available to serve the project, as indicated in the 2020 UWMP for the City of Chino. Impacts under this issue are considered less than significant and no mitigation is required.
- c. *Less Than Significant Impact* – Please refer to the discussion under XIX(a) above. The State Street Water Treatment site requires the installation of restroom facilities; construction will require portable toilets that will be handled by the provider of such facilities. Additionally, the proposed project will require installation of brine line, softener waste, and sewer waste pipeline. The NRWS consists of three trunk lines: NRWS and Etiwanda Wastewater Line (EWL) on the Agency's north service area convey the wastewater to the County Sanitation Districts of Los Angeles County's sewer system, which has enough capacity to accommodate the additional brine and softener waste flows. The NRWS has a current flow of 20,000 gallons per day (GPD). The proposed project would contribute less than 1,000 gpd of brine to the NRWS. The NRWS capacity is 4.6 MGD leaving more than a vast majority of the system's capacity available for use by other entities in the region. As such, the installation of the brine pipelines would not result in an exceedance of wastewater treatment provider capacity. Furthermore, the proposed sewer connection would be to the City of Montclair wastewater collection system, which is treated by the IEUA, and given the relatively minimal amount of waste that would be disposed of by the onsite restroom facilities, the proposed project would be served within the existing capacities of IEUA's wastewater treatment systems. Therefore, development of the State Street Water Treatment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded wastewater facilities. Impacts are less than significant.
- d. *Less Than Significant Impact* – The project is served by Burrtec Waste Industries, which provides trash, recycling, and some street sweeping/bulky item pickup services to its customers. The nearest landfills to the project area are the Mid-Valley Sanitary Landfill and the El Sobrante Landfill. The location, closure date, daily permitted capacity, and remaining permitted capacity of these landfills can be found in Table XIX-1.

**Table XIX-1
LANDFILLS IN PROXIMITY TO THE PROJECT SITE**

Facility Name	Address	Closure Date	Daily Permitted Capacity (tons/day)	Remaining Permitted Capacity (cubic yards)
Mid-Valley Sanitary Landfill	2390 Alder Ave, Rialto, CA 92377	4/1/2045	7,500	61,219,377 as of 06/2019
El Sobrante Landfill	10910 Dawson Canyon Rd, Corona, CA 92883	1/1/2051	16,054	143,977,170 as of 4/2018
SOURCE: California Department of Resources Recycling and Recovery, <i>Solid Waste Information System (SWIS)</i> , 2021 https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2280?siteID=2402 https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1880?siteID=2662				

The proposed project will remove concrete and material from the Water Treatment Plant and Well 12 sites to install the new infrastructure related to the State Street Water Treatment Project. The project will also result in construction waste from the removal of asphalt, concrete, and similar materials within the roadways in which the pipeline alignment will be installed. Based on the scale of the materials requiring removal, which will occur over a period several days or weeks, the waste that developing the proposed project would generate would not exceed either the daily permitted capacity or overall permitted capacities of nearby landfills. There is adequate capacity at the nearest landfill as well as in other landfills that serve the area (Mid Valley Sanitary Landfill, El Sobrante Landfill, etc.). Any hazardous materials collected on the project site during construction of the project will be transported and disposed of by a permitted and licensed hazardous materials service provider.

The proposed project is anticipated to generate minimal solid waste during operation because it will not require a substantial staff at the project site. According to the CalRecycle Solid Waste Generation Rates, Public/Institutional uses generate 0.007 pound per square foot per day. As such, given that the project would develop an office area of about 748 square feet, the proposed project would generate 5.236 pounds of solid waste per day, equal to about 0.96 tons per year. Considering the availability of landfill capacity and the minimal amount of solid waste generation from the proposed project during both construction and operations, project solid waste disposal needs can be adequately met without a significant impact on the capacity of the nearest landfills. As such, any impacts under this issue are considered less than significant. No mitigation is required.

- e. *Less Than Significant With Mitigation Incorporated* – All collection, transportation, and disposal of any solid waste generated by the proposed project is required to comply with all applicable federal, state, and local regulations. As previously stated, solid waste produced in the project is collected and transported by Burrtec Waste Industries. The area is served by several nearby landfills, though the closest is the Mid Valley Landfill in Rialto and the El Sobrante Landfill in Corona, which, as stated under issue XIX(d) above, have adequate capacity to serve the project. Additionally, any hazardous materials collected on the project site during either construction or operation of the project will be transported and disposed of by a permitted and licensed hazardous materials service provider, as stated under issue IX, Hazards and Hazardous Materials above. The contract for this project will require that concrete, asphalt and base material be recycled by grinding, which allows reuse of these materials. All metals, woods and equipment that are reusable shall be salvaged and recycled.

Thus, due to the small size of this project and the limited amount of wastes that will be generated, potential impacts to the waste disposal systems are considered less than significant. To further reduce potential less than significant impacts, the following mitigation measure shall be implemented:

UTIL-1 *The contract with demolition and construction contractors shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled. This includes but not limited to wood, metals, concrete, road base and asphalt. The contractors shall submit a recycling plan to the City for*

review and approval prior to the construction of demolition/construction activities.

Therefore, with the above mitigation measure, the project is expected to comply with all regulations related to solid waste under federal, state, and local statutes. No further mitigation is necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a-d. *No Impact* – According to the San Bernardino Countywide Plan Fire Hazard Severity Zones Map of the project area, the proposed project is not located within a high or very high fire hazard severity zone (Figure IX-15). The proposed project area is located in an urban area removed from the high fire hazard areas that are located adjacent to the San Gabriel Mountains. The fire threat throughout most of the valley region that is situated at a great distance from nearby mountains experiences moderate wildland fire risk. The proposed water treatment facility development would not expose people or structures to a wildland fire as they are not located in the vicinity of the high wildland fire hazard area. Therefore, given that the proposed project sites are located outside of a very high fire hazard severity zone, and the nature of the proposed project as a water treatment facility development project that would expand the community's access to water that could be used for fire flow, no impacts under these issues are anticipated. No mitigation is required under these issues.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XXI. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

The analysis in this Initial Study and the findings reached indicate that the proposed project can be implemented without causing any new project specific or cumulatively considerable unavoidable significant adverse environmental impacts. Mitigation is required to control potential environmental impacts of the proposed project to a less than significant impact level. The following findings are based on the detailed analysis of the Initial Study of all environmental topics and the implementation of the mitigation measures identified in the previous text and summarized following this section.

- a. *Less Than Significant With Mitigation Incorporated* – The project has no potential to cause a significant impact to any biological or cultural resources. The project has been identified as having no potential to degrade the quality of the natural environment, substantially reduce 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, or reduce the number or restrict the range of a rare or endangered plant or animal. Based on the historic disturbance of the project footprint, especially given that the Water Treatment Plant site currently contains the existing Well 14 and Reservoir 5, and the Well 12 site contains the well and reservoirs, all of which support the City water service, and that the remainder of the project will occur within existing road rights-of-way, the potential for impacting biological resources is low; however, mitigation has been identified to protect nesting birds. The cultural resources evaluation concluded that the project footprint does not contain historic resources, and as such, no impacts are anticipated. To ensure that any accidentally exposed subsurface cultural resources are properly handled, contingency mitigation measures will be implemented. With incorporation of project mitigation measures all biology and cultural resource impacts will be reduced to a less than significant level.
- b. *Less Than Significant With Mitigation Incorporated* – The project has nine (9) potential impacts that are individually limited, but may be cumulatively considerable. The issues of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Utilities & Service Systems require the implementation of mitigation measures to reduce impacts to a less than significant level

and ensure that cumulative effects are not cumulatively considerable. The project is not considered growth-inducing as defined by *State CEQA Guidelines*, as it would not result in any new residents either directly, through the creation of housing, or indirectly, through the creation of a substantial number of jobs. These issues require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects from the proposed project are not cumulatively considerable. All other environmental issues were found to have no significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the proposed project have been determined to be less than considerable and thus, the project's contribution to significant cumulative impacts would be less than significant.

- c. *Less Than Significant With Mitigation Incorporated* – The project will achieve long-term community goals by providing a potable water with reduced 1,2,3-TCP, perchlorate, and nitrate at levels acceptable to DDW. The short-term impacts associated with the project, which are mainly construction-related impacts, are less than significant with mitigation, and the proposed project is compatible with long-term environmental protection. The issues of Air Quality, Geology and Soils, Hazards and Hazardous Materials, and Noise require the implementation of mitigation measures to reduce human impacts to a less than significant level. All other environmental issues were found to have no significant impacts on humans without implementation of mitigation. The potential for direct human effects from implementing the proposed project have been determined to be less than significant.

Conclusion

This document evaluated all CEQA issues contained in the latest Initial Study Checklist form. The evaluation determined that either no impact or less than significant impacts would be associated with the issues of Agricultural and Forestry Resources, Greenhouse Gas Emissions, Land Use and Planning, Mineral Resources, Population/Housing, Public Services, Recreation, and Wildfire. The issues of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Utilities & Service Systems require the implementation of mitigation measures to reduce impacts to a less than significant level. The required mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact.

Based on the findings in this Initial Study, the City of Chino proposes to adopt a Mitigated Negative Declaration (MND) for the City of Chino State Street Water Treatment Project. A Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) will be issued for this project by the City of Chino. The Initial Study and NOI will be circulated for 30 days of public comment because this project does involve state agencies as either a responsible or trustee agency. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed by the City of Chino. The City will hold a future hearing for project adoption, the date for which has not yet been determined. If you or your agency comments on the MND/NOI for this project, you will be notified about the meeting date in accordance with the requirements in Section 21092.5 of CEQA (statute).

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors*, (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2019

Authority: Public Resources Code sections 21083 and 21083.09

Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

SUMMARY OF MITIGATION MEASURES

Aesthetics

- AES-1 A facilities lighting plan shall be prepared for both project sites and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures or rail corridor. This plan shall specifically indicate that the lighting doesn't exceed 1.0 lumen at the nearest residence or the rail corridor to any lighting located within the project footprint. This plan shall be implemented by the City to minimize light or glare intrusion onto adjacent properties.

Air Quality

- AQ-1 Fugitive Dust Control. The following measures shall be incorporated into Project plans and specifications for implementation:
- Apply soil stabilizers or moisten inactive areas.
 - Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day).
 - Cover all stock piles with tarps at the end of each day or as needed.
 - Provide water spray during loading and unloading of earthen materials.
 - Minimize in-out traffic from construction zone.
 - Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard.
 - Sweep streets daily if visible soil material is carried out from the construction site.

This measure shall be implemented during construction, and shall be included in the construction contract as a contract specification.

- AQ-2 Exhaust Emissions Control. The following measures shall be incorporated into Project plans and specifications for implementation:
- Utilize off-road construction equipment that has met or exceeded the maker's recommendations for vehicle/equipment maintenance schedule.
 - Contactors shall utilize Tier 4 or better heavy equipment.
 - Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

Biological Resources

- BIO-1 Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).

Cultural Resources

- CUL-1 Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the City. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.
- CUL-2 Should human remains or funerary objects be encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.

Geology and Soils

- GEO-1 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of the material. If covering is not feasible, then measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup.
- GEO-2 Excavated areas shall be properly backfilled and compacted. Paved areas disturbed by this project will be repaved in such a manner that pipeline connections within adjacent roadways and other disturbed areas are returned to as near the pre-project condition as is feasible.
- GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) will be sprayed with water or soil binders twice a day or more frequently if fugitive dust is observed migrating from either of the well sites within which the water facilities are being installed.
- GEO-4 The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.
- GEO-5 The City shall identify any additional construction-related erosion and sedimentation prevention BMPs to ensure that the discharge of surface water does not cause erosion downstream of the discharge point. This shall be accomplished by reducing the energy of any site discharge through an artificial energy dissipater or equivalent device. If any substantial erosion or sedimentation occurs, any erosion or sedimentation damage shall be restored to pre-discharge conditions.
- GEO-6 Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource.

Hazards and Hazardous Materials

- HAZ-1 A Hazardous Materials Business Plan prepared and submitted to the Certified Unified Program Agency shall incorporate best management practices designed to minimize the potential for accidental release of such chemicals and shall meet the standards required by California law for Hazardous Materials Business Plans. The facility managers shall implement these measures to reduce the potential for accidental releases of hazardous materials or wastes. The

Hazardous Materials Business Plan shall be approved prior to operation of the facilities proposed by this project.

- HAZ-2 The Hazardous Materials Business Plan shall assess the potential accidental release scenarios and identify the equipment and response capabilities required to provide immediate containment, control, and collection of any released hazardous material. Prior to issuance of the certificate of occupancy, the proposed project facilities shall ensure that necessary equipment has been installed and training of personnel has occurred to obtain sufficient resources to control and prevent the spread of any accidentally released hazardous or toxic materials.
- HAZ-3 Prior to occupancy of any site for which storage of any acutely hazardous material will be required, such as chlorine gas, modeling of pathways of release and potential exposure of the public to any released hazardous material shall be completed and specific measures, such as secondary containment, shall be implemented to ensure that sensitive receptors will not be exposed to significant health threats based on the toxic substance involved.
- HAZ-4 All hazardous materials during both operation and construction of the proposed project facilities shall be delivered to a licensed treatment, disposal, or recycling facility and be disposed of in accordance with State and federal law.
- HAZ-5 Before determining that an area contaminated as a result of an accidental release during project operation or construction is fully remediated, specific thresholds of acceptable clean-up shall be established and sufficient samples shall be taken and tested within the contaminated area to verify that these clean-up thresholds have been met in compliance with State and federal law.
- HAZ-6 All accidental spills or discharge of hazardous material during construction activities shall be reported to the Certified Unified Program Agency and shall be remediated in compliance with applicable federal, State, and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste shall be collected and disposed of at a licensed disposal or treatment facility. This measure shall be incorporated into the Stormwater Pollution Prevention Plan (SWPPP) prepared for the proposed State Street Water Treatment Project facilities. Prior to accepting the site as remediated, the area contaminated shall be tested to verify that any residual concentrations meet the standard for future residential or public use of the site.

Hydrology and Water Quality

- HYD-1 The Project-Specific Water Quality Management Plan (WQMP) which defines catch basins and other drainage capture mechanisms as permanent Best Management Practices shall be implemented to prevent long-term surface runoff from discharging pollutants from site on which construction has been completed. The WQMP shall be implemented with the goal of achieving a reduction in pollutants following construction to control urban runoff pollution to the maximum extent practicable based on available, feasible best management practices at the time of construction. The stormwater discharge from the project site shall be treated to control pollutant concentrations for all pollutants, but especially for those identified pollutants that impair downstream surface water quality (Santa Ana River) at the time construction occurs. Source Control BMPs reduce the potential for urban runoff and pollutants from coming into contact with one another. Source Control BMPs that may be incorporated into the project are described in County's Technical Guidance Manual (TGM).
- HYD-2 The City shall require that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a

Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:

- The use of silt fences;
- The use of temporary stormwater desilting or retention basins;
- The use of water bars to reduce the velocity of stormwater runoff;
- The use of wheel washers on construction equipment leaving the site;
- The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;
- The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and
- Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.

Noise

- NOI-1 The following construction noise control practices shall be implemented whilst constructing the proposed State Street Water Treatment Project within the entirety of the project footprint:
- Construction staging and activities shall be located in areas as far as practicable from sensitive receivers or in areas where receivers can be shielded from construction noise.
 - Whenever practicable, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously.
 - All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers.
- NOI-2 Construction shall be conducted during the hours identified as acceptable by the jurisdiction within which each construction activity takes place. Throughout the entirety of the project footprint, construction between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday. Extended hours of construction and construction on weekends are allowable at various points within the project footprint depending on the jurisdiction as follows: in the City of Montclair, construction shall be limited to the hours of 7:00 a.m. and 8:00 p.m. on any given day; in the City of Chino within the hours of 7:00 a.m. and 6:00 p.m. Monday through Saturday, with no construction allowed on Sundays and federal holidays; in Unincorporated San Bernardino County construction shall be limited to between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays. The above limitations on construction hours shall apply in all cases except where a declared emergency exists.
- NOI-3 The City shall establish a noise complaint response program and shall respond to any noise complaints received for this project by measuring noise levels at the affected receptor site. If the noise level exceeds an Ldn of 60 dBA exterior or an Ldn of 45 dBA interior at the receptor, the City will implement adequate measures (which may include portable sound attenuation walls, use of quieter equipment, shift of construction schedule to avoid the presence of sensitive receptors, etc.) to reduce noise levels to the greatest extent feasible.
- NOI-4 All construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by City personnel during construction activities.
- NOI-5 Equipment not in use for five minutes shall be shut off.
- NOI-6 Equipment shall be maintained and operated such that loads are secured from rattling or banging.

- NOI-7 Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.
- NOI-8 No radios or other sound equipment shall be used at this site unless required for emergency response by the contractor.
- NOI-9 During future initiation of construction activities with heavy equipment within 300 feet of occupied residences, vibration field tests shall be conducted at the nearest occupied residences upon receipt. To the extent feasible, if vibrations exceed 72 VdB, the construction activities shall be revised (smaller equipment, reduced activity) to reduce vibration below this threshold.

Transportation

- TRAN-1 The construction contractor will provide adequate traffic management resources, as determined by the City of Chino. The City shall require a construction traffic management plan for work in public roads that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during excavation activities. The traffic management plan shall be prepared and approved by the City prior to initiation of excavation or pipeline construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.
- TRAN-2 The City shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.

Tribal Cultural Resources

- TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities
- A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any “ground-disturbing activity” for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). “Ground- disturbing activity” shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.
 - B. A copy of the executed monitoring agreement shall be submitted to the Lead Agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.
 - C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground- disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural

- resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.
- D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for The project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to The project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.
 - E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the including for educational, cultural and/or historic purposes.

TCR-2 Unanticipated Discovery of Human Remains and Associated Funerary Objects

- A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.
- B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.
- C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).
- D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)
- E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.
- F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

TCR-3 Procedures for Burials and Funerary Remains:

- A. As the Most Likely Descendant (MLD), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient times, as well as historic times, Tribal Traditions included, but were 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.
- B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.
 - C. 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. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.
 - D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe 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.
 - E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.
 - F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should 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 Tribe and the City at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.
 - G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

Utilities and Service Systems

- UTIL-1 The contract with demolition and construction contractors shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled. This includes but not limited to wood, metals, concrete, road base and asphalt. The contractors shall submit a recycling plan to the City for review and approval prior to the construction of demolition/construction activities.

REFERENCES

CRM TECH, *"Identification and Evaluation of Historic Properties, State Street Water Treatment Plant in and near City of Chino, California"* dated February 21, 2022

ELMT Consulting, *"Biological Resources Report for the City of Chino State Street Water Treatment Project in San Bernardino County, California"* dated February 2, 2022

Giroux & Associates, *"Air Quality and GHG Impact Analyses, State Street Water Treatment Project, Chino, California"* dated December 9, 2021

Hazen and Sawyer, *"State Street Water Treatment Project, Final Preliminary Design Report, City of Chino"* dated August 26, 2021

Websites

https://www.oregon.gov/odot/GeoEnvironmental/Docs_Hydraulics_Manual/Hydraulics-13-G.pdf

https://scag.ca.gov/sites/main/files/file-attachments/unincareasanbernardinocounty_0.pdf?1606013790

https://scag.ca.gov/sites/main/files/file-attachments/chino_localprofile.pdf?1606014858

https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf?1606001579

<http://www.ontarioca.gov/fire>

<https://www.wmwd.com/183/Inland-Empire-Brine-Line-SARl>

<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2280?siteID=2402>

<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1880?siteID=2662>

FIGURES

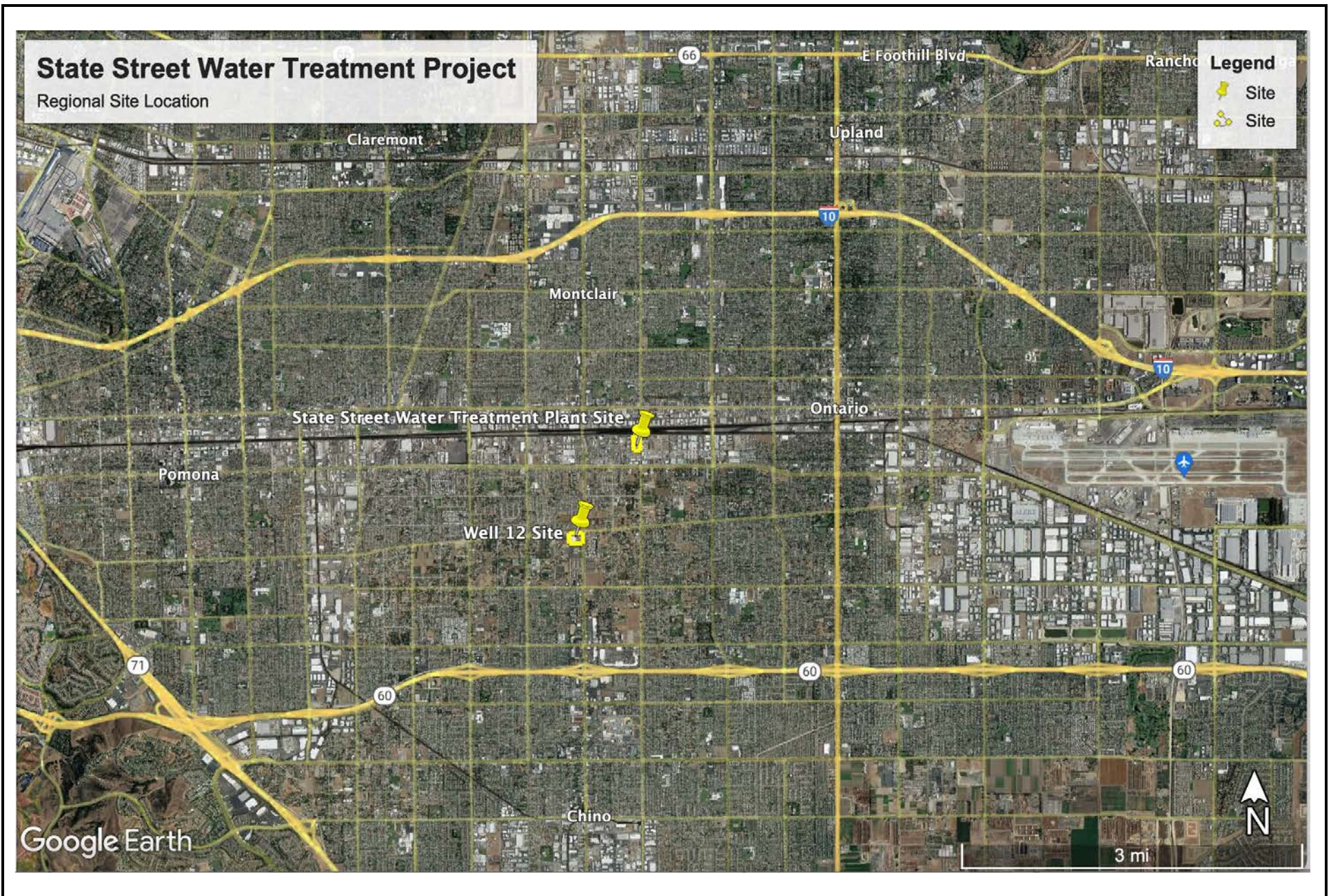


FIGURE 1

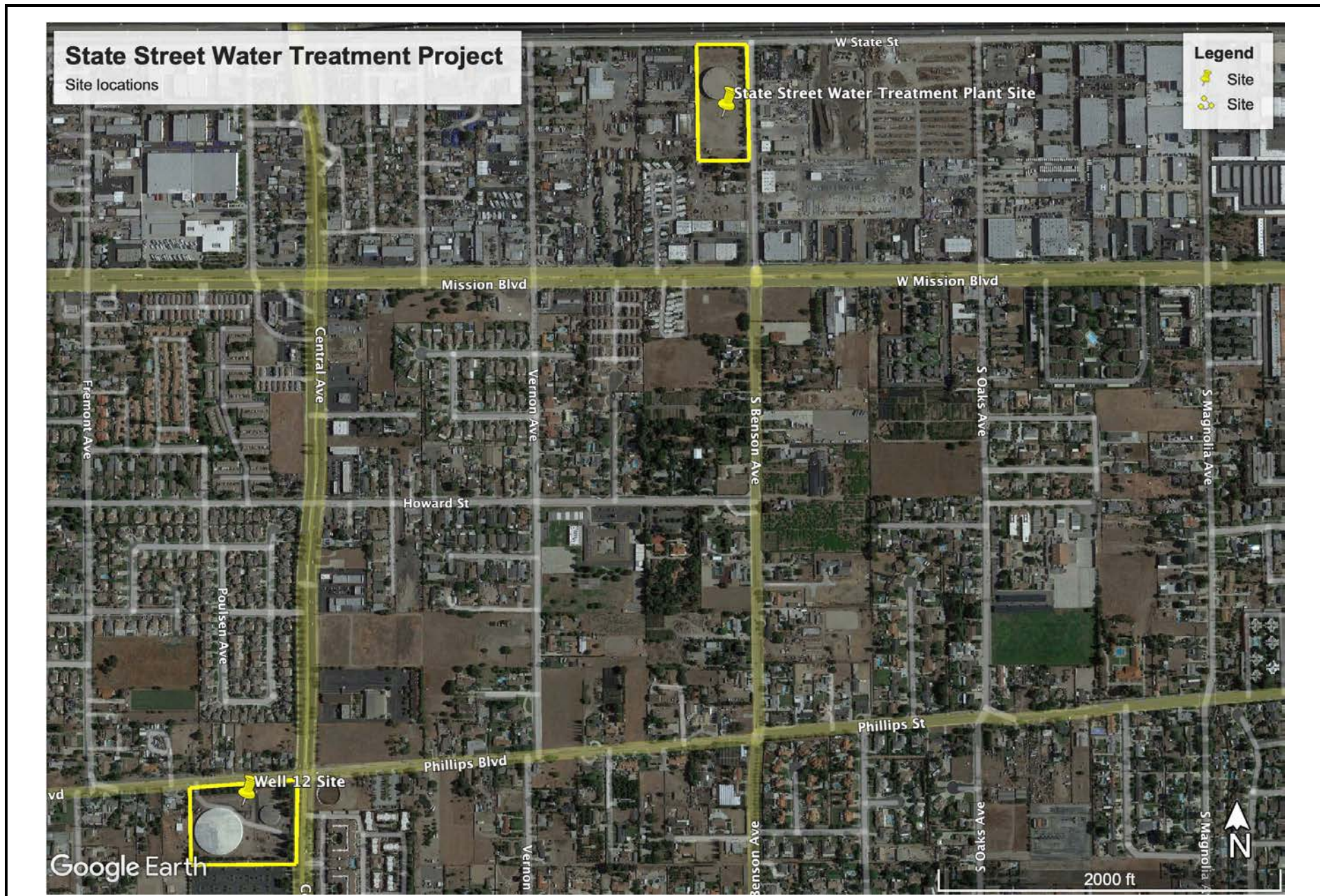


FIGURE 2

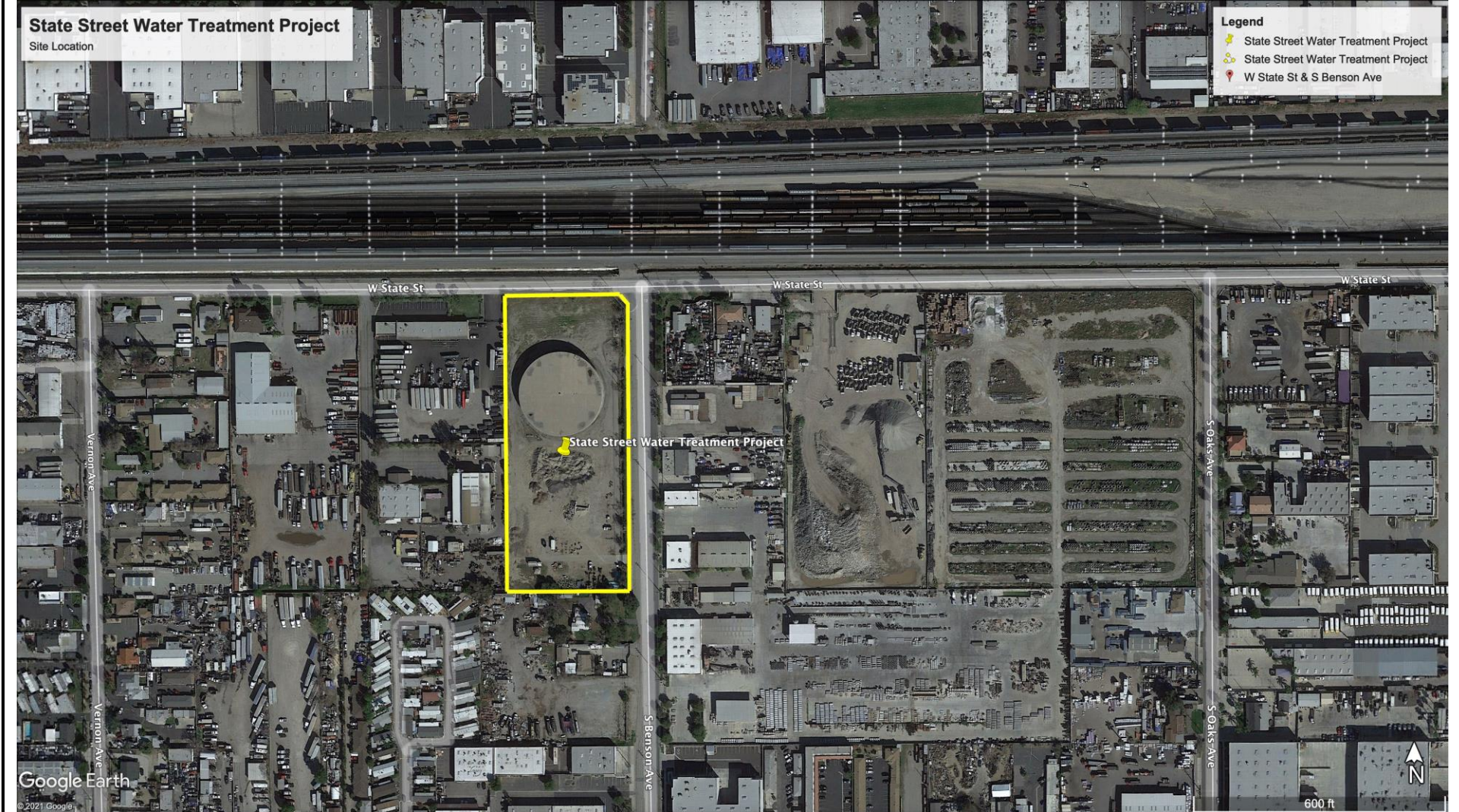


FIGURE 3

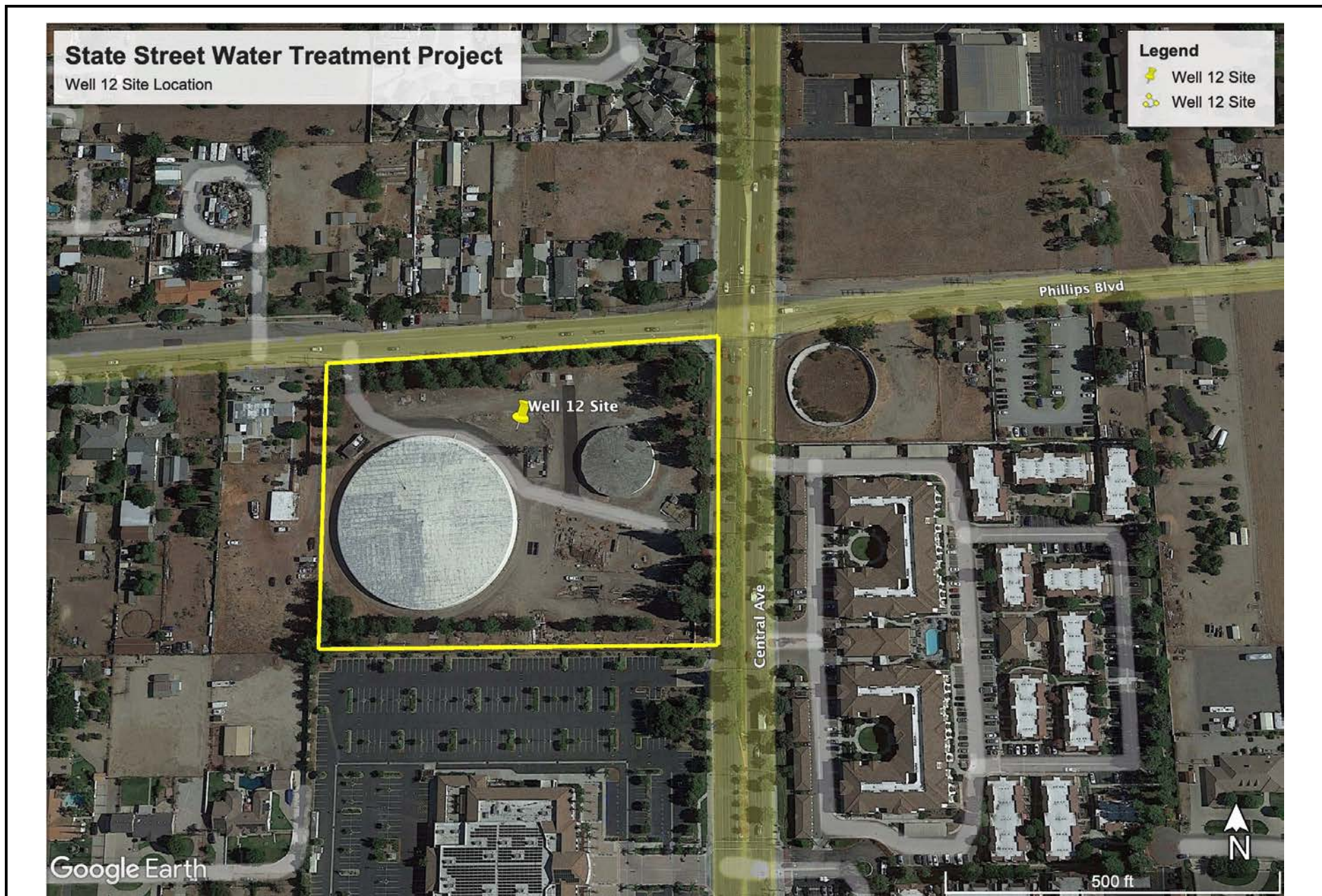


FIGURE 4

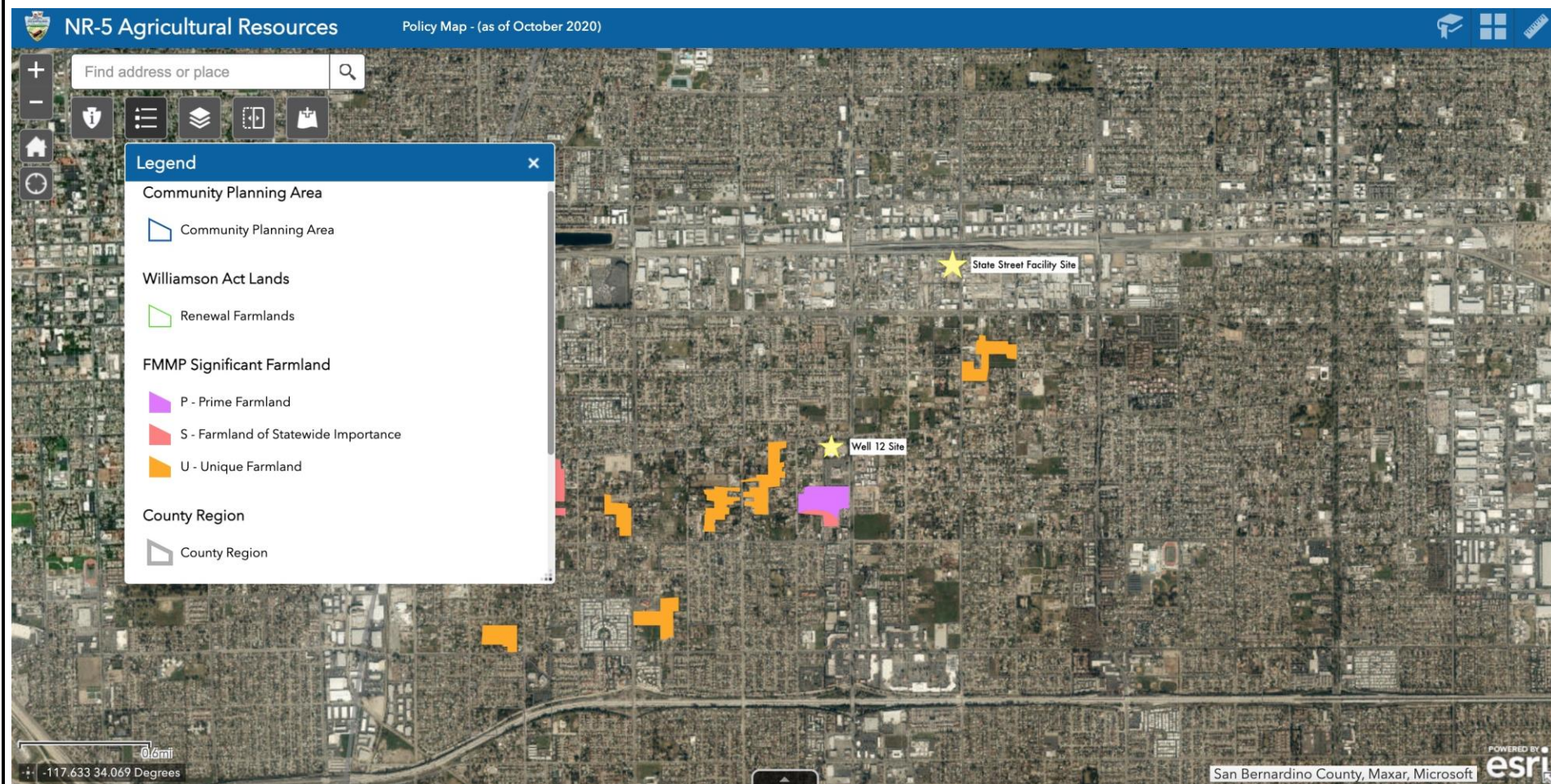


FIGURE II-1

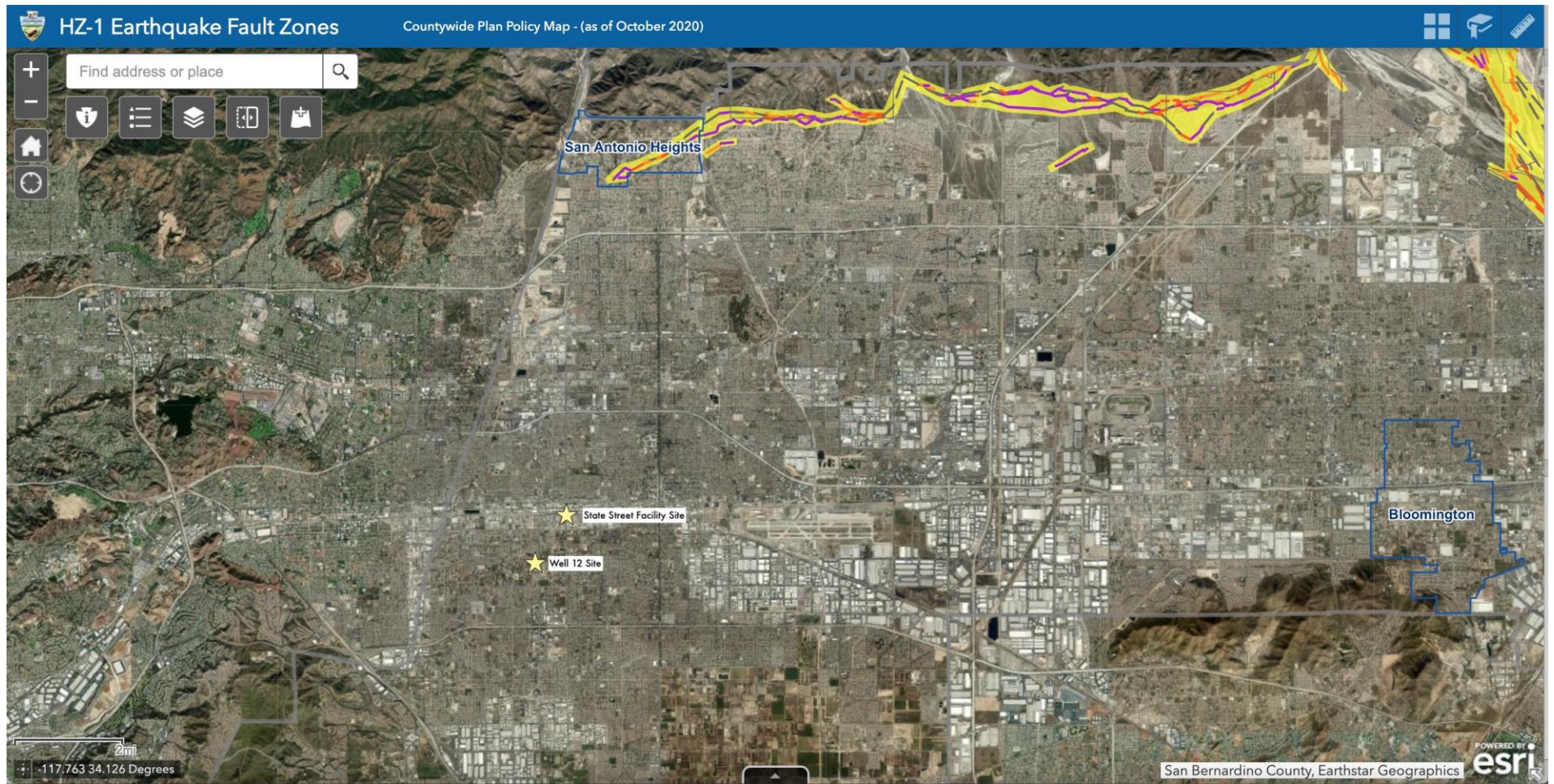


FIGURE VII-1

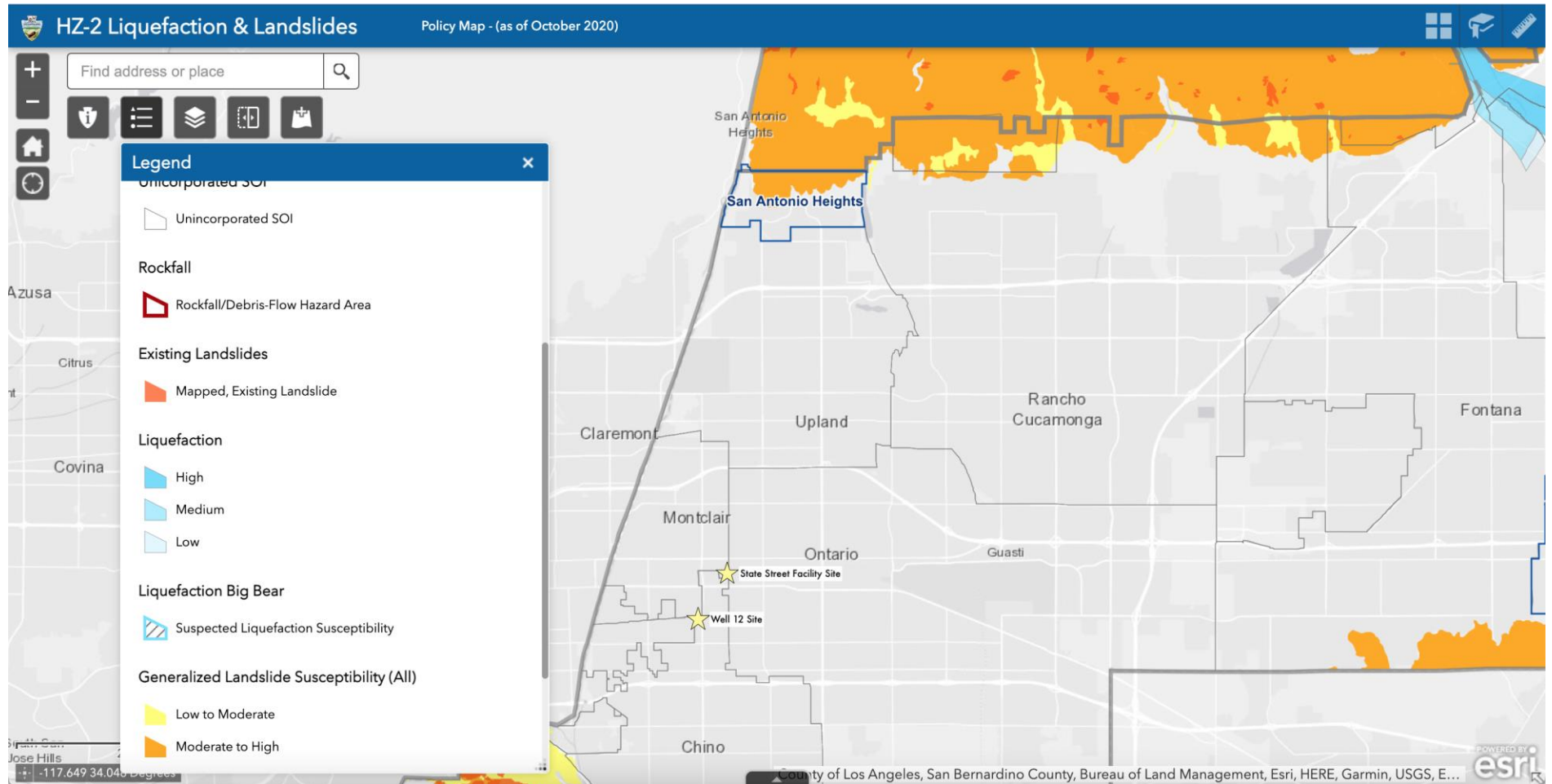


FIGURE VII-2

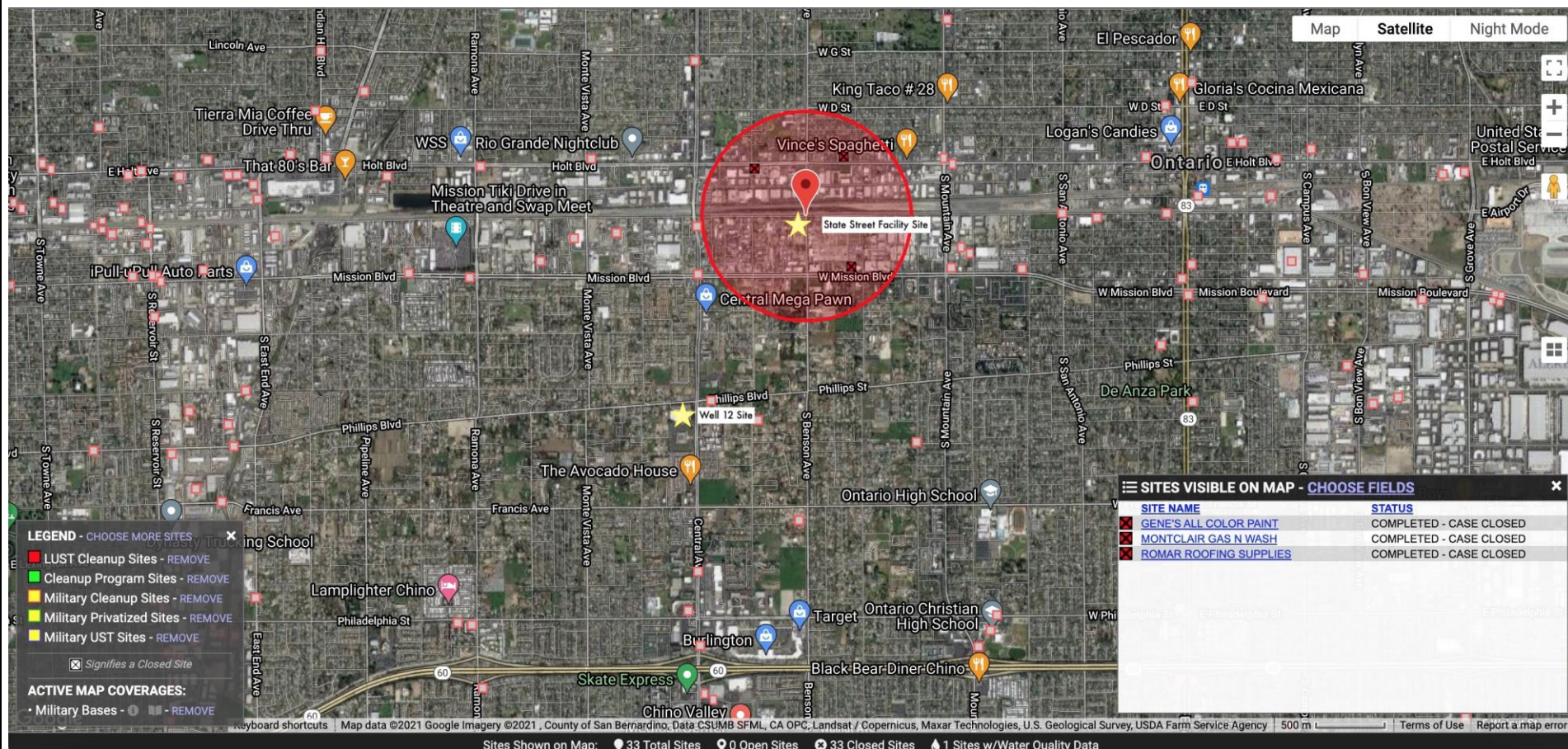


FIGURE IX-1

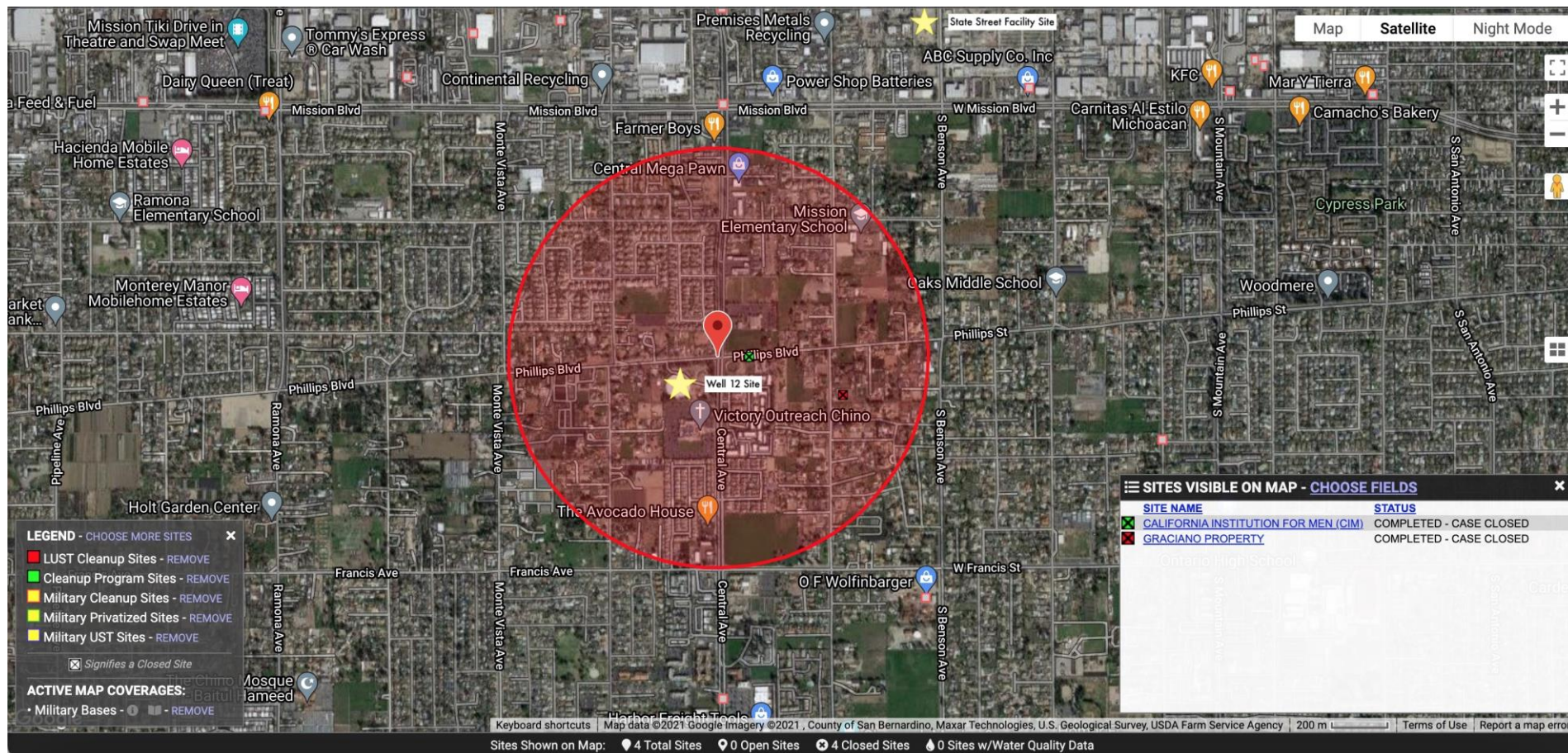


FIGURE IX-2

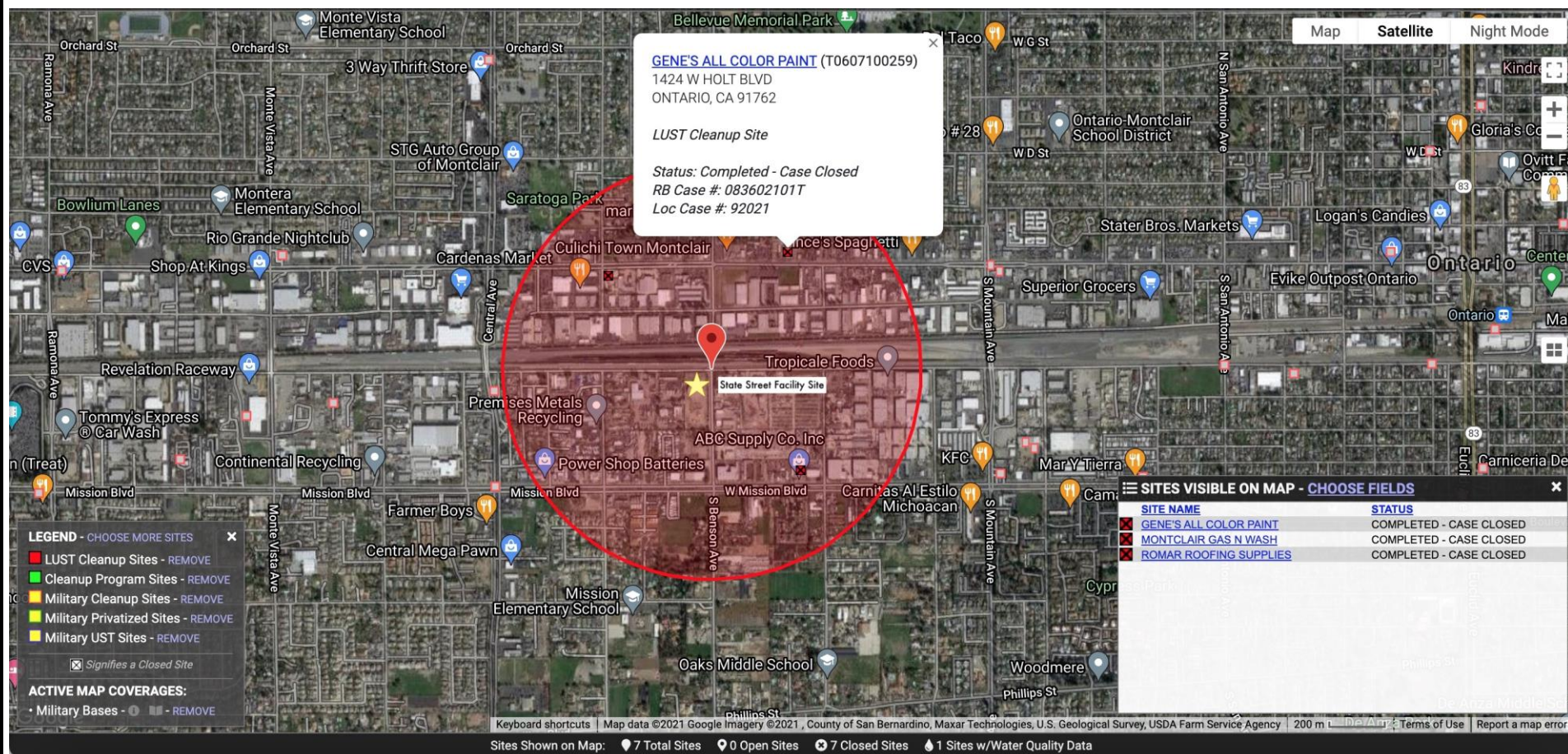


FIGURE IX-3



STATE WATER RESOURCES CONTROL BOARD GEOTRACKER

[Tools](#)[Reports](#)[UST Case Closures](#)[How to Use GeoTracker](#)[ESI](#)[Information](#)

GENE'S ALL COLOR PAINT (T0607100259) - ([MAP](#))

[SIGN UP FOR EMAIL ALERTS](#)

1424 W HOLT BLVD
ONTARIO, CA 91762
SAN BERNARDINO COUNTY
LUST CLEANUP SITE ([INFO](#))

COMPLETED - CASE CLOSED AS OF 8/12/1997 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CLEANUP OVERSIGHT AGENCIES

SAN BERNARDINO COUNTY ([LEAD](#)) - CASE #: 92021
SANTA ANA RWQCB (REGION 8) - CASE #: 083602101T
CASEWORKER: [VALERIE JAHN-BULL](#)

[Summary](#) [Cleanup](#) [Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 8/12/1997 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

STODDARD SOLVENT / MINERAL SPRITS / DISTILLATES

FILE LOCATION

LOCAL AGENCY

DWR GROUNDWATER SUB-BASIN NAME

Upper Santa Ana Valley - Chino (8-002.01)

POTENTIAL MEDIA OF CONCERN

SOIL

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

MUN, AGR, IND, PROC - Note: Also incl parts of 481.21 and 481.23 (R4).

CALWATER WATERSHED NAME

Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)

Site History

No site history available

FIGURE IX-4

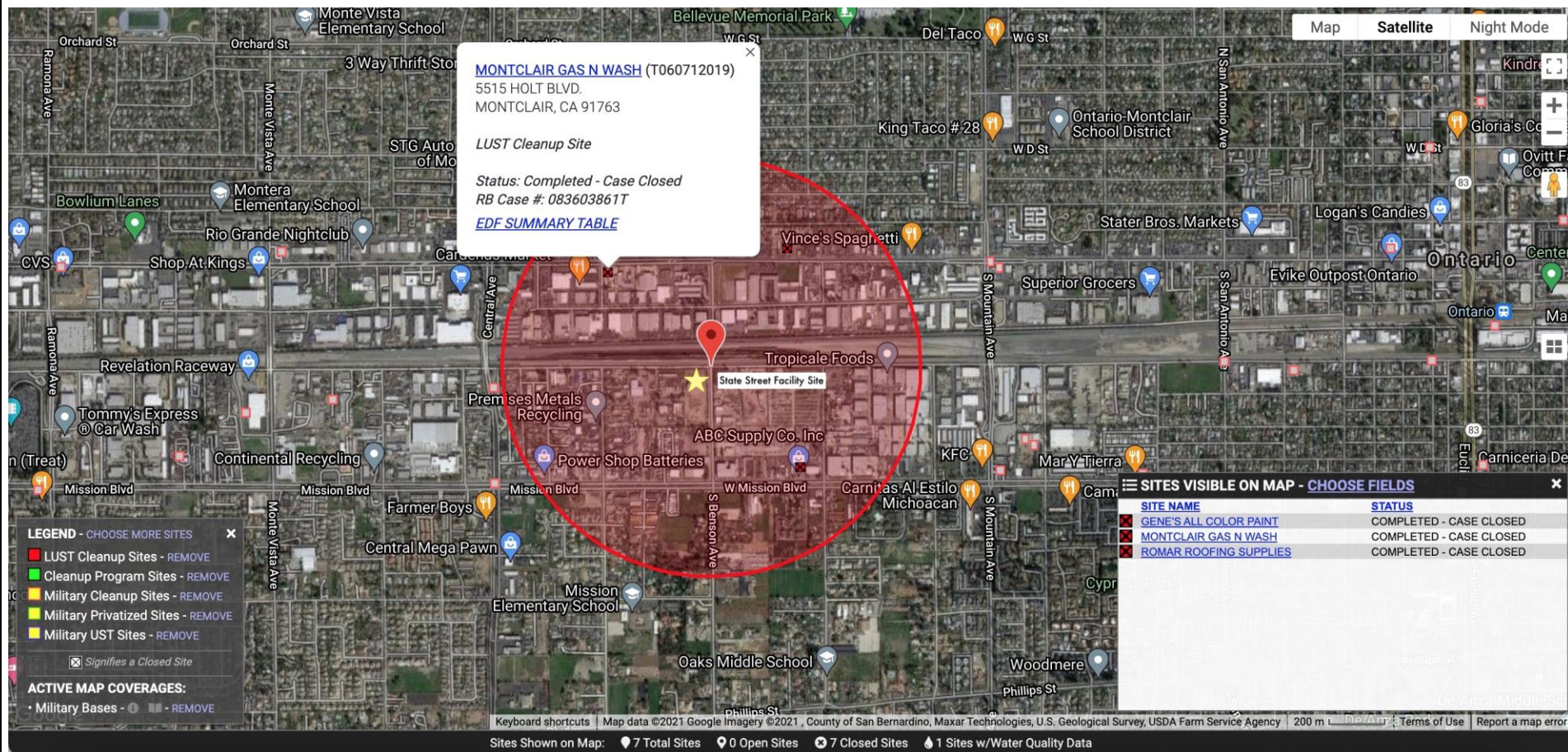


FIGURE IX-5



STATE WATER RESOURCES CONTROL BOARD GEOTRACKER

[Tools](#)[Reports](#)[UST Case Closures](#)[How to Use GeoTracker](#)[ESI](#)[Information](#)

MONTCLAIR GAS N WASH (T060712019) - ([MAP](#))

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5515 HOLT BLVD.
MONTCLAIR, CA 91763
SAN BERNARDINO COUNTY
LUST CLEANUP SITE ([INFO](#))

COMPLETED - CASE CLOSED AS OF 5/7/2021 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CUF Claim #: 17245
CUF Priority Assigned: B
CUF Amount Paid: \$1,133,708

CLEANUP OVERSIGHT AGENCIES
SANTA ANA RWQCB (REGION 8) (**LEAD**) - CASE #: 083603861T
CASEWORKER: [CARL BERNHARDT](#)
SAN BERNARDINO COUNTY - CASE #: 2001037
CASEWORKER: [CATHERINE RICHARDS](#)

[Summary](#) [Case Reviews](#) [Cleanup Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#) [LUST CUF Data](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 5/7/2021 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

GASOLINE

FILE LOCATION

LOCAL AGENCY

DWR GROUNDWATER SUB-BASIN NAME

Upper Santa Ana Valley - Chino (8-002.01)

POTENTIAL MEDIA OF CONCERN

SOIL

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

MUN, AGR, IND, PROC - Note: Also incl parts of 481.21 and 481.23 (R4).

CALWATER WATERSHED NAME

Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)

Site History

The Montclair site was a former gasoline station that we assume to be a soil only case. The site was overseen by SBC Fire Dept. PPM concentrations of MTBE were detected to 120 feet and ppb to 170 feet with ND to 210 feet. The site is located within a deep alluvial basin with groundwater below several hundred feet, so we are assuming that the 40 feet clean zone is protective of WQ. SBCFD oversaw the installation of a SVE system with 100 feet+ well screens. Under SBCFD oversight, the SVE system ran its course and a workplan was submitted to advance 8 confirmation soil borings to 150 feet. That workplan was never implemented and SBCFD transferred to case the RB due to the recalcitrant RP. SARWQCB staff concurred with confirmation sampling, reinforcing the need for confirmation borings and a new confirmation workplan was submitted with two confirmation soil boring locations to 90 feet and very limited soil sampling. SARWQCB staff concurred with the two soil borings, but requested sampling every 10 feet to at least 100 feet due to the inefficiencies of the extremely long SVE well screens. The revised confirmation soil boring work plan was never implemented and the RP abandoned the site which site was solid as part of a foreclosure.

FIGURE IX-6

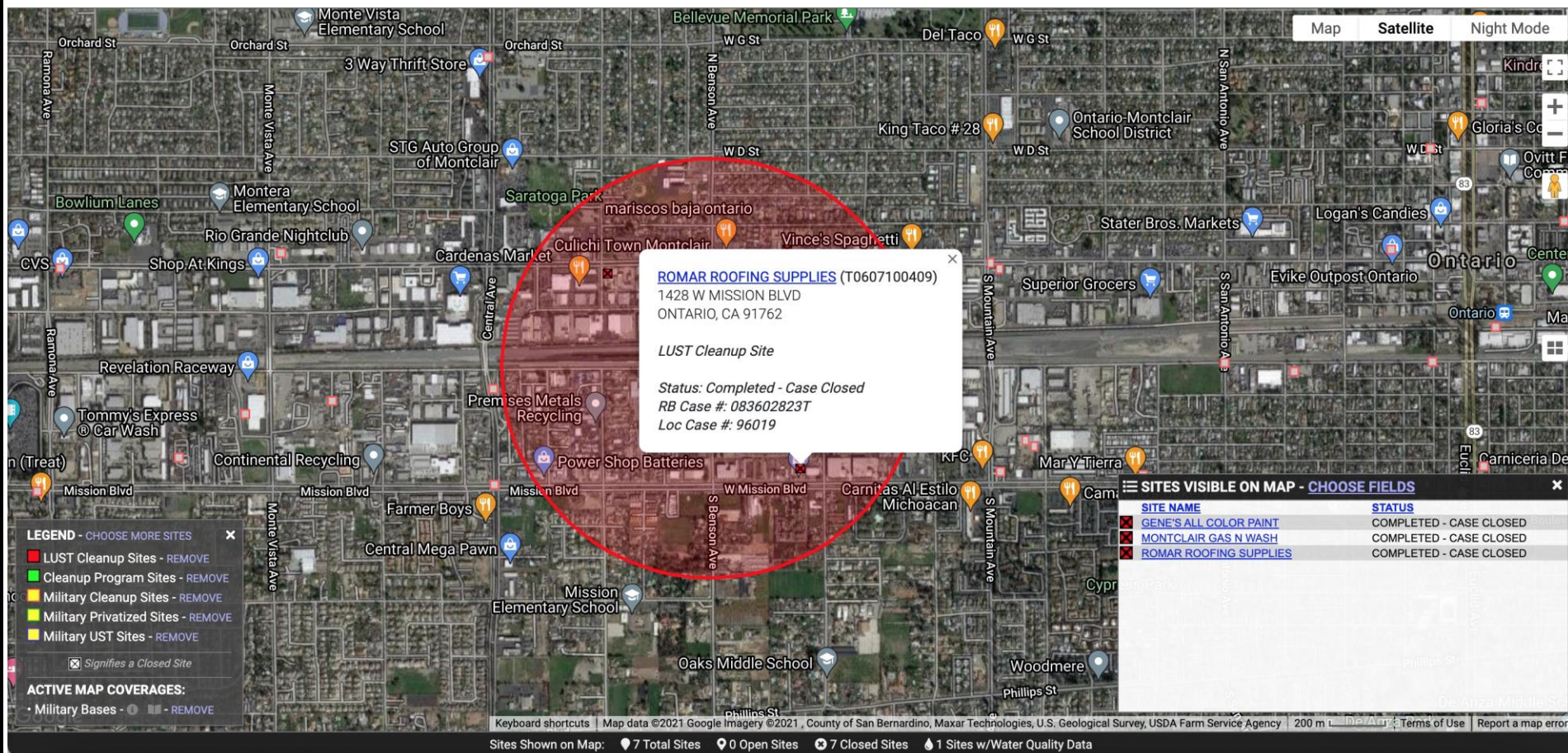


FIGURE IX-7



STATE WATER RESOURCES CONTROL BOARD GEOTRACKER

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ROMAR ROOFING SUPPLIES (T0607100409) - [\(MAP\)](#)

[SIGN UP FOR EMAIL ALERTS](#)

1428 W MISSION BLVD
ONTARIO, CA 91762
SAN BERNARDINO COUNTY
LUST CLEANUP SITE [\(INFO\)](#)

COMPLETED - CASE CLOSED AS OF 2/7/1997 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CUF Claim #: 12172
CUF Priority Assigned: C
CUF Amount Paid: \$35,501

CLEANUP OVERSIGHT AGENCIES
SAN BERNARDINO COUNTY (**LEAD**) - CASE #: 96019
CASEWORKER: [CURTIS BRUNDAGE](#)
SANTA ANA RWQCB (REGION 8) - CASE #: 083602823T
CASEWORKER: [VALERIE JAHN-BULL](#)

[Summary](#) [Cleanup](#) [Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#) [LUST CUF Data](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 2/7/1997 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

DIESEL

FILE LOCATION

LOCAL AGENCY

DWR GROUNDWATER SUB-BASIN NAME

Upper Santa Ana Valley - Chino (8-002.01)

POTENTIAL MEDIA OF CONCERN

SOIL

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

MUN, AGR, IND, PROC - Note: Also incl parts of 481.21 and 481.23 (R4).

CALWATER WATERSHED NAME

Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)

Site History

No site history available

FIGURE IX-8

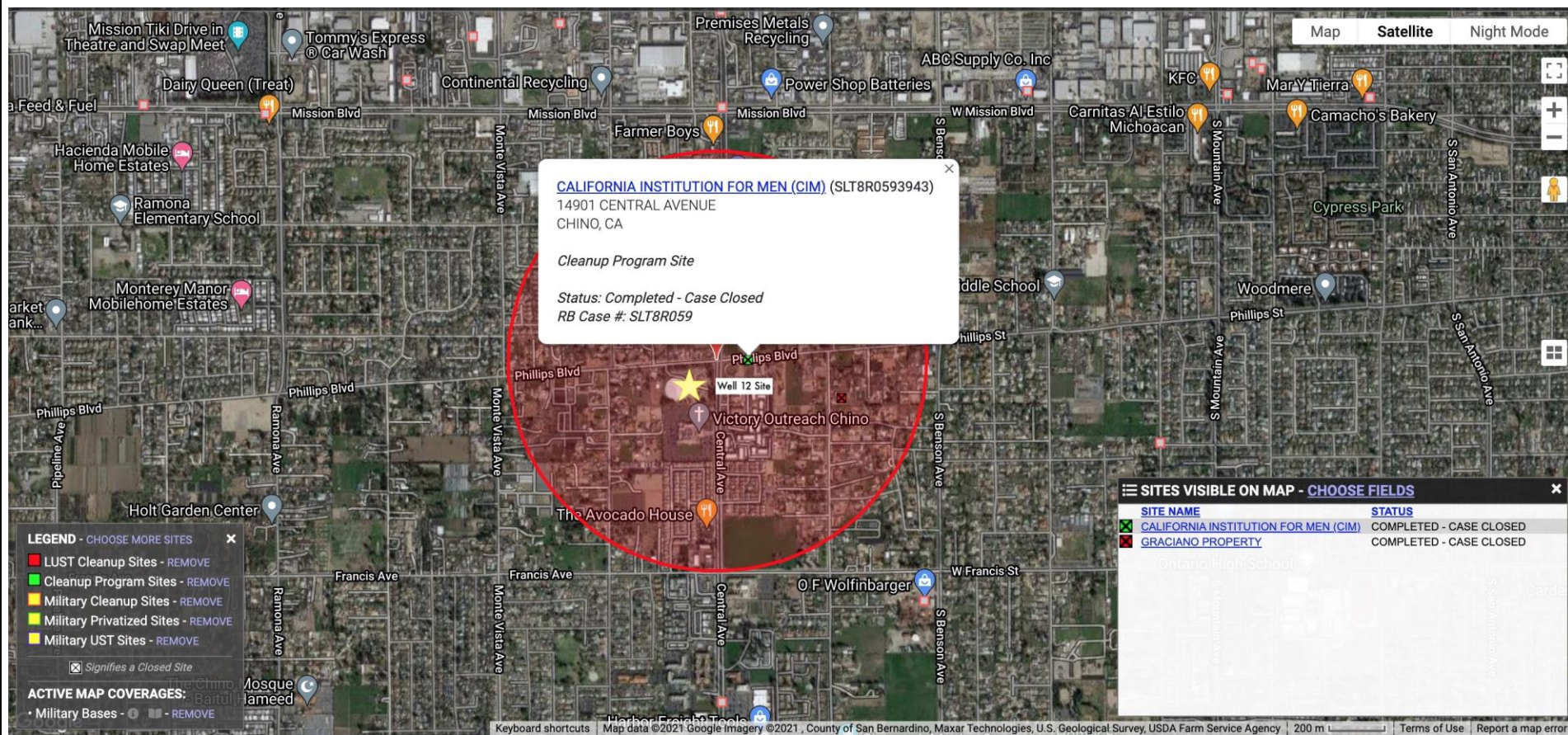


FIGURE IX-9



CALIFORNIA INSTITUTION FOR MEN (CIM) (SLT8R0593943) - (MAP)

[SIGN UP FOR EMAIL ALERTS](#)

14901 CENTRAL AVENUE
CHINO, CA
SAN BERNARDINO COUNTY
CLEANUP PROGRAM SITE (INFO)

COMPLETED - CASE CLOSED AS OF 2/17/2009 - DEFINITION

[PRINTABLE CASE SUMMARY / CSM REPORT](#)

CLEANUP OVERSIGHT AGENCIES
SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: SLT8R059

[Summary](#) [Cleanup](#) [Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - DEFINITIONS

COMPLETED - CASE CLOSED AS OF 2/17/2009 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

OTHER CHLORINATED HYDROCARBONS, TETRACHLOROETHYLENE (PCE),
TRICHLOROETHYLENE (TCE)

FILE LOCATION

REGIONAL BOARD

DWR GROUNDWATER SUB-BASIN NAME

Upper Santa Ana Valley - Chino (8-002.01)

POTENTIAL MEDIA OF CONCERN

AQUIFER USED FOR DRINKING WATER SUPPLY

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - DEFINITIONS

MUN, AGR, IND, PROC - Note: Also incl parts of 481.21 and 481.23 (R4).

CALWATER WATERSHED NAME

Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)

Site History

In early 1990, analysis of a sample from a drinking water supply well (Well 1) found that the well contained 26 micrograms per liter (µg/L) of tetrachloroethylene (PCE) and 2.4 µg/L of trichloroethylene (TCE). Consequently, in March 1990, the Public Water Supply Branch of the California Department of Public Health (formerly the California Department of Health Services) directed the California Institution for Men, Chino (CIM), to cease utilizing the well as a drinking water source. PCE at a concentration of less than 5 µg/L was also detected in water supply Wells 1A and 11A. Investigation of the sources and extent of PCE in the on-site water supply wells was requested by Regional Board staff on September 14, 1990. In addition, Regional Board staff conducted a passive soil vapor screening at the following areas: 1) the vocational shops; 2) the furniture factory; 3) the old laundry building; 4) the state garage; and 5) the powerhouse. The initial site assessment (Phase I) was performed in various areas of the site by Geomatrix Consultants in 1992. Five areas of potential sources of volatile organic compounds (VOCs) in soil and groundwater were identified: 1) the old laundry building; 2) the furniture factory; 3) the vocational shops; 4) the state garage; and 5) the powerhouse.

The Phase II Assessment was performed by Geomatrix Consultants from 1992 through 1994. Investigation methods included: soil vapor survey; soil sampling and analysis; groundwater quality analysis; and vapor extraction testing. The assessment findings for soil vapor data indicated that VOCs were present in low concentrations in scattered locations at the state garage, vocational shops, and furniture factory areas. This data, combined with groundwater quality data, indicated that additional assessment and mitigation of soil at the study areas was not warranted. At least three areas did not indicate source contribution of VOCs to the regional groundwater plume. Seven groundwater monitoring wells were installed and sampled during this assessment. Five vapor extraction wells were constructed at the old laundry facility and a soil vapor extraction test was completed on March 8 and 9, 1994. The vapor extraction test results indicated that a soil vapor extraction remedy could be feasible, if implemented; however, it would have been a long-term process. The old laundry facility and nearby areas were identified as most likely to be the principal source of vacs at the site. The maximum vac concentrations in the principal source areas were: 1) for water supply wells - 52 µg/L PCE and 11 µg/L TCE; 2) for soil vapor - 6.02 µg/L PCE and 1.1 µg/L trichlorofluoromethane; for soil samples - 3.2 mg/kg PCE; and for groundwater from monitoring wells - 160 µg/L TCE and 19 µg/L PCE. The PCE Remediation Project Phase commenced with an interim remedy. From July 1, 1997 through June 30, 2004, VaC-impacted water was pumped from Well 1 and treated by air stripping, removing 57.9 pounds of PCE and TCE. On July 1, 2004, water production from Well 1 resumed without air stripping treatment. Well operation through June 30, 2007 removed 9 pounds of PCE and TCE. The principal zone targeted for cleanup was in 'Zone A', which consists of sand and gravel deposits, that occur below a depth of 50 to 80 feet (ft) below ground surface (bgs). Eleven new groundwater monitoring wells were constructed during this phase. Water supply Wells 8 and 11 were destroyed by August 2001. Two new water supply wells, 14 and 15, and associated piping, were constructed and operated to intercept the toe of the VOC plume by March 2002. Water supply Wells 14 and 15 were operated without water treatment from January 1, 2003 through December 31, 2008 removing 13.8 pounds of PCE and TCE. As of January 10, 2007, the PCE and TCE concentrations were: for Well 14 - 1.1 µg/L PCE and not detected at a reporting limit of 1.0 µg/L (1.0) TCE; for Well 15 - 3.69 µg/L PCE and not detected (1.0) TCE.

Based on the water quality data from 31 monitoring wells and the 14 water supply wells at the site, it is evident that the VOC impacts to groundwater were limited to the area immediately adjacent to and downgradient of the source area, and that VOCs have not migrated, and are not expected to migrate, off CIM's property. Based on the removal of VOCs from the groundwater, the soil data, and declining concentrations of PCE in the monitoring wells and water supply wells, it is apparent that the limited mass of VOCs remaining in the soil and groundwater no longer poses a threat to the beneficial uses of the groundwater in the Chino North Groundwater Management Zone.

FIGURE IX-10

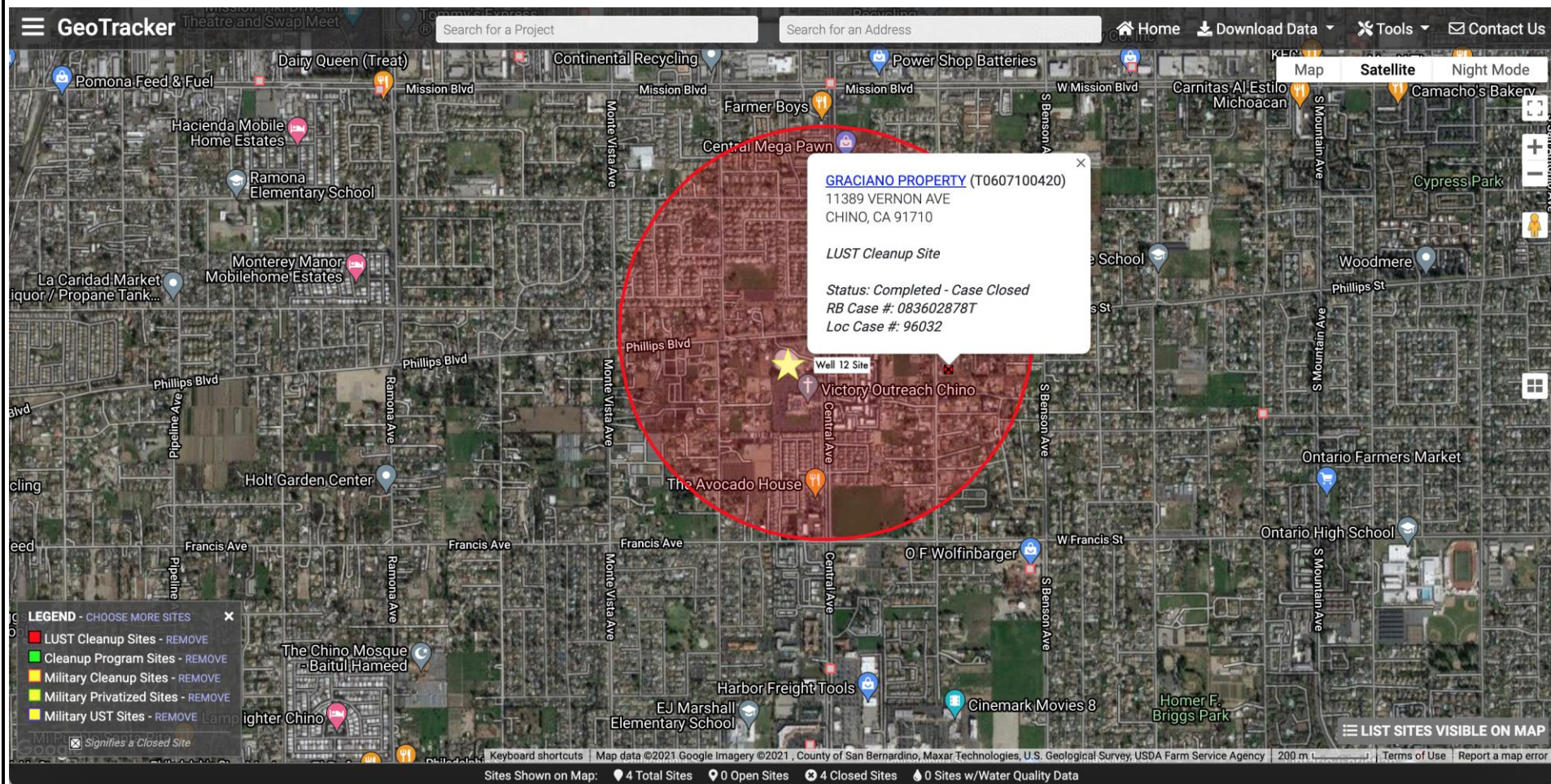


FIGURE IX-11



STATE WATER RESOURCES CONTROL BOARD GEOTRACKER

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GRACIANO PROPERTY (T0607100420) - ([MAP](#))

[SIGN UP FOR EMAIL ALERTS](#)

11389 VERNON AVE
CHINO, CA 91710
SAN BERNARDINO COUNTY
LUST CLEANUP SITE ([INFO](#))

COMPLETED - CASE CLOSED AS OF 1/26/1998 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CUF Claim #: 12123
CUF Priority Assigned: A
CUF Amount Paid: \$21,031

CLEANUP OVERSIGHT AGENCIES
SAN BERNARDINO COUNTY (**LEAD**) - CASE #: 96032
CASEWORKER: [JACKSON CRUTSINGER](#)
SANTA ANA RWQCB (REGION 8) - CASE #: 083602878T

[Summary](#) [Cleanup Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#) [LUST CUF Data](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 1/26/1998 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

GASOLINE

FILE LOCATION

LOCAL AGENCY

DWR GROUNDWATER SUB-BASIN NAME

Upper Santa Ana Valley - Chino (8-002.01)

POTENTIAL MEDIA OF CONCERN

SOIL

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

MUN, AGR, IND, PROC - Note: Also incl parts of 481.21 and 481.23 (R4).

CALWATER WATERSHED NAME

Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)

Site History

No site history available

FIGURE IX-12

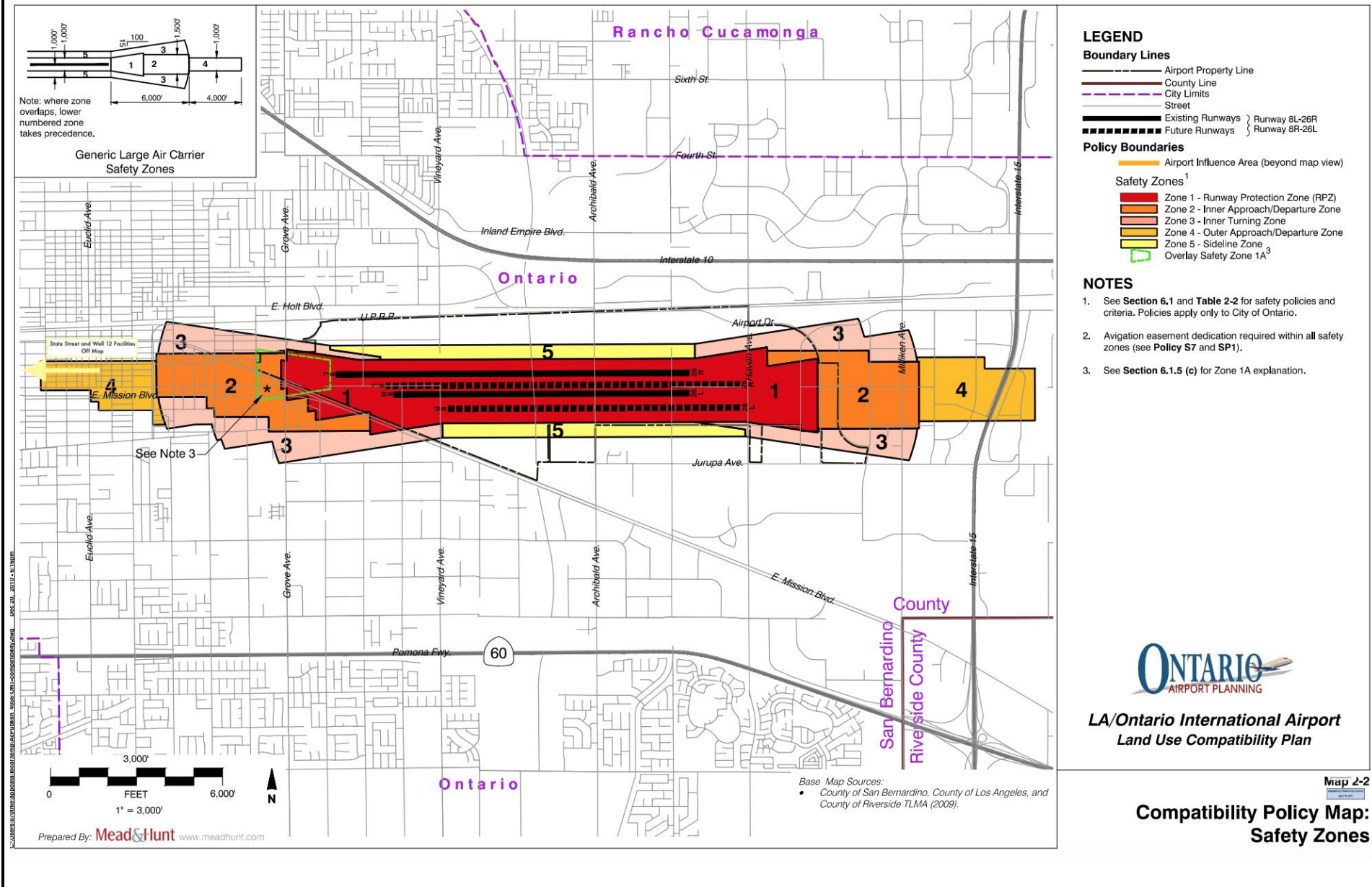


FIGURE IX-13

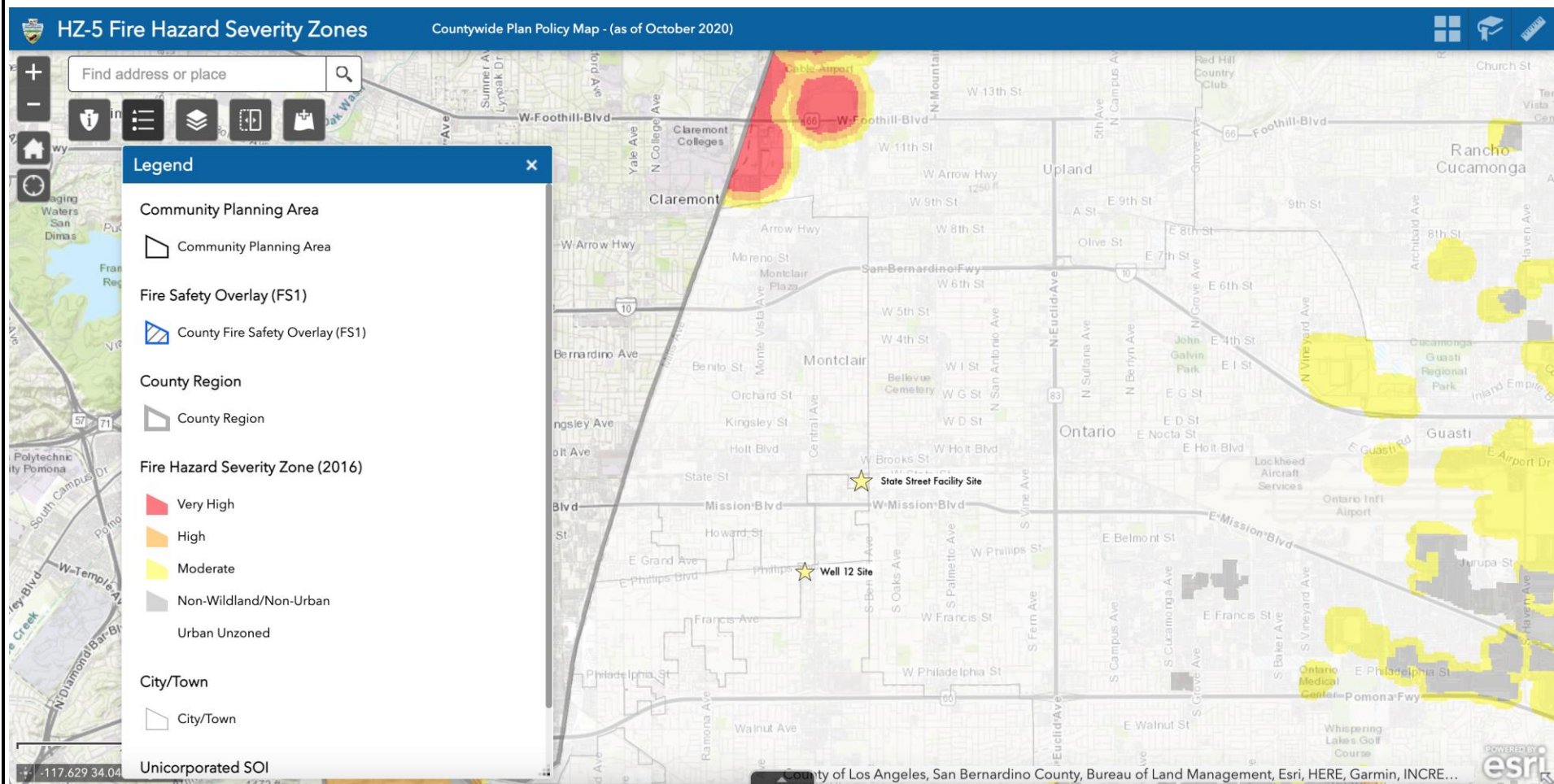


FIGURE IX-15

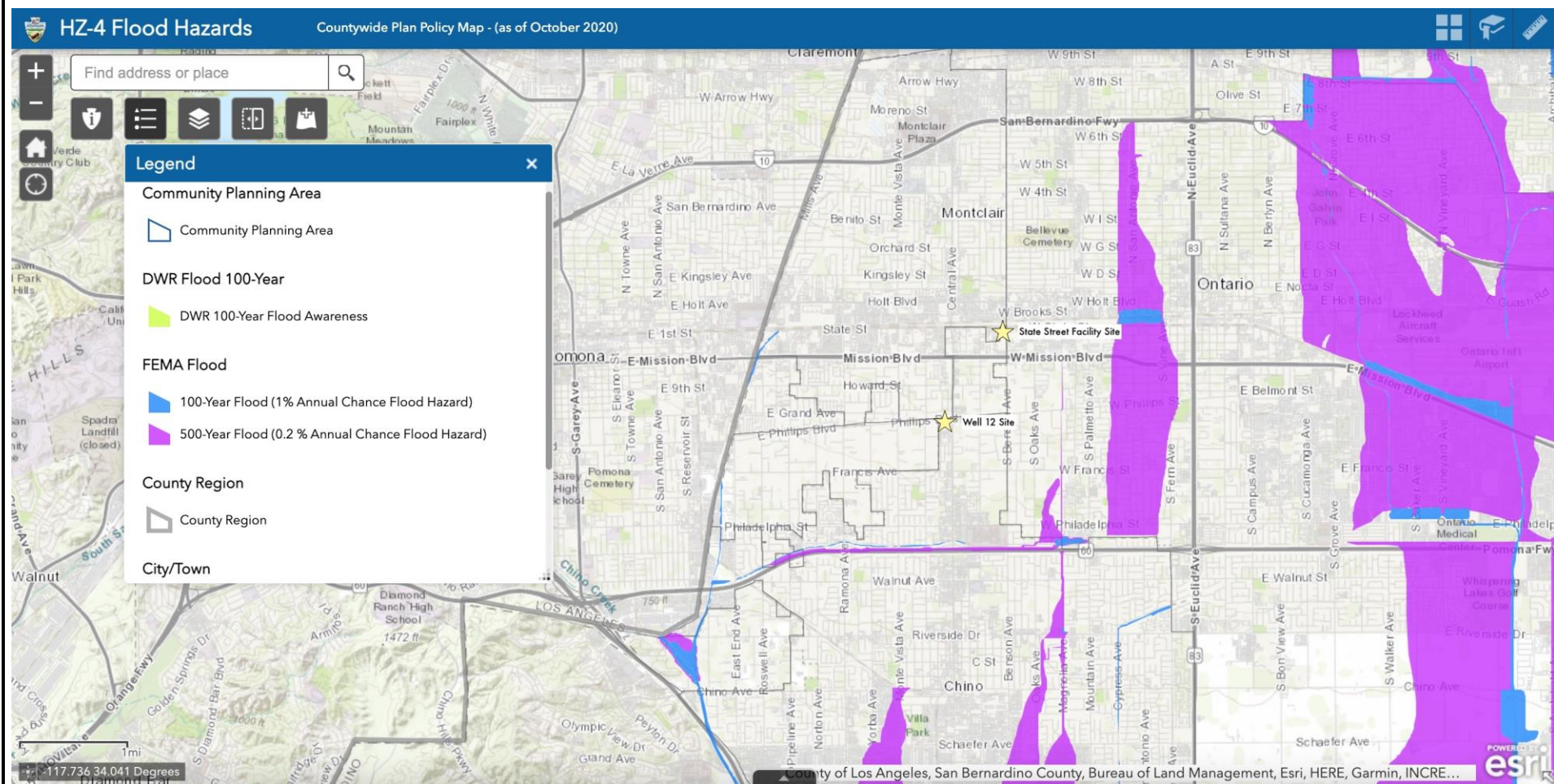


FIGURE X-1

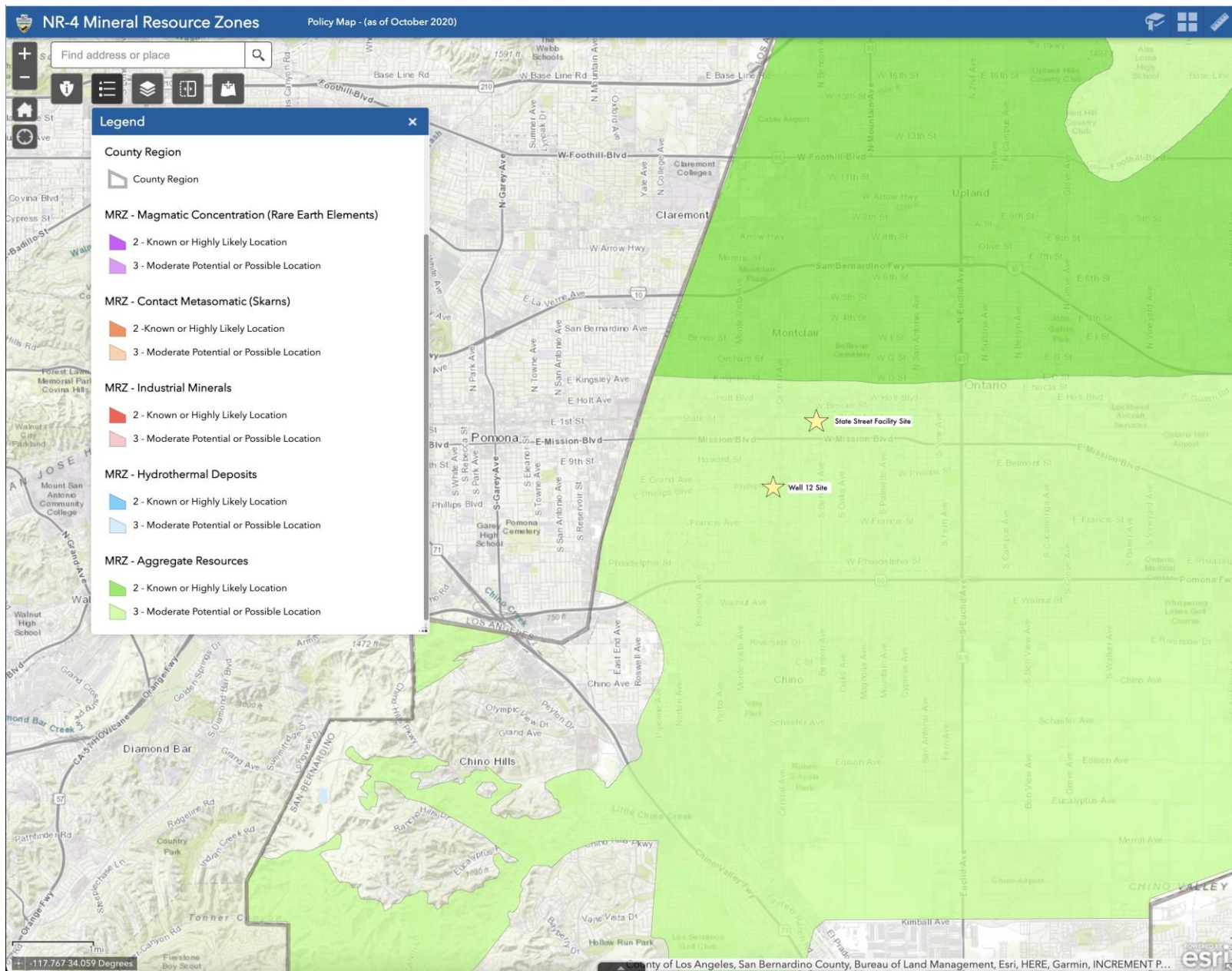


FIGURE XII-1

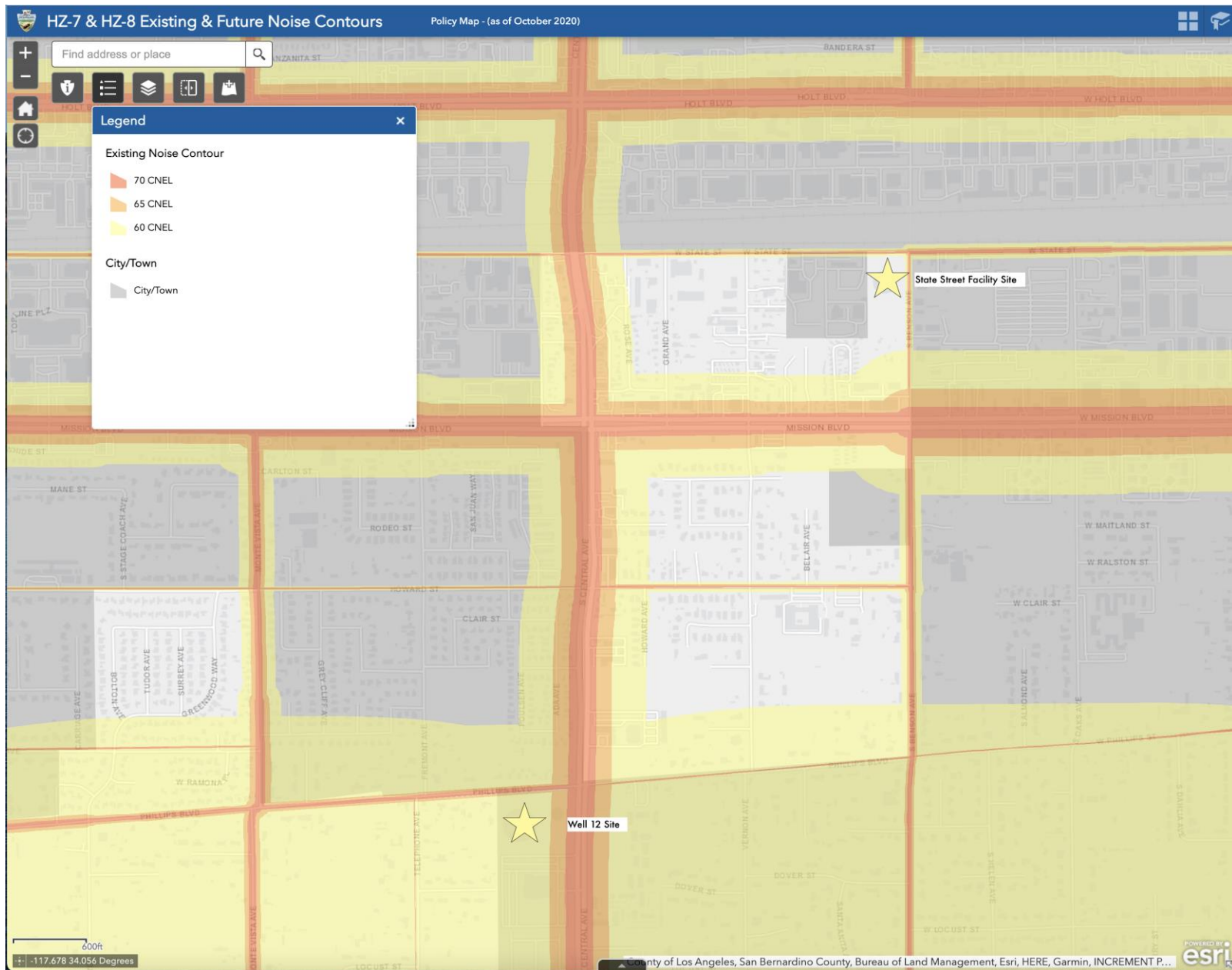


FIGURE XIII-1

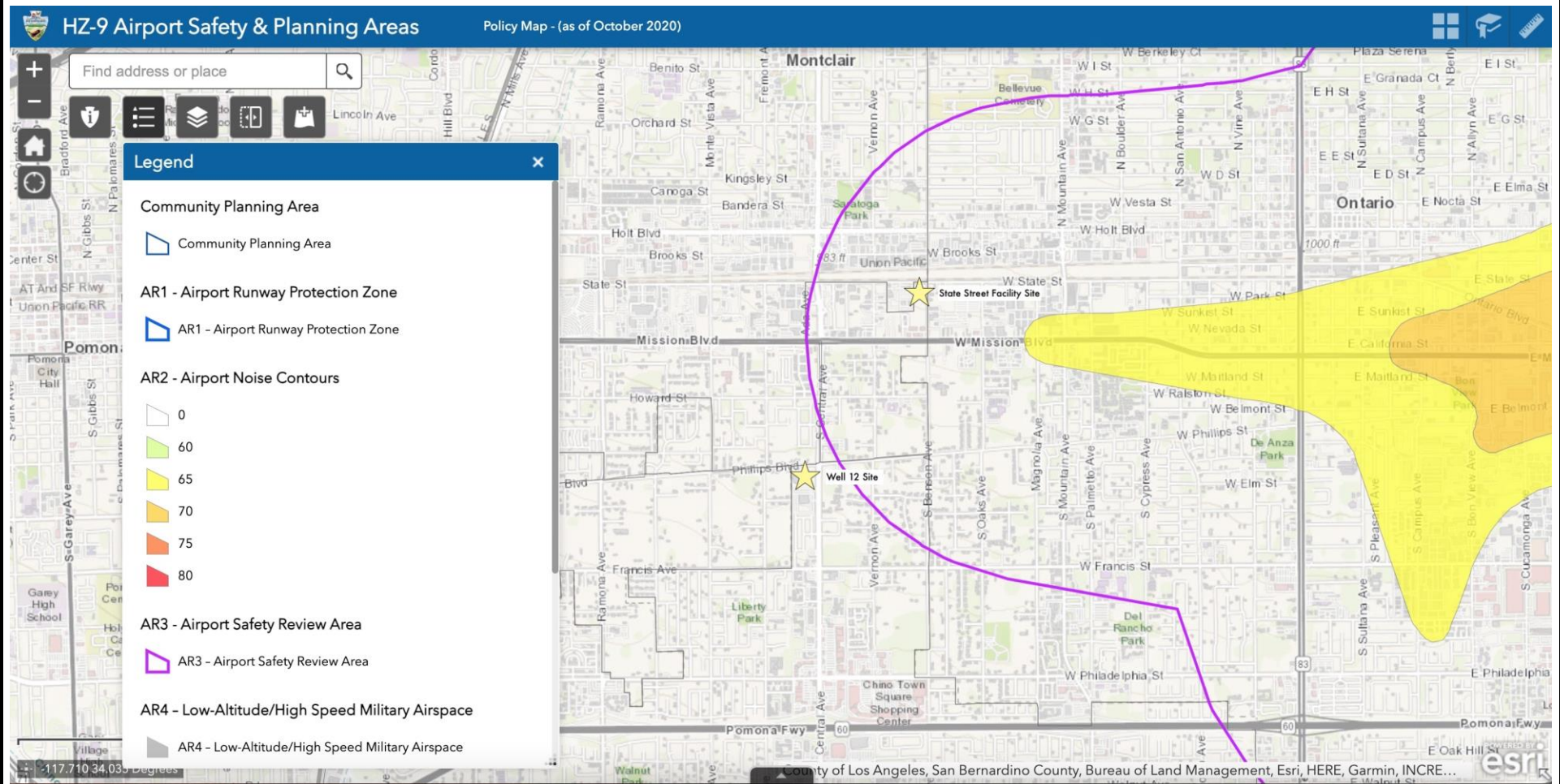


FIGURE XIII-2

**APPENDIX 1
PRELIMINARY DESIGN REPORT**



State Street Water Treatment Project

FINAL Preliminary Design Report
City of Chino
August 26, 2021

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List of Acronyms

Abbreviation	Definition
1,2,3-TCP	1,2,3-Trichloropropane
A	Amperes
AACE	Association for the Advancement of Cost Engineering
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASTM	American Society of Testing and Materials
ATS	Automatic Transfer Switch
AWS	American Welding Society
AWWA	American Water Works Association
BAT	Best Available Technology
BEP	Best Efficiency Point
Cal/OSHA	California Division of Occupational Safety and Health
CCTV	Closed-circuit television
CEQA	California Environmental Quality Act
cf	Cubic feet
ckt	circuit
CMU	Concrete Masonry Unit
COCs	Contaminants of Concern
COD	Chemical Oxygen Demand
DBPs	Disinfection By-products
DDW	California State Water Resources Control Board Division of Drinking Water
DIP	Ductile Iron Pipe
DLR	Detection Limit for Purposes of Reporting
DO	Dissolved oxygen
EBCT	Empty-Bed Contact Time
EPA	Environmental Protection Agency
EWTF	Eastside Water Treatment Facility
FCV	Flow control valve
FEMA	Federal Emergency Management Agency
FLA	Full Load Amps
FRP	Fiber Reinforced Polymer
GAC	Granular Activated Carbon
gpd	Gallons per day
gpm	Gallons per minute
HDPE	High density polyethylene
HI	Hydraulic Institute
HP	Horsepower

HWL	High Water Level
IEBL	Inland Empire Brine Line
IEEE	Institute of Electrical and Electronics Engineers
IEUA	Inland Empire Utilities Agency
IPCEA	Insulated Power Cable Engineers Association
IS	Initial Study
IX	Ion Exchange
kVA	1,000 volt amps
lbs	Pounds
LWL	Low Water Level
MCC	Motor Control Center
MCL	Maximum Contaminant Level
MG	Million gallons
mg/L	Milligrams per liter
MND	Mitigated Negative Declaration
MOPO	Maintenance of Plant Operations
MSB	Main Switchboard
MTS	Manual Transfer Switch
MWD	Metropolitan Water District of Southern California
µg/L	Micrograms per liter
NaCl	Sodium chloride
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
ng/L	Nanograms per liter
NPDES	National Pollutant Discharge Elimination System
NRWS	Non-Reclaimable Wastewater System
NRWSCU	Non-Reclaimable Wastewater System Capacity Units
OIT	Operator Interface Terminal
O&M	Operations and Maintenance
P&ID	Process and Instrumentation Diagram
PDR	Preliminary Design Report
PFD	Process Flow Diagram
PLC	Programmable Logic Controller
POE	Power of Ethernet
POR	Preferred Operating Region
ppb	Parts per billion
ppd	Pounds per day
PPE	Personal protective equipment
psf	Pounds per square foot
psi	Pounds per square inch

PSV	Pressure sustaining valve
PVC	Polyvinyl chloride
PWC	Public Works Certified
ROW	Right of way
RSSCT	Rapid Small Scale Column Testing
SAC	Strong acid cation
SAWPA	Santa Ana Watershed Project Authority
SBA	Strong base anion
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SDI	Steel Deck Institute
SE	Service Entrance
sf	Square feet
SOC	Synthetic Organic Compounds
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
TDH	Total dynamic head
TDS	Total Dissolved Solids
TMS	The Masonry Society
TOC	Total Organic Carbon
TSS	Total Suspended Solids
UPS	Uninterruptable power supply
USA	Underground Service Alert
V	Volt
VA	Volt-ampere
VAC	Volts Alternating Current
VFD	Variable Frequency Drive
VOC	Volatile Organic Compounds
WAC	Weak acid cation
WBA	Weak base anion
WFA	Water Facilities Authority
WSP	Welded steel pipe
WTF	Water Treatment Facility

1. Background

1.1 Project Overview

The City of Chino is approximately 30 square miles, with a water service area of 29 square miles. The City has an estimated current population of 88,800 (SCAG), with a projected population of 113,333 in 2040 (SCAG). The City water service area serves a population of about 80,800 and is primarily the City boundary, with the exception of some small areas at the northern and western City boundary that are served by other water districts. The service area is bounded by the City of Chino Hills, Monte Vista Water District, the City of Ontario, and Jurupa Community Services District.

Groundwater from the Chino Basin is produced by groundwater wells owned and operated by the City, and the wells constitute approximately half of the City's water supply. Wells 12 and 14 have been inactive for some time due to being impacted from contamination and restoring their utilization will provide a key local water resource to support the City's growing population and water demand. The use of treated groundwater is preferred by the City compared with alternative sources, such as Water Facilities Authority (WFA) treated surface water, to reduce reliance on purchased imported surface water. The State Street Water Treatment Facility (State Street WTF) is a new, centralized treatment project that will treat Wells 12 and 14 for nitrate, perchlorate, and 1,2,3-trichloropropane (1,2,3-TCP). These contaminants have been detected at concentrations above the Maximum Contaminant Levels (MCLs) set by the State of California Water Resources Control Board Division of Drinking Water (DDW).

The State Street WTF will consist of granular activated carbon (GAC) for removal of 1,2,3-TCP, regenerable ion exchange (IX) for the removal of nitrate and perchlorate, and chlorine gas for disinfection. The proposed treatment process for this site is similar to the processes used at other City owned and operated facilities, such as the Eastside Water Treatment Facility (EWTF) and Benson WTF. Figure 1-1 is an aerial photo of the site including major equipment and facilities. Well 12 is located off-site at the Phillips Facility at Central Avenue and Phillips Boulevard (approximately 1.5 miles away).



Figure 1-1. State Street Facility Site Overview

This Preliminary Design Report (PDR) summarizes the design approach for the State Street WTF. Historical source water quality and treated water quality goals are presented. Key process design criteria and sizing, the site layout, and major pipeline routes are outlined. Details are described on the approach for the building, structural components, electrical, and control systems. Preliminary level cost estimates and construction schedule are also included.

1.2 Existing Facilities

The State Street site includes Well 14, an abandoned brine storage tank, and a WFA supply connection line that currently flows into Reservoir 5 (7 MG) on-site. A pipeline connects Well 14 to Reservoir 5, which conveyed groundwater before the well was shut down. Reservoir 5 currently has a Tidal Wave submersible water mixer to help control water age and stratification. Well 12 is located off-site, about a mile southwest of Well 14 on Phillips Blvd., at the same site as Reservoir 4.

A summary of original design well capacities is shown in Table 1-1.

Table 1-1. Well Capacities

Well No.	Status	Design Capacity (gpm)
12	Inactive	2,000
14	Inactive	2,000

Water from Reservoir 5 flows to Reservoir 4, via gravity, and is distributed to the City's 980 zone. A pipeline allows for direct distribution to the 980 zone from Reservoir 5; however, the valve is usually closed.

As a governing member agency of the WFA Joint Powers Authority, the City receives water from the Agua de Lejos Treatment Plant that the Authority owns. The WFA supply that comes into the State Street site via a connection point brings imported surface water supplied from State Project Water Sources, and is pressure reduced before entering Reservoir 5. There is an existing meter vault that allows operators to monitor constant flow. The City periodically receives groundwater from the City of Ontario, usually during the winter when the WFA supply is offline. This source water enters the site at the same connection point as the WFA supply and follows the same path into Reservoir 5.

2. Water Quality

2.1 Source Water Quality

In a 2018 Water Quality Feasibility Study (Hazen, 2018), the following constituents were identified as primary contaminants of concern (COCs) for treatment of Well 12 water: 1,2,3-TCP, nitrate, and perchlorate. In a recent Title 22 sampling analysis, the same COCs were identified for Well 14. Table 2-1 lists the minimum, maximum, and average concentrations of these constituents observed in the groundwater wells (Wells 12 and 14). 1,2,3-TCP, nitrate, and perchlorate are observed in both wells above the California MCLs.

Table 2-1. Contaminants of Concern

Contaminant	Units	CA MCL	Well 12 ¹				Well 14 ²				Well 12 and 14 Blend
			Min	Avg	Max	Count	Min	Avg	Max	Count	Avg ³
1,2,3-TCP	ng/L	5	6	15	32	6	8.7	10	12	3	13
Nitrate	mg/L N	10	18	21	22	21	17	17	17	1	19
Perchlorate	µg/L	6	4	15.2	21	63	11	12.5	14	2	14

Note: Grayed out boxes indicate a value above the MCL

¹Well 12 sample dates from Aug 1984 – Nov 2017 except for 1,2,3-TCP sampled Jan 2003 - Oct 2020.

²Well 14 sample dates from Nov 2020, except for 1,2,3-TCP and perchlorate sampled Sept 2005 and Nov 2020.

³Determined by averaging the average contaminant value for the two wells. Assuming 50/50 blending at 2,000 gpm for each well. This value may change once well rehabilitation is complete and more accurate flow productions are known.

Hexavalent Chromium has been detected at both wells below the former California MCL (which was rescinded on May 31, 2017). A new MCL for hexavalent chromium will be established, although it is not certain whether the MCL will be lower, at, or higher than the original 10 µg/L MCL that was rescinded in 2017.

General water quality parameters are monitored, with some evaluated against National Secondary Drinking Water Standards (non-enforceable guidelines). General and physical parameters are important indicators for treatment effectiveness and better inform design considerations (see Table 2-2). Neither Well 12 nor 14 presented concentrations above the Secondary MCL.

Table 2-2. General Mineral and Physical Groundwater Properties

Contaminant	Units	Secondary CA MCL	Well 12 ¹				Well 14 ²			
			Min	Max	Average	Count	Min	Max	Average	Count
Alkalinity	mg/L CaCO ₃	N/A	130	170	147	27	160	160	160	1
Calcium	mg/L	N/A	32	79	59	27	60.7	61	60.9	2
Iron	mg/L	0.3	< 0.02	0.11	0.1	27	< 0.01	< 0.01	N/A	1
Magnesium	mg/L	N/A	8.4	18	13.3	27	11.8	12	11.9	2
Manganese	µg/L	50	2	30	20.2	27	1	1	1	2
pH (lab)	-	6.5-8.5	7.3	8.2	7.9	34	7.78	7.78	7.8	1
Sulfate	mg/L	250	12	50	28	27	38	38	38	1
Total Dissolved Solids	mg/L	500	238	390	303	29	330	330	330	1

¹Well 12 sample dates from Aug 1984 – Nov 2017 except for 1,2,3-TCP sampled Jan 2003 - Oct 2020 and Hexavalent Chromium sampled May 2001 – Aug 2015.

²Well 14 sample dates from Nov 2020 except for 1,2,3-TCP and perchlorate sampled Sept 2005 and Nov 2020.

Other regulated contaminants such as organics, radionuclides, volatile organic compounds (VOCs), and synthetic organic compounds (SOCs) were identified in trace concentrations and are not presently a concern for the City.

The State Street WTF will be designed based on the parameters listed in Table 2-3. These values are based on a conservative approach using the maximum concentration of historical water quality for the contaminants with values above the CA MCL.

Table 2-3. Influent Water Quality Basis of Design

Contaminant	Unit	Design Value
1,2,3-TCP	ng/L	32
Nitrate	mg/L as N	22
Perchlorate	µg/L	21

2.2 Treated Water Goals

The treatment goals for the State Street WTF listed in Table 2-4 have been defined for the following three contaminants based on identification by the City: 1,2,3-TCP, nitrate, and perchlorate. The City provided these contaminants as the target constituents, in the absence of monitoring well water quality data or hydrogeologic modeling. Treatment for these key contaminants will be designed for 100% of the well flow to achieve effluent concentrations less than 80% of the MCL, or less than the detection limit for purposes of reporting (DLR), as applicable.

Table 2-4. Treatment Goals

Contaminant	Unit	CA MCL	Treatment Goal
1,2,3-TCP	ng/L	5	<5
Nitrate	mg/L as N	10	<5
Perchlorate	µg/L	6.0	2

3. Onsite Treatment System

3.1 Process Treatment Approach

As identified in the previous section, the contaminants of concern for the State Street WTF are 1,2,3-TCP, nitrate, and perchlorate. 1,2,3-TCP is an organic contaminant, and therefore requires a different process system for treatment than nitrate and perchlorate, which are inorganic contaminants. The City currently treats for these contaminants at their other facilities, so a similar approach was considered for consistency during the process treatment design.

Figure 3-1 shows the key removal processes selected for the State Street WTF. The water from Wells 12 and 14 will be conveyed to the centralized treatment location at the State Street site, then processed through the treatment train starting with a pretreatment system to remove any particles present in the water and followed by removal of 1,2,3-TCP. Before the water is treated for nitrate and perchlorate, it passes through another pretreatment system to ensure that no particles will interfere with the downstream processes. Once nitrate and perchlorate are removed, water is disinfected before entering Reservoir 5 through an existing line. The City currently receives chloraminated surface water from a WFA supply that will be breakpoint chlorinated before combining with the treated water in an existing pipe that feeds into Reservoir 5. Once the State Street WTF is online, the WFA supply coming in will be less than what it currently is, yet still remain a constant source into Reservoir 5.

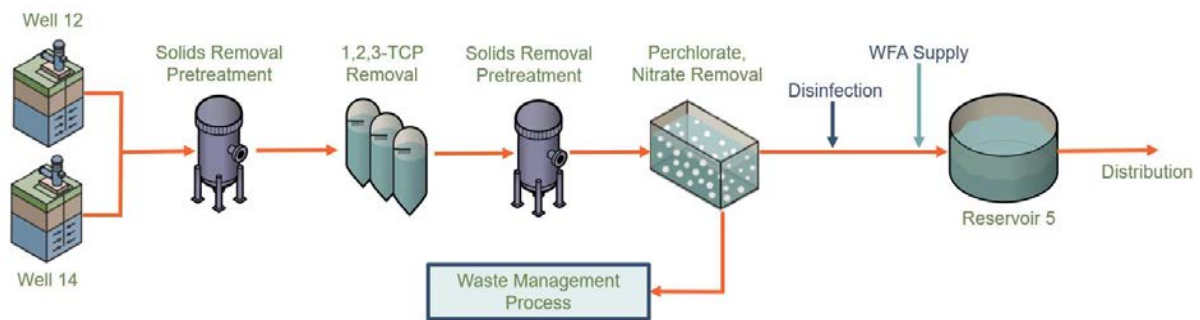


Figure 3-1. State Street WTF Process Schematic

3.2 Treatment Processes

3.2.1 Pretreatment

Pretreatment is typically used before the treatment train to remove suspended particles that may interfere with downstream processes. Pretreatment can minimize the frequency of GAC backwashing and limits the number of trapped particles in IX systems that are not designed to be backwashed. While GAC and IX systems can be operated without it, pretreatment is recommended to minimize operational requirements for the GAC and IX systems, such as reducing the need for backwashing by decreasing the rate of suspended solids accumulation on the media.

The proposed pretreatment system consists of sand separators followed by cartridge filters, as described in the sections below.

3.2.1.1 Sand Separators

For wells that produce significant amounts of sand during operation, depending on cartridge filters alone to remove the sand can result in more frequent changeouts of the filters. To reduce this frequency, sand separators can be installed upstream of the treatment train to remove large particles.

Sand separators are centrifugal devices with no moving mechanical parts. Water enters the device, and a vortex is created that separates the solids from the water. The clean water then exits at the top of the device, while the solids are collected at the bottom and periodically purged. Figure 3-2 details the process.

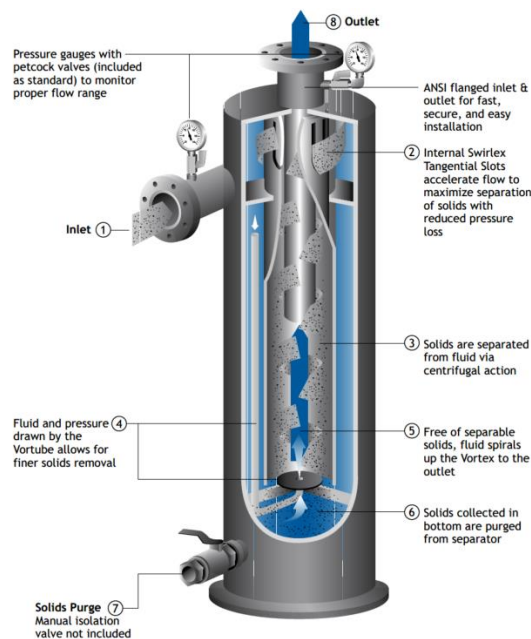


Figure 3-2. Sand Separator Diagram (Source: Lakos)

Sand separators can either be installed at each individual wellhead or at the centralized treatment location. Operating sand separators at the individual wellheads allows for less potential of sand settling in the influent line but means more locations that require maintenance and purge water disposal. The City currently operates sand separators at the wellhead of some of their other well sites and is familiar with the operations and maintenance they require. Design criteria for the assumed Lakos NSF-61 Public Works Certified (PWC) sand separators are included in Table 3-1. Pending the results of the well rehabilitation, sand separators may be recommended for this design and installed at each of the two wellheads.

Table 3-1. Sand Separator Design Criteria

Parameter	Unit	Well 12	Well 14
Treatment Flow Rate	gpm	2,000	2,000
PWC-1080-L Model Capacity	gpm	2,060	2,060
Number of Units		1	1
Normal Operating Differential Pressure	psi	14	14

3.2.1.2 Cartridge Filters

Typical pressure filtration pretreatment incorporates either automatic backwash strainers, bag filters, or cartridge filters. The City currently operates cartridge filters before the GAC and IX systems at their other facilities and is familiar with the operations and maintenance of these devices. Cartridges are consumable items that are required to be changed periodically when the differential pressure exceeds a terminal setpoint. Cartridge filters do not require backwashing, provide a tighter degree of filtration, and are more cost-effective than automatic strainers. Based on the City's reported experience at the Eastside WTP, cartridge filters will be included in two locations: before GAC and before IX. The filters placed before the IX will prevent any unlikely and undesired carryover of GAC particles into the IX system.

Typical design parameters for cartridge filters are listed in Table 3-2.

Table 3-2. Cartridge Filter Design Criteria

Parameter	Unit	Pretreatment for GAC	Pretreatment for Ion Exchange
Treatment Flow Rate	gpm	4,000	4,000
Number of Filter Units	-	2	2
Number of Filters/Unit	-	19	19
Filter Outside Diameter	in	6	6
Nominal Pore Size	µm	10	5
Differential Pressure at Changeout	psi	15	15

3.2.2 1,2,3-TCP Treatment

The only Best Available Technology (BAT) currently approved by California WaterBoards DDW for 1,2,3-TCP treatment is GAC. Figure 3-3 is a three-dimensional view of a pair of GAC vessels, with connecting piping and valve rack.

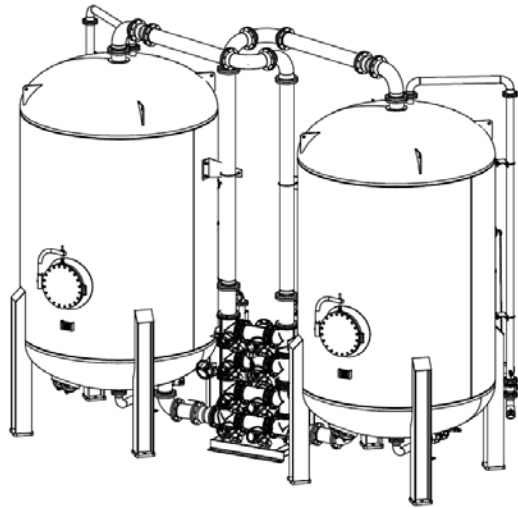


Figure 3-3. Example GAC Vessel Isometric View (Source: Calgon Carbon)

Water is passed through a pressurized vessel filled with GAC media, where organic compounds, taste and odor, and other constituents, such as VOCs, are adsorbed onto the media surface. When the media is no longer effective at removing 1,2,3-TCP (i.e., at contaminant breakthrough), changeout is required. High contaminant concentrations and total organic carbon (TOC) loading can influence when the media needs to be changed out. Rapid Small Scale Column Testing (RSSCT) will be performed for this design and will compare different types of GAC media to determine which is best suited for treatment in terms of media life.

The proposed system includes four treatment trains of GAC. Each train consists of two vessels in a lead-lag (series) configuration. A parallel configuration was considered for GAC design; however, a lead-lag configuration was selected for its multibarrier protection, which means that the lead vessel will remove the 1,2,3-TCP and the lag vessel is used as a polisher. A parallel configuration also allows for a longer empty bed contact time (EBCT). When exhausted, the lead bed is replaced with new GAC then switched to the lag position. This configuration maximizes media utilization of the bed by allowing the lead vessel to operate to the contaminant breakthrough point.

Media changeout is typically completed by draining the vessel of the spent media into a portion of a vendor provided truck. This spent media is transported by creating a slurry. The new media is then pneumatically transferred from the clean portion of the vendor truck. Media can be pre-washed prior to delivery on site to reduce fines. The vessels should also be disinfected per AWWA guidelines each time the hatches are opened. Following changeout, vessels will be backwashed for approximately 30 minutes to remove fines and the entrapped air, and to stratify the media. Periodic backwashing in addition to startup may also be required if head loss accumulates across the pair of GAC vessels above about 35 psi.

The backwash system will use pressurized GAC effluent as the backwash water supply to achieve the target bed expansion of 30%. The backwash waste will be sent to a 50,000-gallon tank and discharged at a rate of 50 gallons per minute into the sewer. The generated backwash waste volume is estimated at approximately 36,000 gallons per backwash per vessel.

Table 3-3 outlines the design criteria for the recommended GAC system. The calculations for the GAC design are included in the Appendix.

Table 3-3. GAC Design Criteria

Parameter	Units	Value at Design Capacity
Treatment Flow Rate	gpm	4,000
Number of Trains	-	4
Vessels per Train	-	2
Configuration	-	Lead/Lag
Vessel Diameter	ft	12
Vessel Media Capacity	lb	40,000
Empty Bed Contact Time (EBCT)	min/vessel	8.9
Hydraulic Loading Rate	gpm/sf	8.8
Design Flow Rate per Train	gpm	1,000
Design Backwash Bed Expansion	%	30
Design Backwash Rate	gpm/sf	8.5
Backwash Duration	min	30
Backwash Frequency	-	As required
GAC Media Size	mesh	12 x 40
GAC Media Type	-	Bituminous Coal or Coconut
Estimated Media Life	months	12 - 24

3.2.3 Nitrate and Perchlorate Treatment

According to the Environmental Protection Agency (EPA), BATs for nitrate treatment include ion exchange, reverse osmosis, and electrodialysis reversal. Likewise, BATs for perchlorate remediation include ion exchange and biological treatment. For this design, ion exchange and biological treatment were considered and compared for the removal of nitrate and perchlorate.

3.2.3.1 Ion Exchange

Ion Exchange (IX) is a contaminant removal process that exchanges one set of ions for another. Because IX is only effective with ionic compounds, this treatment process will not remove non-ionic constituents, such as 1,2,3-TCP. Resins are designed for specific ion selectivity for the removal of cationic or anionic contaminants.

IX will target the removal of nitrate and perchlorate. Of the four main classes of available IX resins, strong acid cation (SAC), weak acid cation (WAC), strong base anion (SBA), and weak base anion (WBA), an SBA exchange resin is preferable due to its ability to selectively remove nitrate and

perchlorate. The high nitrate concentrations will drive the regeneration frequency of the resins. Ion exchange systems are regenerated either through concurrent or countercurrent operation. Countercurrent operations provide higher removal efficiencies and smaller leakage amounts, and therefore most large-scale systems utilize this mode of regeneration.

For this design, three configurations of conventional IX systems and a proprietary IX system were considered. Conventional ion exchange systems are like GAC systems in that they can operate in either a parallel or series (lead-lag) configuration.

- Conventional IX Treatment Options:

- Option 1: Parallel configuration of vessels and treatment for both nitrate and perchlorate using the same resin
- Option 2: Separate systems for each contaminant – a regenerable system with vessels in parallel for nitrate treatment, a non-regenerable system with vessels in a lead-lag configuration for perchlorate treatment
- Option 3: Lead-lag configuration that treats both contaminants using a packed bed resin

Figure 3-4 shows the configurations for each conventional ion exchange option.

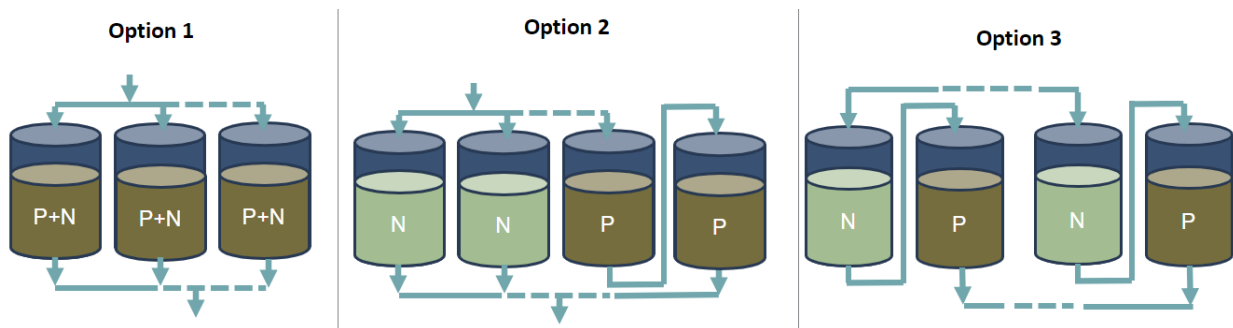


Figure 3-4. Conventional IX Configurations

- Proprietary IX Treatment System

- Calgon Carbon ISEP™

Proprietary ion exchange systems, such as the Calgon Carbon ISEP™ IX system shown in Figure 3-5, use the countercurrent regeneration method and operate in a continuous flow path. This type of system typically generates less waste than conventional IX systems but is more mechanically complex.

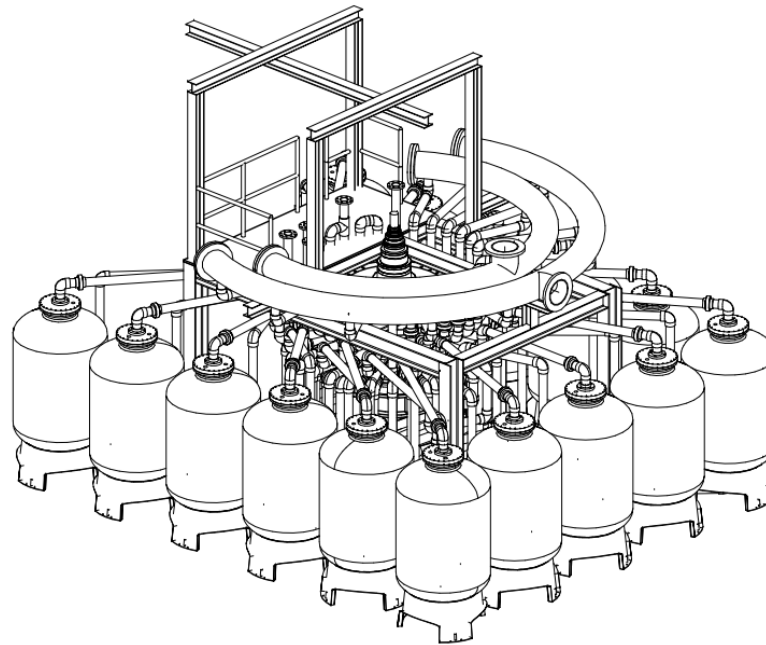


Figure 3-5. Drawing of ISEP™ IX System (Source: Calgon Carbon)

Operational challenges associated with all IX systems include potential biological fouling of the exchange resin, necessity for the resin to remain wet during service, and complexity of the regeneration system.

Chemicals stored onsite for IX treatment include sodium chloride (NaCl). NaCl is used to create brine solution which regenerates the resin and restores its capacity to remove contaminants. In conventional IX systems, regeneration consists of multiple processes, including backwash, brine generation, slow rinse, and fast rinse. The backwash and fast rinse processes use raw water to rinse the system before and after brine generation. The brine generation and slow rinse processes utilize the brine solution to regenerate the system. The waste produced from these two regeneration steps is typically disposed of in a brine line.

In the ISEP™ system, a similar regeneration process occurs using a sodium chloride brine solution and softened water. A small amount of softened water is initially used to rinse the vessels and prevent calcium sulfate precipitation before the regeneration process. Sodium chloride is applied as a rock salt and is dissolved in the brine maker to achieve a 26% NaCl solution that combines with the initial softened water rinse effluent for resin regeneration. A final rinse step is completed using softened water to displace any hard water and prevent precipitation of the regeneration zone. The brine and softener waste generated from the system may be disposed of by being trucked away or more typically disposed of in a brine line.

Waste generation and salt usage can vary depending on the feed water quality and target effluent concentration.

3.2.3.2 Biological Treatment

An emerging technology for the treatment of nitrate and perchlorate is biological treatment. Biological treatment systems use naturally occurring bacteria in the source water to reduce contaminant concentrations. A carbon and a nutrient source – usually acetic and phosphoric acid – are added to the system to help the biology grow. The nitrate is converted to nitrogen gas through the denitrification process under anoxic conditions. The effluent from the biological reactor is typically aerated or dosed with hydrogen peroxide, pending the vendor, to reintroduce oxygen and restore the dissolved oxygen (DO) of the water. Some solids do carryover into the effluent that increases turbidity requiring a separation process such as a media filter or microfiltration membrane process for removal. The systems typically use a coagulant to enhance the filtration process. The advantage of a biological system is that it produces backwash waste that can be discharged into the sewer, unlike the brine waste generated from IX systems that requires disposal into a brine line.

Figure 3-6 shows a process schematic of a typical biological treatment system.

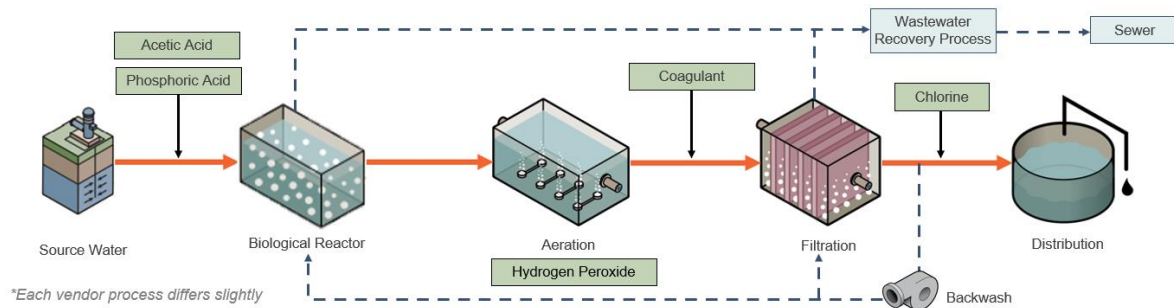


Figure 3-6. Biological Treatment System Process Schematic

California WaterBoards DDW gives conditional approval to sites for biological treatment once they prove sufficient pilot data showing decreased concentrations and shutdown and startup performance tests. Biological systems are currently only permitted to treat nitrate, due to the availability of online nitrate monitors, but are capable of removing perchlorate and hexavalent chromium to levels below the current and former MCLs, respectively. Unlike nitrate, online perchlorate monitors are not currently commercially available. There are some facilities using custom developed monitors locally such as at West Valley Water District in California with success. Though they can be custom developed for specific applications, they are typically expensive and operator intensive. In the absence of online perchlorate monitoring, DDW may require a non-regenerable single-use media IX system following the biological system to provide an additional barrier for perchlorate treatment.

Table 3-4 gives a summary of four different biological systems that were considered for this design.

Table 3-4. Biological Treatment Comparison

	AroNite™	MicroviMNE™	Envirogen FBR™	Biottta™
Fixed or Fluidized?	Fixed	Fluidized	Fluidized	Fixed
Configuration	Single-pass	Single-pass	Recycle	Single-pass
Permitted to Treat	Nitrate	Nitrate	Nitrate and Perchlorate	Nitrate

Largest Full-Scale System Flow (GPM)	150	1,000	4,000	2,000
Water Loss (%)	0.7 without recycle, 0.2 with backwash recycle	0.5 (no backwash required)	2-4 without recycle, <0.5 with backwash recycle	4 without recycle, 0.1 with backwash recycle
Removal of Other COCs	Perchlorate, Hexavalent Chromium, Selenium	Perchlorate, Hexavalent Chromium	Perchlorate, Hexavalent Chromium	1,2,3-TCP, Perchlorate, Hexavalent Chromium, Selenium
Media Type	Hollow fiber membrane	Biocatalyst	Sand, Activated Carbon	GAC
Chemicals	Hydrogen, Carbon Dioxide	Acetic Acid, Phosphorus	Acetic Acid, Phosphorus	Acetic Acid, Phosphoric Acid, Hydrogen Peroxide
Filtration	Sand media	Sand media, Ultrafiltration	Multimedia	Included in system
Acclimation Period	4-5 days	3-4 days	28 days (to achieve ND levels)	2-7 days

3.2.4 Nitrate and Perchlorate Basis of Design

In comparing the different process options for the treatment of nitrate and perchlorate, conventional ion exchange was proven to be less favorable due to the frequency of regeneration and waste produced, as well as the cost for needing to replace the single-use perchlorate media. Similarly, biological treatment was considered unfavorable due to the addition of a single-use perchlorate media vessel and DDW limitations.

Table 3-5 shows the waste and cost comparisons for the different treatment processes considered for this design.

Table 3-5. Nitrate and Perchlorate Design Comparison

	Units	Ion Exchange System				Biological Treatment Systems
		Conventional IX			Proprietary IX	
		Option 1	Option 2	Option 3	ISEP	
Total Waste ¹	gal/day	397,500	57,470	117,190	17,000	2,000
Total Capital Cost ²	\$M	\$13.3	\$6.8	\$5.2	\$3.7	\$8.2
Total O&M Cost ³	\$M/year	\$4.0	\$2.9	\$1.5	\$0.4	\$2.0

¹Includes brine and slow rinse (conventional IX) or softener (ISEP™) waste disposed in a brine line for IX systems, and thickened backwash waste disposed in a sewer for biological treatment.

²Includes cost for equipment only (vessels and media, brine line piping, brine capacity purchase charge).

³Includes cost for salt and brine discharge for IX systems, chemicals for biological treatment, and sewer discharge and perchlorate media replacement for both systems.

The Calgon Carbon ISEP™ IX system was determined as the more favorable option for this design based on its lower capital and O&M costs, and lower waste compared to conventional IX and biological treatment. The ISEP™ IX system is more complex due to the rotating turntable platform. However, the City has found continued operational success with their current ISEP™ systems at the Eastside and Benson WTFs, and the process minimizes brine waste quantities.

Table 3-6 outlines the design parameters for the ISEP™ IX system and includes estimated waste quantities based on maximum historical nitrate and perchlorate conditions.

Table 3-6. Calgon ISEP™ IX Design Parameters

Parameter	Units	Current
Design Flow	gpm	4,000
Resin Volume per Vessel	cf	32
Configuration	-	ISEP™ – Continuous, Countercurrent
Resin	-	Nitrate Selective
Number of Vessels	-	30, with 23 vessels in operation, 6 in different stages of regen, and one resting
ISEP™ Salt Usage	tons/day	7.9
ISEP™ Brine Waste	gpm	12
Softener Salt Usage	lbs/day	400
Softener Brine Waste	gpd	1,994
Brine Maker Tank Volume	gallons	7,300
Number of Brine Waste Tanks	-	2

The proposed ISEP™ IX system expected water waste is less than 0.5%. Brine disposal will take advantage of the Inland Empire Brine Line by installing a new pipeline connection into the north Non-Reclaimable Wastewater System (NRWS). The effluent of the ISEP™ system has a media trap, which is used as a protection to capture any resin that may accidentally carry over from the vessels before it reaches the reservoir.

3.2.5 Disinfection

Disinfection will be conducted using two dosing points – one for the treated water at the treatment plant and one for the WFA supply coming into Reservoir 5. The WFA supply is currently chloraminated and will need to be breakpoint chlorinated to provide a free chlorine residual before entering the storage tank. The WFA supply will be dosed downstream of the pressure reducing valve and the flow meter vault can be used to control the chlorine added. Elevated concentrations of disinfection byproducts (DBPs) may form during breakpoint chlorination, so testing of both water sources for DBPs is recommended. In addition, a monitoring point should be added at the reservoir effluent before water is sent out to distribution. An in-line static mixer will be added at each dosing point to ensure proper mixing.

The City prefers liquified chlorine gas, which is currently used at their other facilities, due to operator familiarity and similarities across facilities. Liquified chlorine gas would be delivered in 150-lb gas cylinders. There will be two separate dosing systems, one for the wells treated water and one for the

WFA line. Each chlorine dosing system will be in a separate building and will include a chlorinator, automatic cylinder changeover valves, leak detection and safety equipment, and a process water booster pump. The process water booster pump will be used to supply pressure to operate the venturi eductor and ensure a constant rate of pumping before chlorine is dosed into the system. Additional cylinder storage will be provided adjacent to each chlorine dosing building to allow up to 2,500 pounds, or 16 cylinders, in total to be stored on-site and swapped out by operators when needed.

Table 3-7 summarizes the chlorine design parameters for the treated water and WFA supply. Since the WFA supply coming in will vary once the State Street WTF is online, various flow rate scenarios were considered for the design.

Table 3-7. Chlorine Design Parameters

Parameter	Units	Design	WFA Supply Design			
		Treated Water	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Flow Rate	gpm	4,000	700	1,000	1,500	2,000
Target Free Chlorine Residual	mg/L	1.5	1.5	1.5	1.5	1.5
Chlorine Dose ¹	mg/L	2.0	3.8 ²	3.8 ²	3.8 ²	3.8 ²
Chlorine Consumption ¹	ppd	100	33	46	70	94
Chlorine Gas per Cylinder	lb	150	150			

¹Dose rates and consumption to be confirmed with field testing.

²Estimated based on the current average total ammonia level of 0.45 mg/L of the WFA supply, a 10:1 breakpoint ratio, and target free chlorine residual of 1.5 mg/L.

As part of the Groundwater Rule, compliance monitoring is necessary for all water systems that use groundwater and are disinfected prior to distribution. Compliance monitoring can be done by conducting source water monitoring whenever there is a total coliform positive sample, or providing 4-log virus inactivation, which is a function of chlorine concentration (C) and time (T) the water is in contact with the chlorine before distribution.

At a maximum flow of 6,000-gpm (4,000-gpm design flow and 2,000-gpm WFA supply), assuming a conservative baffling factor in the 7-MG reservoir of 0.1, 117 minutes of contact time is provided. In order to achieve a 4-log virus inactivation, the required CT is 6 mg/L-min for water with a pH in the 6-9 range and temperature of 10°C. The contact time for this design satisfies required CT for 4-log virus inactivation even at the minimum disinfection residual of 0.1 mg/L.

3.2.6 Water Quality Process Monitoring

To verify process performance, manual samples and online analyzers will be used at the State Street WTF to monitor influent and effluent contaminant levels following each process treatment and free chlorine residual following chlorine dosing. Samples will be taken at each wellhead and at the centralized treatment train after the sources are blended before entering pretreatment to measure influent contaminant levels. Monitoring of the GAC performance is by manual sample collection through the vessel ports. The GAC system has sampling ports at 25%, 50%, and 75% of the bed height in addition to the effluent for each vessel. These monitoring points allow the operators to track contaminant breakthrough through the bed to better anticipate the need for carbon changeout. Once

contaminant breakthrough is reached in the lead GAC bed, the lag vessel becomes the lead allowing for full utilization of the media. The exhausted media in the lead vessel will need to be promptly changed out to ensure that the water flow out of the new lead vessel is polished. Manual samples will be routinely monitored in the lab.

The ISEP™ system will have an online analyzer to monitor influent and effluent nitrate levels. It is expected that contaminant breakthrough will be controlled by nitrate concentration since nitrate breaks through before perchlorate, which means that nitrate levels below the MCL signify perchlorate levels below the MCL. Manual samples will be taken at the ISEP™ effluent to ensure complete perchlorate removal. The ISEP™ equipment vendor recommends monitoring conductivity on the regeneration system to assure there is no residual brine in the vessel at the end of the rinse cycle.

Chlorine dosing control will be measured using a single dose point and single measuring point for the treated water, and a single dose point for the WFA supply before it enters Reservoir 5. A final chlorine measuring point is recommended before distribution to ensure that the blended water has met the chlorine residual.

Figure 3-7 shows the recommended locations for water quality sampling and monitoring for the proposed treatment train.

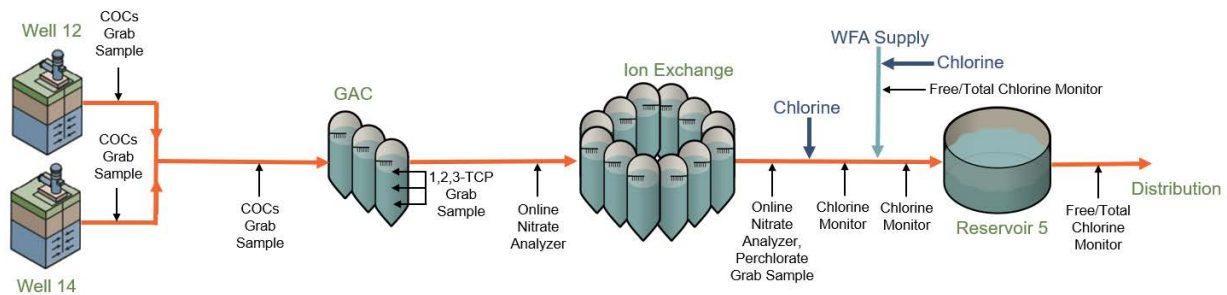


Figure 3-7. Water Quality Process Monitoring Locations

3.3 Process Flow Diagram

The proposed treatment process includes sand separators at each wellhead, cartridge filters as pretreatment to reduce solids loading on the GAC, eight GAC vessels configured in a lead-lag setup for removal of 1,2,3-TCP, a second set of cartridge filters as pretreatment to IX, and Ion Exchange for removal of nitrates and perchlorate. The water is dosed with chlorine before entering the treated water storage reservoir with enough detention time to attain 4-log virus inactivation. The WFA supply that enters the reservoir will be dosed with chlorine for breakpoint chlorination to achieve a free chlorine residual that matches that of the treated water, as mentioned in the previous section. Once the State Street WTF is online, with constant flows coming from Wells 12 and 14, the WFA supply flow will be decreased to meet distribution system demand.

Figure 3-8 is a process flow diagram of the proposed treatment process for the State Street WTF. The diagram can also be found in Appendix A.

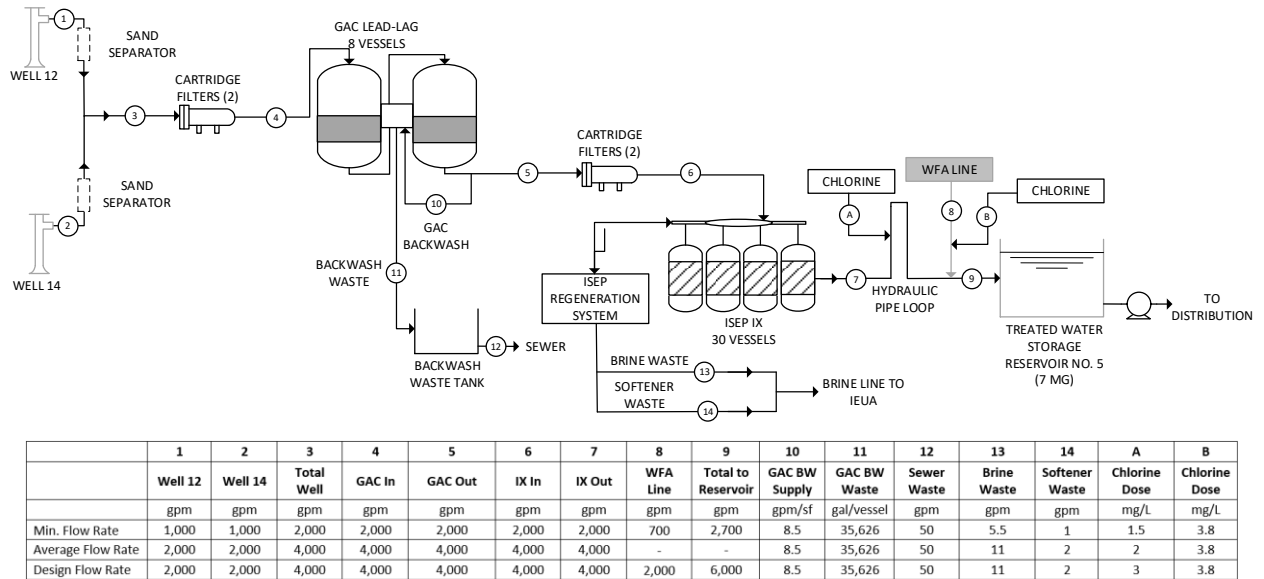


Figure 3-8. Process Flow Diagram

3.4 Hydraulic Profile

The hydraulic profile of the proposed system from the Wells 12 and 14 raw water confluence point to Reservoir 5 is shown in Figure 3-9. The hydraulic profile is based on the process flow diagram, design flow rates, and losses through each process equipment. A hydraulic barometric pipe loop will be added to the design on the effluent of the IX to prevent the GAC and IX from draining should the treated water storage reservoir fall below the HWL (high water line).

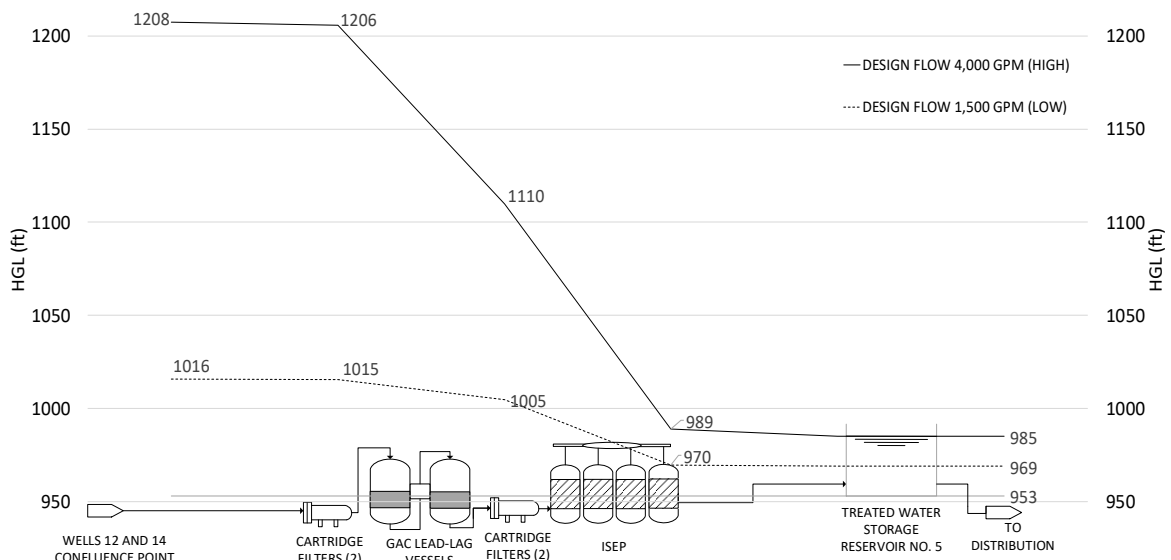


Figure 3-9. Hydraulic Profile

3.5 Waste Handling

The State Street WTF has access to two sewer laterals – the City of Ontario 12” sewer along Benson Ave. and the City of Montclair 8” sewer along Mission Blvd. It is still being determined which connection point is more feasible for this site. The brine waste produced from the ISEP™ system will be disposed of in a brine line owned and operated by Inland Empire Utilities Agency (IEUA). The waste flows from the ISEP™ system will be approximately 17,000 gpd, including both brine and softener waste.

Table 3-8 lists approximate waste streams of the treatment facility.

Table 3-8. State Street WTF Waste Streams

Parameter	Units	Total	Frequency	Disposal Location
GAC Backwash Waste Volume	gallons/ vessel	36,000	As required/At GAC changeout	Sewer
ISEP™ Brine Waste	gpd	15,000	Daily	Brine Pipeline
ISEP™ Softener Waste	gpd	2,000	Daily	Brine Pipeline

To minimize instantaneous flow into the sewer line, the backwash waste will be attenuated in a 50,000-gallon tank prior to discharge. Similarly, an 8,500-gallon brine waste storage tank and 2,500-gallon softener waste storage tank will be used to store and attenuate flow and to maintain a constant discharge flow to the pipeline. Brine and softener waste should be stored separately prior to discharge to manage risks of precipitation. The pipeline will be in a duty/duty configuration allowing for the brine and softener waste to be disposed of in separate lines in a plug flow configuration, to prevent mixing in the line and potential precipitation. Further details on the brine line, including the route, will be discussed in Section 3.11.

3.6 Preliminary Site Layout

The site layout was developed to best minimize pipe and electrical conduit lengths and provide a practical layout for daily operations. The proposed layout (Figure 3-10) shows a truck path to circle the site from the existing access road, between the GAC and IX building, to another providing adequate access for fire trucks and maintenance trucks, such as those required to deliver salt, chemicals, or GAC media.

Water from Well 14 will blend with Well 12 water before entering the treatment train. To deliver Well 12 water to the facility, an underground pipeline from Well 12 to the treatment facility will be constructed. The treated water will tie into an existing line that flows into Reservoir 5.

The brine and chemical tanks for the ISEP™ process will be located under a canopy, on the side of the IX building facing the road for delivery ease. The chlorine storage building will be located adjacent to the chlorine dosing building, also close to the road, to reduce the risk of chlorine gas exposure when delivering the cylinders and transporting to the dosing building.

The preliminary site layout drawing is included in Appendix A.

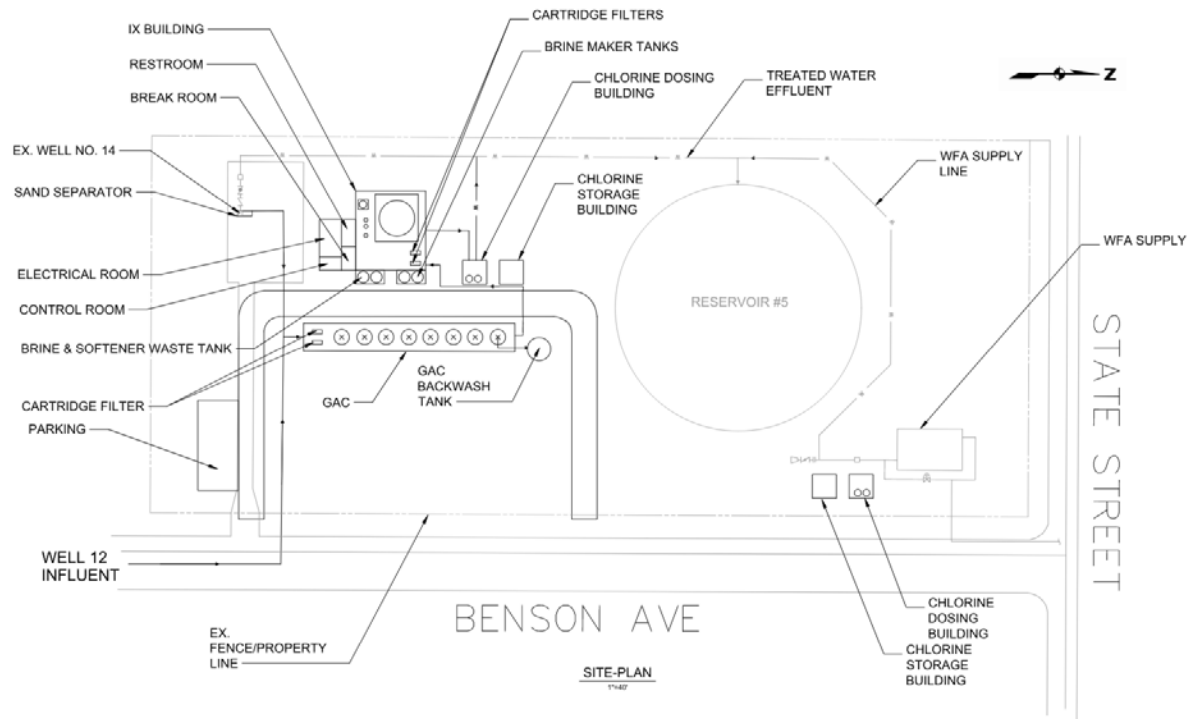


Figure 3-10. Preliminary Site Layout

3.7 Electrical, Instrumentation and Control

3.7.1 Electrical

The State Street WTF work will be done in accordance with the following codes and standards:

- Latest Edition of the National Electrical Code (NEC)
- State Department of Industrial Safety (CAL/OSHA)
- Local authorities having lawful jurisdiction pertaining to the work
- American Society of Testing and Materials (ASTM)
- National Electrical Manufacturers Association (NEMA)
- National Fire Protection Association (NFPA)
- American National Standards Institute (ANSI)
- Institute of Electrical and Electronics Engineers (IEEE)
- Insulated Power Cable Engineers Association (IPCEA)

3.7.1.1 Existing Electrical Utility Service

Well 14

The existing electrical service at Well 14 is by Southern California Edison (SCE) and the primary service is routed underground from a utility pole near the site entrance to a pad mounted utility

transformer, which steps the voltage down to 480/277VAC, 3-phase. The existing pad-mounted utility transformer is located on the south end of the site, east of existing Well 14. The transformer does not have a nameplate but is assumed to be 500kVA judging by its dimension and the total loads of the existing facility. Secondary conductors from the utility transformer are routed to a 480VAC, 3-phase, 4-wire service entrance main switchboard, rated for 1000A.

The main switchboard, which is close-coupled to a motor control center (MCC-1), is installed in a NEMA 3R outdoor enclosure, and it contains the utility metering, a 1000A main circuit breaker, and an 800A feeder circuit breaker powering the soft starter feeding the existing 400HP well pump. MCC-1 currently feeds an out-of-service booster pump and a 480-120/240V step-down transformer, which is integrated in the MCC compartment. Adjacent to the main switchboard/MCC-1 enclosure is an existing 120/240VAC, 1-phase, 3-wire motor control center (MCC-2), which feeds a series of loads inside the out-of-service Chlorine and Ammonia Rooms (exhaust fans, heaters, leak detectors, and control relays), lighting fixtures, receptacles, and an existing PLC cabinet that is currently installed in front of the well pump canopy.

Well 12

The existing electrical service at Well 12 is by Southern California Edison (SCE) and the primary service is routed underground from a utility pole near the site entrance to a pad mounted utility transformer, which steps the voltage down to 480/277VAC, 3-phase. The existing pad-mounted utility transformer is located south of the well pump and the electrical distribution equipment. The transformer does not have a nameplate but is assumed to be 500kVA judging by its dimension and the total loads of the existing facility. Secondary conductors from the utility transformer are routed to a 480VAC, 3-phase, 4-wire service entrance switchboard, rated for 600A.

The main switchboard is installed in a NEMA 3R outdoor enclosure, and it contains the utility metering, a 600A main circuit breaker, a 15kVA, 480-120/208V, 3-phase transformer feeding a 225A, 3-phase, 4-wire, 30-ckt panelboard, which is integrated in the switchboard enclosure. The main switchboard also feeds the existing 100HP well pump motor VFD, installed in a standalone NEMA 3R outdoor enclosure. The panelboard feeds a series of 120V and 208V 1-phase loads, such as the VFD cabinet A/C unit, Chlorine detector, lighting fixtures, receptacles, and an existing telemetry cabinet.

3.7.1.2 *Power Distribution Improvements*

Well 14 and Water Treatment Facility (WTF)

The new Water Treatment Facility (WTF) shall be installed in the same vicinity as the existing Well 14 site, adjacent to the existing well pump. In order to meet the new pumping rate after the completion of well rehabilitation, the new well pump will need to be upgraded. A new electrical distribution system shall be installed to support the larger well pump motor, and other new loads from the treatment plant. The new well pump is preliminarily designed to be 460VAC at 600HP, driven by Variable Frequency Drive (VFD) to meet the desired pump operating range. The new well pump motor shall be inverter duty rated. Table 3-9 summarizes the preliminary loads at the new treatment plant.

Table 3-9. Electrical Load Summary (Well 14 & Treatment)

Equipment	Connected Load			Operating Load	
	HP	kVA	FLA	kVA	FLA
New Well 14 Pump	600	-	720	600	720
GAC BW Pump	40	-	52	40	52
Brine Disposal Pump	5	-	8	5	8
Softener Disposal Pump	3	-	5	3	5
HVAC System – Fan	5	-	8	5	8
HVAC System – Air Conditioning	-	30	36	30	36
ISEP™ System	-	80	100	80	100
Air Compressor	10	-	14	10	14
Chlorine Gas System – Dosing Pt 1	-	30	36	30	36
Chlorine Gas System – Dosing Pt 2	-	30	36	30	36
GAC System Panel	-	20	24	20	24
Misc. 480V Loads	-	30	36	30	36
Lighting Panel Transformer	-	30	36	30	36
25% of Largest Motor	-	-	180	-	-
Total	-	-	1291	913	1111

Note: 1 HP is assumed to be 1 kVA. Actual kVA value will depend on motor load factor, efficiency, and power factor

Since the existing well pump is to be demolished and replaced, the existing power distribution system at the facility shall be demolished and upgraded to accommodate the added demand. The new distribution system shall be installed inside a dedicated air-conditioned Electrical Room inside the IX Building. The new system shall include a 2000A, 480V, 3-phase, 3-wire service entrance main switchboard, feeding the standalone VFD cabinet for the new well pump motor, and a 480V MCC lineup that includes motor starters and circuit breakers to supply power to the new treatment plant loads. As required, a new 480V 3-phase, 3-wire panelboard shall be provided to feed motor operated valves and other small 480V loads, and a 30kVA 480-120/208V transformer and panelboard shall be provided to distribute 120/208V power to exterior/interior lighting fixtures and receptacles, instruments, CCTV cameras, and other miscellaneous loads.

The main switchboard shall also include an open transition manual transfer switch (MTS) to allow for a portable generator to be connected to provide backup power in an event of power outage.

A new 1000kVA (preliminary) pad-mounted utility transformer shall be provided by Southern California Edison (SCE) to supply sufficient power to the new distribution system. Transformer size shall be coordinated and finalized with SCE during final design.

Well 12

Similar to the Well 14 pump, the well pump at the existing Well 12 facility shall also be replaced and upsized. The new well pump is preliminarily designed to be 460VAC at 600HP, driven by Variable

Frequency Drive (VFD) to meet the desired pump operating range. The new well pump motor shall be inverter duty rated.

The existing power distribution system shall be demolished and upgraded to accommodate the larger well pump motor. The new system shall include a 1200A, 480V, 3-phase, 3-wire service entrance main switchboard, feeding the standalone VFD cabinet for the new well pump motor, and feeder circuit breakers to supply power to other auxiliary loads. All electrical enclosures shall be NEMA 3R rated for outdoor installation. As required, a new 480V 3-phase, 3-wire panelboard shall be provided to feed motor operated valves and other small 480V loads, and a 30kVA 480-120/208V transformer and panelboard shall be provided to distribute 120/208V power to lighting, receptacles, instruments, and other miscellaneous loads.

The main switchboard shall also include an open transition manual transfer switch (MTS) to allow for a portable generator to be connected to provide backup power in an event of power outage.

3.7.1.3 *Lighting*

General lighting will be provided for illumination throughout the facility interior and exterior. Additional lights will be installed at strategically located areas around the site to provide sufficient lighting for security and safety. All fixtures will be specified as LED technology for extended life and energy efficiency. Exterior light fixtures will be equipped with photocells for dusk to dawn operation.

3.7.2 Instrumentation and Control System

3.7.2.1 *Existing Well 12 and Well 14 Configuration*

Well 14

The existing Well 14 site PLC cabinet contains an Emerson/Bristol Babcock Control Wave Micro PLC/RTU which monitors signals from the existing well pump and associated instruments. An Alvarion IDU communication device, located in the PLC cabinet, utilizes Power over Ethernet (POE) to communicate with the City's SCADA system.

Well 12

The existing Well 12 site control panel contains hard-wired relay and pilot devices which provide local indication of well pump status. Based on available information, it is not clear if this panel is connected to the City's SCADA Network.

3.7.2.2 *Well 12, Well 14 and Water Treatment Facility (WTF) Improvements*

Well 14 and WTF

The existing Well 14 PLC panel and associated instrumentation will be replaced as part of the Well 14 equipping and water treatment facility addition project.

The Ion Exchange vendor package system (ISEP™) will be provided with an Allen-Bradley CompactLogix PLC. In order to match the configuration of the City of Chino Eastside Expansion Project, a dedicated Plant PLC will be provided for the GAC treatment process and an additional Main Plant PLC will be provided for monitoring and control of the remaining treatment processes. In order to standardize with the City's PLC's at other facilities, a new Emerson Control Wave Micro PLC is recommended for the GAC process PLC while an Emerson Control Wave with Redundant Processors is recommended for the Main Plant PLC. However, if The City desires to explore alternative PLC manufacturers, this can be investigated. As all three new PLC enclosures are anticipated to be located within the new Ion Exchange building, CAT 6 cable is recommended in order to communicate between the new PLC's. In addition, a digital video security system will be provided. The quantity, location, and manufacturer of the video security system, including location of the cameras, will be coordinated with The City during detailed design.

Well 12

The existing PLC panel and associated instrumentation will be replaced as part of the Well 12 equipping project. A new PLC cabinet will be required in order to integrate Well 12 with the new Water Treatment Plant. To standardize with the City's PLCs at other facilities, a new Emerson Control Wave Micro PLC is recommended for the new Well 12 PLC. However, if The City desires to explore alternative PLC manufacturers, this can be investigated. During detailed design, Hazen will coordinate with the City in order to understand the City's preferred means of communication from Well 12 to The City's SCADA system and the new water treatment plant.

3.8 Architecture and Finishings

3.8.1 Ion Exchange Building

The Ion Exchange Facility will be a single story building, consisting of the ISEP™ system and the control room, and a canopy. The building will be built to house necessary process equipment for the ISEP™ system and will have a clear line of sight from the electrical room to the system. The building will be a pre-fabricated metal building with similar style, form, materials, and finishes to other City facilities, such as at Eastside and Benson WTFs. The building will also house an electrical room, break room, and restroom. A prefabricated metal canopy to cover process tanks on the southern edge of the building will be provided. Painted hollow metal doors and clear exit paths will be provided for each building and area in accordance with the building code. Windows will be designed to allow natural light to enter. The building will have a roll up door to allow for access to remove equipment for maintenance. Finishes will be limited to paint for metals without a factory applied finish. Floors will be sealed except for the break, toilet, and electrical room that may include vinyl tile or similar floor finish. Those rooms will receive an acoustical lay in ceiling system.

The Ion Exchange building will contain forced ventilation with air louvers on the side of the building. All other rooms within the building will be insulated and air conditioned. The thermal envelopes of the building will be designed to comply with the Energy Conservation Code and related regulations.

Toilet facilities will be provided within the Ion Exchange Facility. The other buildings and structures on the site will not be provided with toilet facilities. The building will be provided with an accessible

entrance with the toilet and break room will be designed to meet the requirements of accessibility requirements. The other work areas will be entered occasionally for monitoring, repair, or maintenance thus exempt from the accessibility requirements.

The building will be designed to comply with the current California Building Code and related Codes. The Ion Exchange building will be classified as a factory industrial building. Chemicals will be evaluated for hazards and rooms containing chemicals will be classified in accordance with the Hazard present and the quantity of chemicals. The toilet room, electrical room, and break room will be considered accessory occupancies. Egress requirements, fire protection measures, and application of materials will be determined during final design.

3.8.2 Coatings

Structural members and other steel items will be painted with a VOC compliant epoxy coating. Where steel members are exposed to the exterior, an additional coat of a VOC polyurethane or siloxane coating will be applied to minimize chalking and discoloration. Floors will receive a clear sealer or containment liner where chemicals will deteriorate the concrete. The exterior walls will have a factory finished insulated wall panel and not require field painting. A vinyl liner membrane will be exposed within the building roofing system with insulation and metal standing seam roofing above or a factory insulated roofing system provided as determined during final design.

3.9 Structural

3.9.1 General Description of Structural Systems

The GAC treatment area will be supported on a reinforced cast-in-place concrete mat slab foundation. The approximate footprint of the new mat slab for the GAC treatment area measures 23 feet x 167 feet. The GAC backwash tank will be a metal tank on a reinforced cast-in-place concrete ring foundation or a reinforced cast-in-place concrete mat slab foundation if required.

The ISEPTM treatment will be housed in a rectangular building superstructure consistent with normal pre-engineered metal building-type construction, which includes built-up structural steel column and beam framing with metal panel roof system, secondary roof and wall framing, and metal wall panel siding. The slab will have a trench drain around the ISEPTM equipment slab to capture potential flow and carry it out of the building. A canopy structure will be built over the waste tanks that will be located on the West side of the building. The canopy construction will also be consistent with normal pre-engineered metal building-type construction. The new building and canopy superstructures will be supported on a conventionally reinforced concrete mat foundation or slab-on-grade with isolated spread footings at each column location of the steel framed system, in conformance with the Geotechnical Engineer's recommendations. The approximate footprint of the building and canopy measures 70 feet x 70 feet and 70 feet x 25 feet, respectively. The building height will be approximately 25 feet at the peak of the gable roof.

The ISEP treatment building will include a new electrical room, a control room with a window providing clear line of sight to the process equipment, a breakroom, and a restroom on the south side

of the building. To prevent any possibility of flooding, the rooms will have floors raised six inches off the floor of the process area with a step. The trench drain around the IX equipment will also separate the new rooms from the process area to prevent flooding. The new block of rooms will be an integral part of the ISEP™ treatment building with internal partition walls and a continuation of the building's metal panel roof. The room block and ISEP™ treatment building foundations will be one system of reinforced cast-in-place concrete shallow foundations.

The chlorine dosing buildings and chemical storage buildings will be prefabricated FRP buildings. The two buildings on the north wall of the ISEP™ building will be supported by a slab-on-grade tied into the ISEP™ building's foundation. The two isolated buildings will be supported by a conventionally reinforced concrete mat foundation.

Any new yard equipment will be supported by a conventionally reinforced concrete slab-on-grade foundation where necessary.

Well 12 and Well 14 enclosures will be modified. Well 12 has existing canopies and privacy fencing and Well 14 has an existing CMU building adjacent to a canopy and privacy fencing. More secure enclosures for the two wells will be provided.

The geotechnical investigation will be performed during the detailed design phase to determine design parameters and foundation requirements for structural design. If confirmed by the geotechnical investigation, foundation requirements will consist of mat slab foundations for process equipment supported at grade and shallow foundations for the building structure and canopy. The geotechnical investigation will also address issues such as impact of groundwater on design and construction, excavation support and backfill recommendations, potential soil corrosivity, potential for soil liquefaction, and estimated total and differential settlement of soil subgrade.

3.9.1.1 *Governing Code*

The strength, serviceability, and quality standards shall not be less than the stipulations required by the governing code. The governing code used for the proposed design is the 2019 California Building Code.

Materials and construction shall be designed in accordance with the California Building Code, and other codes as presented within this report. The California Building Code consists of the 2018 International Building Code as adopted and amended by the State of California.

3.9.1.2 *Supplemental Design Codes*

- ASCE 7 – Minimum Design Loads for Buildings and Other Structures, American Society of Civil Engineers
- AISC – Manual of Steel Design, 14th Edition, American Institute of Steel Construction
- ACI 350.4 – Design Considerations for Environmental Engineering Concrete Structures, latest edition, American Concrete Institute

3.9.1.3 *Codes and Standards for Specific Materials*

Design of specific materials will be performed in accordance with the standards, codes, and specifications adopted by the governing code as listed below.

3.9.1.4 *Concrete*

- ACI 318 – Building Code Requirements for Structural Concrete, 2014 Edition, American Concrete Institute.
- ACI 301 – Specifications for Structural Concrete, Latest Edition, American Concrete Institute.
- ACI 350 – Code Requirements for Environmental Engineering Structures and Commentary, 2006 Edition, American Concrete Institute.

3.9.1.5 *Masonry*

- TMS 402/602 – Building Code Requirements and Specification for Masonry Structures, 2016 Edition

3.9.1.6 *Steel*

- AISC 360 – Specification for Structural Steel Buildings, 2016 Edition, American Institute of Steel Construction.
- AISC 303 – Code of Standard Practice for Steel Buildings and Bridges, 2016 Edition, American Institute of Steel Construction.
- AISC 341 – Seismic Provisions, 2016 Edition, American Institute of Steel Construction.
- AISC 348 – Specification for Structural Joints Using High Strength Bolts, 2014 Edition, American Institute of Steel Construction.
- AWS D1.1 – Structural Welding Code - Steel, 2015 Edition, American Welding Society.
- S100 North American Specification for the Design of Cold-Formed Steel Structural Members, American Iron and Steel Institute.

3.9.2 *Design Loads*

3.9.2.1 *Dead Loads*

Dead loads are those resulting from the weight of all permanent non-removable stationary construction, such as walls, floors, roofs, permanent partitions, framing, ceilings, cladding and permanent fixed equipment and piping. Loads from process liquids within the structure and from soil and groundwater outside the structure will not be considered as dead loads. Dead loads will be in accordance with the Governing Building Code.

3.9.2.2 *Live Loads*

Live loads technically include all nonpermanent loadings that can occur, in addition to the dead loads. Live loads are those resulting from occupancy, furnishings, and equipment. Live loads will be used in accordance with the Governing Building Code.

3.9.2.3 *Equipment Loads*

Process area operating floors are designed for the load case resulting in the maximum stresses from the following live load conditions:

- 300 psf on the entire floor area, with no additional load from equipment included.
- 150 psf on the areas not directly under equipment, plus actual equipment loads.

Equipment loads obtained from manufacturers will be used when available, and other equipment loads will be assumed for the preliminary design. These loads will be confirmed prior to completion of design. In addition to the equipment's operating weight (including any fluids contained), other loads due to moving parts, malfunction, and maintenance shall be considered.

The load option, which creates the highest stress conditions, shall control the design. The weight of equipment components, which could be placed on or transported across the floor, shall be located to create maximum stress conditions.

3.9.2.4 *Piping Loads*

For purposes of preliminary design, the live loads listed above for equipment loads will be considered to include the loads from process piping that are supported by the floor below the piping. On floors and roofs that will support process piping suspended below, an additional live load allowance will be included for the preliminary design. This allowance ranges from 25 psf to 100 psf, depending on the size and quantity of piping, anticipated to be suspended below the floor or roof.

Upon completion of piping layout, these allowances shall be reviewed for accuracy with the actual pipe configurations for pipes less than 18 inches in diameter, and the actual concentrated loads from pipes 18 inches and larger.

3.9.2.5 *Wind Loads*

Wind loads on any above grade structures will be in accordance with the Governing Code and ASCE 7.

3.9.2.6 *Seismic Loads*

Seismic loads resulting from seismic acceleration of the structure dead and live loads, including permanent fixed equipment and piping, will be determined in accordance with the Governing Code and ASCE 7 requirements using the values given in the appropriate code formulas, and applicable codes for seismic design.

3.9.3 Concrete Design

All portions of the structure that are in contact with soil or that contain process liquids (including slabs over process liquids) will be designed based on the following method:

- Ultimate Strength Design, per ACI 318 with revised load factors and durability coefficients recommended in ACI 350.

Portions of the structure not included above may be designed per ACI 318 in lieu of ACI 350.

Minimum required amounts of reinforcing will be determined per ACI 318 recommendations depending on the spacing of movement joints provided. Amounts of reinforcing used will be as required for structural strength, but not less than these minimum amounts.

Finishes on concrete surfaces will be provided in accordance with ACI 301 as is appropriate for their use and exposure. Interior exposed walls in habitable spaces will receive a smooth rubbed finish. Interior walls above the water surface of open tanks and any exterior exposed walls above grade will receive a grout-cleaned finish. Floors of tanks, and floors in areas likely to be intermittently wet due to washdown or maintenance of equipment, will receive a floated finish. Floors in habitable areas intended to be dry at all times will receive a steel troweled finish.

3.9.4 Masonry Design

Masonry will be designed in accordance with TMS 402/602. Minimum required amounts of reinforcing for seismic loads would be provided in accordance with TMS 402/602. Amounts of reinforcing used will be as required for structural strength, but not less than the minimum amounts as required by the code. All cells containing reinforcing steel will be grouted. Maximum spacing of horizontal joint reinforcing will be 16 inches on-center vertically.

3.9.5 Structural Metals Design

Structural steel will be designed in accordance with ANSI/AISC 360 Specification for Structural Steel Buildings – Allowable Strength Design or Load and Resistance Factor Design, with modifications as stated in the Governing Code.

Steel decking will be designed in accordance with the Steel Deck Institute (SDI) Design Manual for Composite Decks, Form Decks, Roof Decks, and Cellular Deck Floor Systems with Electrical Distribution. Diaphragm action of steel decks will be designed in accordance with the SDI Diaphragm Design Manual.

Minimum properties for use as structural metals shall be in accordance with the applicable metal specific design code and guidelines.

3.10 Civil

3.10.1 Background and Existing Conditions

The State Street WTF site is approximately 300 ft x 700 ft (5-acres), located in San Bernardino County's Valley Region. The site is classified as a Community Industrial zone and limits structures to a maximum height of 75 feet. Civil design for the State Street site associated with the onsite treatment system includes demolition, paving and grading, and yard piping.

The site is currently secured with ornamental iron fencing, chain link fencing, and CMU block wall surrounding the site. Barbed wire is only present on a portion of the chain link fencing. The main access point is an electronic slide gate with keypad activation off of Benson Avenue.

3.10.2 Demolition

The onsite treatment system will be located in the largely open area between Reservoir 5 and Well 14. The area is currently rough-graded natural dirt. Minimal demolition will be required except clearing the area for the proposed improvements, and the existing Well 14 above-grade facilities. Excavation and compaction will adhere to the project geotechnical report.

3.10.3 Paving and Grading

A paved access road will be provided around the onsite treatment system and proposed improvements. There will be two planned access points off of Benson Avenue for maintenance truck access. Beyond the paved access roads and treatment area, the existing surface can be a compacted gravel, crushed rock base, or compacted natural soil.

The site elevations slope from north to south, with approximately 10 feet elevation difference from the northerly boundary to the southerly boundary. The site has no below-grade drainage facilities. During small rain events, water most likely infiltrates into the site soils. Large rain events most likely see surface flows towards the southerly end of the site where they eventually drain onto Benson Avenue. Drainage at the site will be handled in a similar way for the proposed improvements. Site grades will promote surface flow towards the southerly end of the site towards Benson Avenue. Areas outside of access roads and treatment pads will be pervious, such as crushed rock or gravel. Building drains will be routed to the sewer.

3.10.4 Yard Piping (On-site Pipelines)

Yard piping includes all on-site pipelines outside of the individual treatment processes including raw water pipelines, treated water pipelines, and brine and waste pipelines. Pipe size recommendations are based on a hydraulic pipe sizing analysis.

Below-grade piping will be installed in a trench per recommendations from the geotechnical report and City standards. Below-grade metallic piping will be properly coated and protected from corrosion. Above grade piping will be epoxy coated or painted. Table 3-10 includes a yard piping summary of process pipe type, size, and material, along with the PFD for reference of the pipe descriptions.

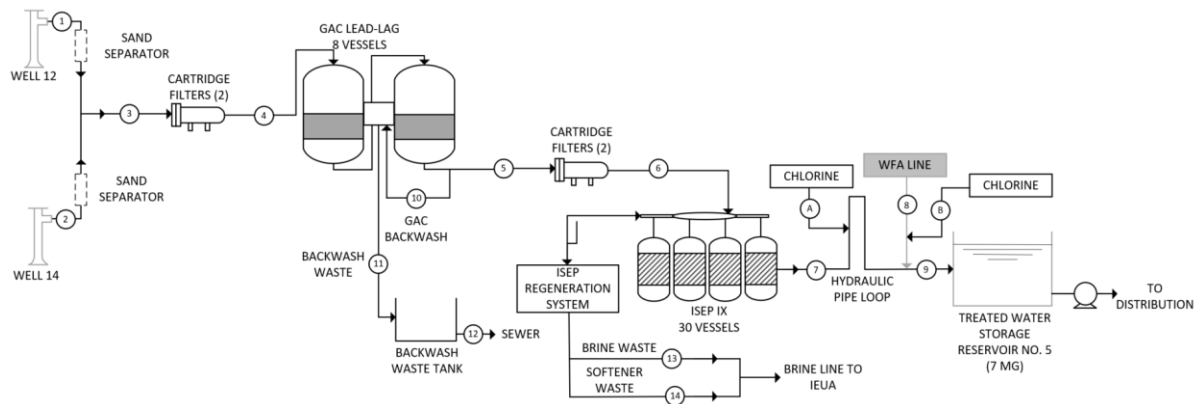


Table 3-10. Yard Piping Summary

PFD #	Pipe Description	Nominal Diameter (in)	Pipe Type ¹
1	Well 12	16"	DIP
2	Well 14	12"	DIP
3	Plant Influent	18"	WSP
4	GAC Influent (GAC IN)	18"	WSP
5	GAC Effluent (GAC Out)	18"	WSP
6	Ion Exchange Influent (IX IN)	18"	WSP
7	Ion Exchange Effluent (IX Out)	18"	WSP
8	WFA Line (Existing)	24"	WSP
9	Total to Reservoir (Existing)	24"	WSP
10	GAC Backwash Supply	8"	WSP
11	GAC Backwash Waste/Vessel	8"	WSP
12	Waste to Sewer	6"	PVC
13	Brine Waste	4"	PVC
14	Softener Waste	4"	PVC

¹ DIP = Ductile iron pipe, WSP = welded steel pipe

3.11 Site Security Recommendations

As part of the site security assessment conducted as part of the Risk and Resilience Assessment completed in June 2021, the following recommendations were made that will be incorporated into the State Street Facility improvements or the regular O&M activities for the site.

- Site Construction Management
 - Keep main vehicle entry closed until vehicles need to leave
 - Add signage that only work vehicles are allowed on site and personnel must wear PPE
- Natural Surveillance

- Cut tree limbs to a minimum of 12-feet above the ground and away from hanging over any portion of the perimeter boundary wall
 - Cut bushes and vegetation along exterior of perimeter CMU to a height of 18- to 24-inches off the ground
 - Cut vegetation along interior of perimeter CMU wall and site
 - Recommend clear zones of 10 feet from fence lines
- Security/Notification Signage
 - Install “No Trespassing” “Authorized Personnel Only”, “Call (xxx) xxx-xxxx to Report Suspicious Activity or Request Access To This Facility” signage on the wall next to the main entry gate and dual chain-link swing gate
 - Install “No Trespassing” signage at 50-foot intervals, per industry standards, along the perimeter CMU boundary wall and chain-link fence line
 - Display specific security and behavioral notification signs that provide information to what prohibited items are not allowed to be brought into the facility
 - Provide “Authorized Personnel Only” signage on each exterior pedestrian entry to buildings on site
- Perimeter Wall and Fencing
 - Replace existing damaged 80-feet of chain-link perimeter boundary fence with a new chain-link fence, topped with a 4-strand, barbed wire outrigger and anchored in an 8-inch wide, 24-inch deep mow strip
- Vehicle Gates
 - Conduct a performance check on the motorized slide gate and repair if needed
 - Install either a pneumatic safety mechanism on the leading edge of the wrought iron slide gate or a photocell safety mechanism to prevent the gate from closing on either a person or a vehicle
- Protective Barriers
 - Install building or protective barriers to protect Well #14.
 - Install protective barriers to protect the WFA connection. The barriers should be spaced a minimum of 36-inches apart edge-to-edge, and a minimum of 36-inches in height. Two barriers to the south, two barriers to the north and three barriers to the east (Total of 7)
- Vault Hatch Covers
 - Weld hidden shackle padlock hasp, such as the American Lock A801, to the exterior vault doors. This heavy-duty padlock hasp should accept a reinforced zinc die-cast padlock with hidden shackle (aka puck lock) to secure the doors.
- Safety Cage and Ladder Guard
 - Install a safety cage at 8-feet off the ground to surround the ladder to the roof of the reservoir
 - Tack-weld wire mesh to the reservoir to enclose the lower 10-feet of the ladder’s safety cage and conduit
 - Install a ladder guard to protect the bottom opening of the safety cage to prevent access up the ladder. Ensure the ladder guard has a shroud to cover the shackle and padlock, and that the shackle accommodates a case-hardened re-keyable, Master Lock, steel/zinc body, 2.5” padlocks (or similar)

- Lock the new ladder guard with a case-hardened re-keyable, Master Lock, steel/zinc body, 2.5” padlocks (or similar)
- Padlocks and Chains
 - Replace existing non-cut-resistant padlock with case-hardened re-keyable, Master Lock, steel/zinc body, 2.5” padlocks (or similar)
 - Replace existing standard linked chain with ½-inch, case-hardened, cinch (aka noose) security chain and use case-hardened padlocks to secure vehicle and pedestrian gates
- Exterior Security Lighting
 - Install motion activated, hybrid white/infrared panel lighting – main entry, exterior of Well 14, and reservoir ladder including WFA connection (Total of 4)
- Electronic Access Control System
 - Extend City’s Panasonic MonitorCast access control system to this site
 - Provide an electronic lock, multi-technology keypad/card reader, position switch, and ground loop, connected to the locations EACS for the vehicle gate to control access by field personnel and third-party access
- Video Surveillance and Signage
 - Implement targeted video surveillance of reservoir ladder, WFA connection, vehicle entrances (main and secondary), and Well 14 – connect cameras to the Video Management System from a new water Radio SCADA/security Network (WRSSN)
 - Post video surveillance signage at entry gates, reservoir ladder, and Well 14 building

4. Offsite Facilities

4.1 Well 12 and Well 14 Equipping Design

The following subsections address the equipping design for Wells 12 and 14. Well 12 is located at the Phillips Facility at Central Avenue and Phillips Boulevard. Well 14 is located onsite at the State Street Facility.

Well Design Flow Rate: Well rehabilitation (rehab) for both wells is currently in process. At the conclusion of well rehab, the recommended pumping rates for each will be confirmed by the project hydrogeologist – Richard C. Slade and Associates. At this time, a pumping rate of 2,000 gpm is assumed for each well. The recommended long-term pumping capacity will be determined after the well rehab is complete.

Service Criteria and Hydraulic Conditions: Each well must be designed to deliver a full range of potential pumping rates in order to pump through the proposed piping and treatment system, and fill Reservoir 5 to the high water level of 985 ft.

All design criteria will follow industry standards and guidelines, Hazen recommendations, and City design guidelines and preferences.

The system curves were developed for Well 12 and 14 using the data and assumptions shown in Table 4-1. The system key characteristics will be confirmed after well rehabilitation by Richard C. Slade and Associates.

Table 4-1. System Characteristics

Parameter ¹	Well 12	Well 14
Flow Rate	2,000 gpm	2,000 gpm
Well Site Elevation	876 ft	950 ft
Static Water Level	300 ft bgs	360 ft bgs
Short Term Drawdown	46 ft bgs	35 ft bgs
Long Term Drawdown	69 ft bgs	52 ft bgs
Long Term Decline	25 ft	25 ft
Approx. Pump Setting	442 ft bgs	488 ft bgs
Res 5 Base Elevation	953 ft	
Res 5 HWL	985 ft	

¹ Well recommendations to be confirmed after well rehab is complete by Richard C. Slade and Associates

System Curves and Pump Curves: System curves were developed to calculate ranges of static head, friction losses, minor losses, and velocity head for a full range of flow rates. Both wells were assumed to have a pumping capacity of 2,000 gpm at this time.

A summary of the hydraulic conditions associated with each system curve is shown below, with the system curves and pump curve shown in Figure 4-1 and Figure 4-2.

- High Static
 - Reservoir 5 HWL: 985 ft
 - High Friction Loss Condition
 - Both Wells Operating
- Low Static
 - Reservoir 5 LWL: 958 ft
 - Low Friction Loss Condition
 - One Well Operating

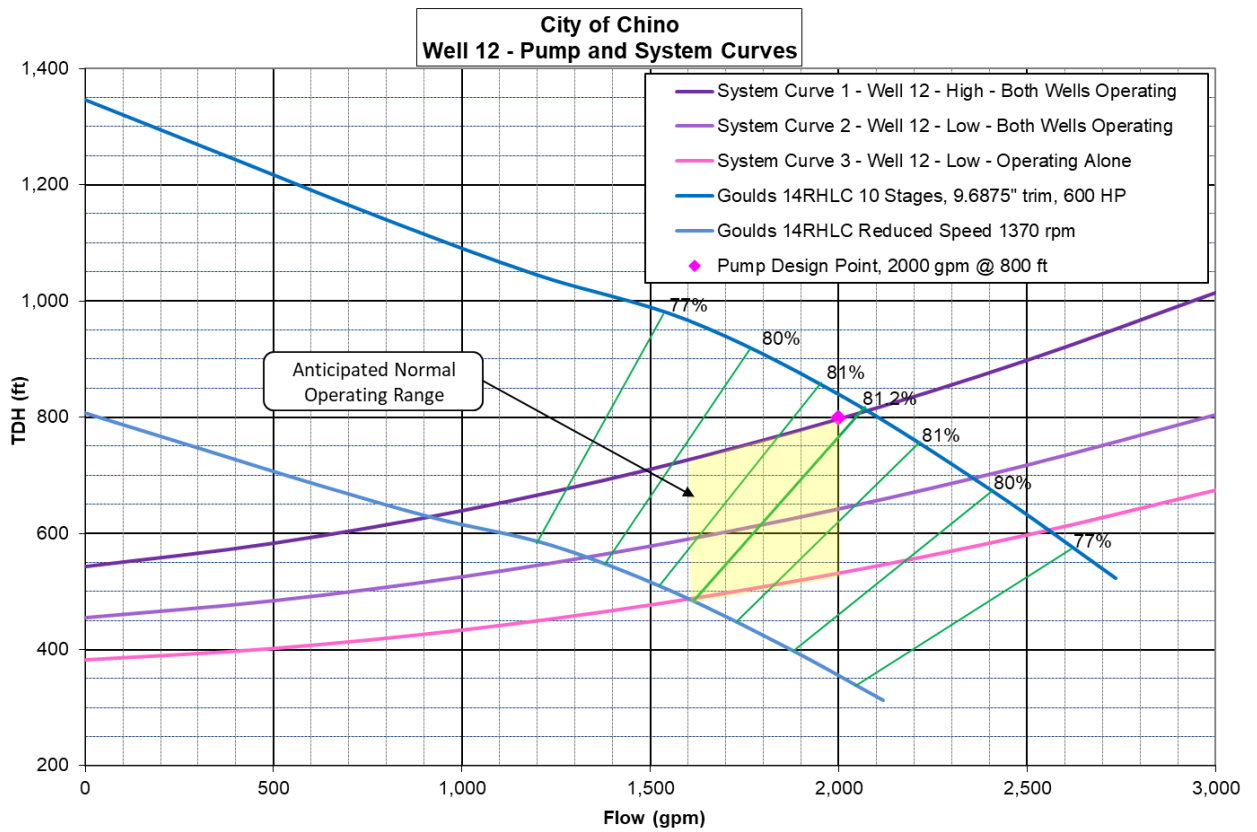


Figure 4-1. Well 12 Pump and System Curves

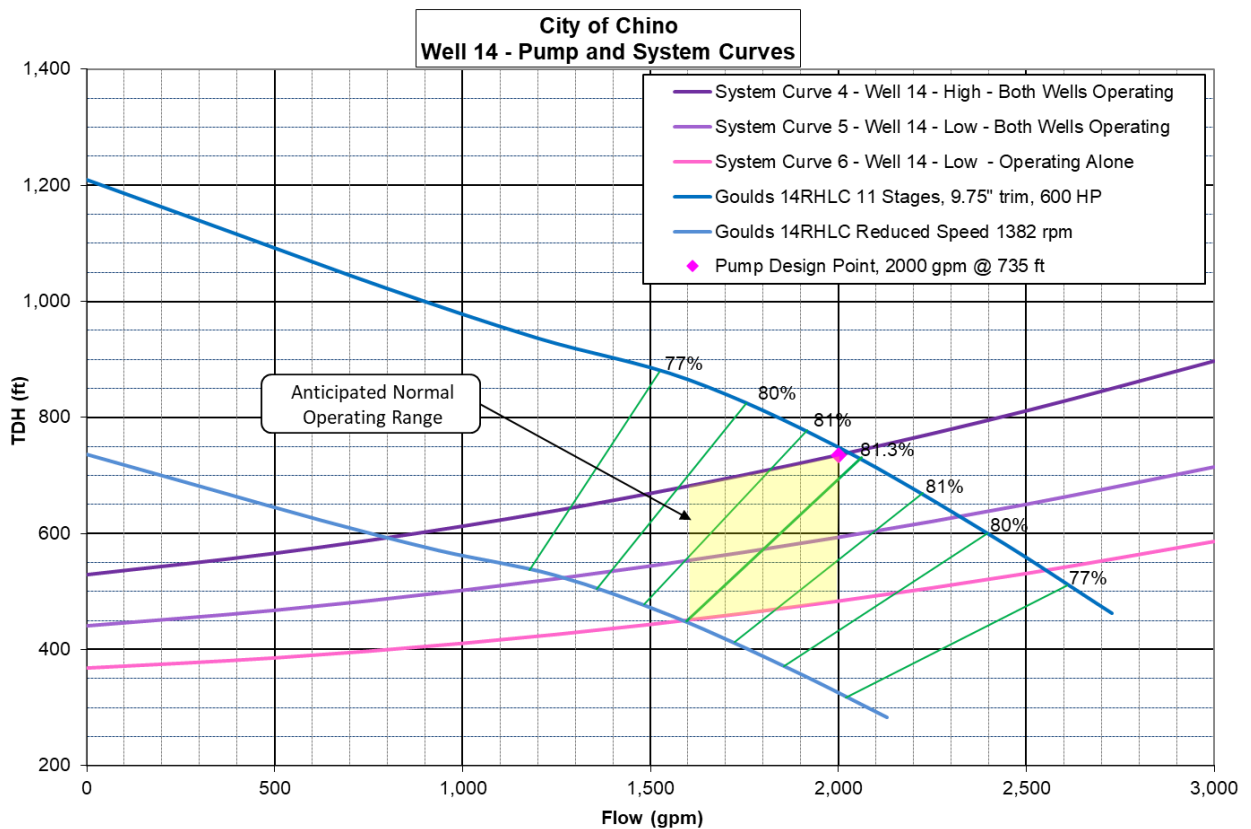


Figure 4-2. Well 14 Pump and System Curves

The system curves represent the full range of operating conditions for the pump, with all other combinations of operating conditions falling within the band of curves. Preliminary pumps were selected and plotted to show how the pump would operate to meet the well capacity, as well as reducing speed using the variable frequency drive.

When selecting a pump, multiple design points are evaluated to ensure the pump selection is optimized for all possible operating conditions, and ensure the pump is operating within the preferred operating range (POR) of 70% to 120% of the best efficiency point (BEP). The primary design point for the proposed pump is shown in Table 4-2.

Table 4-2. Recommended Pump Design

Parameter	Well 12	Well 14
Flow Rate	2,000 gpm	2,000 gpm
Rated TDH	800 ft	735 ft
Pump Efficiency at Rated Condition	80-82%	80-82%
Pump Speed	1,770 rpm	1,770 rpm
Motor Power	600 HP	600 HP
Column Pipe Size	12 in	12 in
Discharge Pipe Size	12 in	12 in

4.2 Offsite Pipelines

4.2.1 Offsite Pipelines Summary

The off-site pipelines include the raw water pipeline from Well 12 the parallel brine waste and softener waste lines to the IEUA waste line, and the sewer line. A summary of the off-site pipelines is included in Table 4-3 and shown graphically in Figure 4-3. Further description on the off-site pipelines and associated requirements is included below.

Table 4-3. Offsite Pipelines Summary

Pipe Description	Nominal Diameter (in)	Pipe Type	From	To
Well 12	16	DIP	Well 12	State St Facility
Brine Waste/ Softener Waste	Dual 4"	PVC	State St Facility	IEUA Brine Line (Vernon Ave and Phillips Blvd)
Sewer	6	PVC	State St Facility	City of Montclair Sewer (Benson Ave and Mission Blvd)

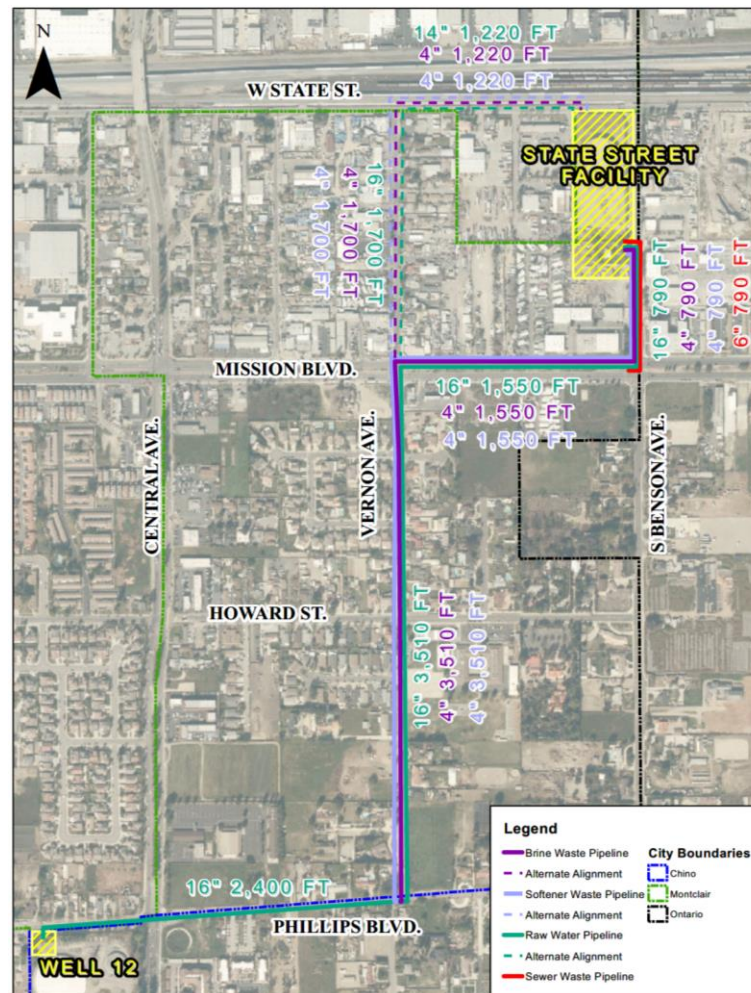


Figure 4-3. Offsite Pipelines Exhibit

There is an existing 8” drain line from Reservoir 5 that runs along the westerly edge of the State Street Facility site, crosses State Street, and discharges into the open channel that parallels State Street and the railroad tracks. The portion crossing State Street and connecting to the channel will be protected in place, and the portion onsite will be replaced and used as the pump-to-waste discharge line.

4.2.2 City Requirements and Alignment Considerations

At this time, there are two primary alignment options for the Well 12 raw water line and the dual 4” lines for the brine waste and softener waste. The alignment options are either using State Street to Vernon Avenue, or Benson Avenue and Mission Boulevard to Vernon Avenue. The final alignment will be confirmed after survey, utility mapping, and potholing is completed.

There are several jurisdictions that may have impacts to the pipeline installations – City of Ontario, City of Montclair, and County of San Bernardino. The approximate jurisdictional boundaries are shown on Figure 4-3. We have been coordinating with each agency on their respective requirements and will incorporate those requirements into the design documents.

4.2.3 Brine Line

A new brine line is required from the State Street Facility treatment system to the existing IEUA 33” waste line in Phillips Boulevard that flows from east to west. The brine line is owned and maintained by IEUA. The line is being designed as a dual 4” force main to be installed in a common trench. It will flow by pressure from the State Street Facility to the connection point. The dual force mains will carry brine waste and softener waste separately, one in each pipe, until they are combined into one like at the final discharge point to IEUA.

Approval and permitting is required through IEUA – both their Water Quality group and Engineering group. A condition of the permit is to purchase discharge rights based on a function of flow, chemical oxygen demand (COD), and total suspended solids (TSS) estimates of the discharge.

Discharge rights are obtained by purchasing capacity units to the NRWS north system. The NRWS capacity units (NRWSCU) were calculated using a formula provided by IEUA. Since COD and TSS data was unavailable for Wells 12 and 14, an assumed concentration of 20 mg/L and 2 mg/L was assumed. Using these assumed values and the ISEP™ waste flow of 17,000 gpm, the expected NRWSCU is 43 capacity units.

Based on previous experience with IEUA, they will require a flow meter and sampling point, either in a vault near the discharge point, or onsite at the State Street Facility. The Engineering group will most likely require a new manhole at the connection point. There is currently not a manhole at the intersection of Vernon Avenue and Phillips Boulevard. We will continue to coordinate the requirements with IEUA and incorporate those requirements into the design documents.

5. Permitting

Permits are necessary for the construction and operation of this project. Permits encompass both state and regional applicability. A summary of anticipated permits is included in Table 5-1.

Table 5-1. Anticipated Permits

Governing Organization	Permit
State	
State Water Resources Control Board	NPDES General Construction Permit
	NPDES Stormwater Permit
	Operating Permit Amendments – DDW
Cal OSHA	Trenching and Excavation Permit
CalARP	Chlorine Storage Permit
Regional	
City of Chino	Water Quality Management Plan
City of Montclair	Sewer Discharge Permit
Chino Valley Fire District	Chino Valley Fire District Plan Review Application
	Chino Valley Fire District Permit
Inland Empire Utilities Agency	Direct Discharge Permit

San Bernardino County	Planning Permit: Administrative Approval or Site Approval or Special Conditional Use Permit
	Building Permit
	Grading Permit
Santa Ana Watershed Project Authority	Brine Discharge Permit

5.1 State Permits

The State Water Resources Regional Control Board (SWRCB) requires a National Pollutant Discharge Elimination System (NPDES) permit for both general construction and stormwater. The general construction permit covers construction activity and land disturbances part of a “common plan of development” as well as for more than one acre of disturbances. Items required to obtain a permit include a notice of intent form, risk assessment, post-construction calculations, a site map, storm water pollution prevention plan, certification statement, and a fee. For stormwater, the City falls within the San Bernardino County MS4 Phase 1 NPDES permit. Jurisdiction for Chino does not require San Bernardino oversight. The City will adhere to the requirements of this permit. Other applicable SWRCB permits may include a Water Supply Permit Amendment from DDW, or California Regional Water Quality Control Board Permit.

Based on the current water quality information available, this project is not expected to require 97-005 permitting. Further water quality sampling, to be conducted in the future, will confirm this assumption.

Cal OSHA will require a Project Permit, for any trenching or excavation work.

5.2 Regional Permits

The anticipated regional permits are listed in Table 5-1. The project is located within San Bernardino County, which necessitates a MS4 Phase 1 permit and may require additional permitting since the site is within San Bernardino County jurisdiction. The following permits could be applicable:

- Construction Waste Management Plan
- Demolition – Building
- Drainage Study
- Erosion Control
- Geotechnical Report
- Plumbing – for work on existing building/structure
- Non-Residential New Construction
- Water Quality Management Plan/Post Construction Management Plan

5.3 Offsite Pipeline Permits

See Section 4.2 for a discussion of permits and requirements associated with the brine line and other offsite pipelines.

5.4 CEQA

The California Environmental Quality Act (CEQA) mandates every California state and local project identify and disclose environmental impacts associated with proposed projects. Following acceptance of the preliminary design, Tom Dodson & Associates will prepare the documentation for the CEQA process, including an Initial Study (IS) with a Mitigated Negative Declaration (MND).

6. Cost Estimate

The probable bid cost based on the preliminary design development is \$25.1M. The estimate serves for feasibility/evaluation and is considered to be an AACE Class 4 level. Class 4 has a typical accuracy range of -30% on the low side and +50% on the high side. A 35% design contingency has been added to the estimate based on current status of the design documents, the nature of the project and the estimate classification. The estimate will be refined through detailed design.

Table 6-1 Preliminary Cost Estimate

Item	Description	Estimate
1	Demolition	\$99,000
2	Sand Separator	\$196,000
3	Cartridge Filter	\$481,000
4	GAC System	\$4,900,000
5	GAC Backwash	\$255,000
6	IX System	\$6,407,000
7	IX Building	\$2,438,000
8	Chlorine Dosing	\$118,000
9	Chlorine Storage	\$114,000
10	Storage Building	\$71,000
11	Sitework	\$454,000
12	Yard Piping	\$388,000
13	Well Equipping	\$911,000
14	Electrical and Instrumentation	\$4,041,000
15	Brine Line	\$1,450,000
16	Raw Water Pipeline	\$3,346,000
17	Sewer Line	\$378,000
	Total	\$25,100,000

Note: Costs for IEUA Brine Line connection fee to be determined and developed during detailed design.

7. Construction and Commissioning

7.1 Construction Schedule

It is estimated that the construction for this project would take approximately 1 and a half years from the commencement of the bidding process to Operational Completion. The design for this project is scheduled to finish in early-mid 2022, following bidding it is expected that construction could be completed in the fourth quarter of 2023.

7.2 Maintenance of Plant Operations

Maintaining existing plant operations (MOPO) during construction and commissioning is important to maintaining a potable water supply to the distribution system. The construction of the new treatment processes will be on a new space with few existing facilities. As mentioned in a previous section, the existing facilities include Well 14, which is offline, Reservoir 5, and a WFA supply that regularly imports surface water into the reservoir.

The WFA supply provides a constant source of water to the residents of the City of Chino, so it is essential that both the line and reservoir remain in operation during construction of the new facility. Access will be maintained during construction to allow for maintenance of the WFA supply and Reservoir 5, if needed.

During construction of the underground pipeline connection points between the treated water chlorine dosing building and the reservoir influent point, access to the west side of the site will be disrupted.

The project specifications will include specific details for the general contractor outlining MOPO requirements.

The primary impacts to MOPO are the interface connection points:

- Treated Water Pipeline Connection to Reservoir
- WFA Pipeline Connection to Reservoir

Any required temporary facilities will be written into contractor documents.

7.3 Commissioning

Planning for commissioning during the design phase will help minimize impacts during construction. To assist with commissioning and startup, raw water and waste connection point locations will be considered and allowed for as the system design is developed.

The commissioning process will involve:

1. **Factory Acceptance Testing** – All equipment, where possible, including any required code changes, shall be tested at the factory prior to being installed at site.

2. **Pre-Commissioning Testing** – Pre-commissioning testing will include hydrostatic pipe testing and pipe disinfection.
3. **I/O Testing** – Once construction is completed, all I/O will be verified through loop testing to confirm installation is in accordance with design.
4. **Process Testing** – Following loop testing, each system will be individually tested to verify it is functioning correctly and then the system will be wet commissioned as a whole facility to verify actual performance is in accordance with the design.
5. **Performance Verification** – Upon the system being ready for operations, the treatment performance will be verified with water quality samples to satisfy the requirements of DDW and allow the system to begin producing water safely to the customers.

Commissioning requirements will be detailed in the technical specifications.

Appendix A – Preliminary Drawings

Appendix B - Calculations

APPENDIX 2
AIR QUALITY / GREENHOUSE GAS

AIR QUALITY and GHG IMPACT ANALYSES

HS-132

**STATE STREET WATER TREATMENT PROJECT
PROJECT**

CHINO (UNINCORPORATED SAN BERNARDINO), CALIFORNIA

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ATMOSPHERIC SETTING

The climate of the Chino area, as with all of Southern California, is governed largely by the strength and location of the semi-permanent high pressure center over the Pacific Ocean and the moderating effects of the nearby vast oceanic heat reservoir. Local climatic conditions are characterized by very warm summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes, and comfortable humidities. Unfortunately, the same climatic conditions that create such a desirable living climate combine to severely restrict the ability of the local atmosphere to disperse the large volumes of air pollution generated by the population and industry attracted in part by the climate.

Chino is situated in an area where the pollutants generated in coastal portions of the Los Angeles basin undergo photochemical reactions and then move inland across the project site during the daily sea breeze cycle. The resulting smog at times gives western San Bernardino County some of the worst air quality in all of California. Despite dramatic improvement in air quality in the local area throughout the 1980s, the project site is, nevertheless, expected to continue to experience some unhealthful air quality for at least the next decade.

Temperatures in the project vicinity average 62 degrees Fahrenheit annually with summer afternoons in the low 90s and winter mornings in the low 40s. Temperatures much above 100 or below 30 degrees occur infrequently only under unusual weather conditions and even then these limits are not far exceeded.

In contrast to the slow annual variation of temperature, precipitation is highly variable seasonally. Rainfall in the far western portions of San Bernardino County averages 17 inches annually and falls almost exclusively from late October to early April. Summers are almost completely dry with frequent periods of 4-5 months of no precipitation. Because much of the rainfall comes from the fringes of mid-latitude storms, a shift in the storm track of a few hundred miles can mean the difference between a very wet year and a year with drought conditions.

Winds across the project area are an important meteorological parameter because they control both the initial rate of dilution of locally generated air pollutant emissions as well as their regional trajectory. Wind across Chino, as determined from long-term wind data at Ontario Airport, show a very unidirectional daytime onshore flow from the SW-NW with a very weak offshore return flow from the NE that is strongest on winter nights when the land is cooler than the ocean. The onshore winds during the day average 6-8 mph, while the offshore flow is often calm or drifts slowly westward at 1-3 mph.

During the daytime, any locally generated air emissions are thus transported eastward toward San Bernardino and Cajon Pass without generating any localized air quality impacts. The drainage winds which move slowly across the area have some potential for localized stagnation. Fortunately, these winds have their origin in the San Gabriel Mountains where background pollution levels are low such that any localized contributions do not create any unhealthful impacts. The wind distribution is such that nominal project-related air quality impacts occur more on a regional scale rather than in the immediate Chino area.

One other important wind condition may occur when a high-pressure center forms over the western United States with sinking air forced seaward through local canyons and mountain passes. The air warms by compression and relative humidities drop dramatically. The dry, gusty winds from the N-NE create dust nuisance potential around areas of soil disturbance such as construction sites and sometimes create serious visibility and safety problems for vehicles on area freeways.

In conjunction with the two dominant wind regimes that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. The summer on-shore flow is capped by a massive dome of warm, sinking air which caps a shallow layer of cooler ocean air. These marine/subsidence inversions act like a giant lid over the basin. They allow for local mixing of emissions, but they confine the entire polluted air mass within the basin until it escapes into the desert or along the thermal chimneys formed along heated mountain slopes.

In winter, when the air near the ground cools while the air aloft remains warm, radiation inversions are formed that trap low-level emissions such as automobile exhaust near their source. As background levels of primary vehicular exhaust rise during the seaward return flow, the combination of rising non-local baseline levels plus the emissions trapped locally by these radiation inversions creates micro-scale air pollution "hot spots" near freeways, shopping centers and other traffic concentrations. Because the incoming air draining off the mountains during nocturnal radiation inversion conditions is relatively clean, the summer subsidence inversions are a far more critical factor in determining Chino area air quality than the winter time local trapping inversions.

AMBIENT AIR QUALITY STANDARDS (AAQS)

In order to gauge the significance of the air quality impacts of the proposed project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule, which extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1. Sources and health effects of various pollutants are shown in Table 2.

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to "non-attainment" for the 8-hour ozone standard.

Table 1

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

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California Air Resources Board (5/4/16)

Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (ARB) to recommend adoption of the statewide PM-2.5 standard that is more stringent than the federal standard. This standard was adopted in 2002. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide (NO₂) that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO₂ standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December, 2012, the federal annual standard for PM-2.5 was reduced from 15 µg/m³ to 12 µg/m³ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. A new 8-hour ozone standard was adopted in 2015 after extensive analysis and public input. The adopted national 8-hour ozone standard is 0.07 ppm which matches the current California standard. It will require three years of ambient data collection, then 2 years of non-attainment findings and planning protocol adoption, then several years of plan development and approval. Final air quality plans for the new standard are likely to be adopted around 2022. Ultimate attainment of the new standard in ozone problem areas such as Southern California might be after 2025.

In 2010 a new federal one-hour primary standard for nitrogen dioxide (NO₂) was adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO₂) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO₂ is typically not a problem pollutant.

BASELINE AIR QUALITY

Existing and probable future levels of air quality around the proposed project area can best be best inferred from ambient air quality measurements conducted by the SCAQMD at the Upland monitoring station. This station measures both regional pollution levels such as smog, as well as primary vehicular pollution levels near busy roadways such as carbon monoxide, PM-10 and nitrogen oxides. The Ontario monitoring station near route 60 monitors PM-2.5. Table 3 provides a 4-year summary of the monitoring data for the major air pollutants compiled from these air monitoring stations. From these data the following conclusions can be drawn:

1. Photochemical smog (ozone) levels frequently exceed standards. The 1-hour state standard was violated an average of 14 percent of all days in the last four years near Upland. The federal 8-hour standard has been exceeded an average of 17 percent of all days within the same period and the state 8-hour standard has been exceeded approximately 21 percent of all days. While ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the project vicinity is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade.
2. PM-10 levels have exceeded the state 24-hour standard on approximately five percent of all measurement days. The three times less stringent federal 24 hour-standard has not been exceeded once in the last four years.
3. A substantial fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). Both the frequency of violations of particulate standards, as well as high percentage of PM-2.5, are air quality concerns in the project area. However, PM-2.5 readings have infrequently exceeded the federal 24-hour PM-2.5 ambient standard which has occurred on less than two percent of the measured days.
4. More localized pollutants such as carbon monoxide, nitrogen oxides, etc. are very low near the project site because background levels throughout western San Bernardino County, never exceed allowable levels. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NOx or CO without any threat of violating applicable AAQS.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table 3
Project Area Air Quality Monitoring Summary – 2017-2020
(Days Standards Were Exceeded and Maximum Observed Levels)

Pollutant/Standard	2017	2018	2019	2020
Ozone				
1-Hour > 0.09 ppm (S)	66	25	31	82
8-Hour > 0.07 ppm (S)	87	52	52	114
8- Hour > 0.075 ppm (F)	72	32	34	114
Max. 1-Hour Conc. (ppm)	0.150	0.133	0.131	0.158
Max. 8-Hour Conc. (ppm)	0.127	0.111	0.107	0.123
Carbon Monoxide				
1-Hour > 20. ppm (S)	0	0	0	0
8-Hour > 9. ppm (S, F)	0	0	0	0
Max 8-Hour Conc. (ppm)	1.4	1.2	1.1	1.1
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.06	0.06	0.06	0.06
Respirable Particulates (PM-10)				
24-Hour > 50 µg/m ³ (S)	26/320	14/322	7/306	12/305
24-Hour > 150 µg/m ³ (F)	0/320	0/322	0/306	0/305
Max. 24-Hr. Conc. (µg/m ³)	106.	73.	125.	63.
Fine Particulates (PM-2.5) ¹				
24-Hour > 35 µg/m ³ (F)	7/359	5/357	5/364	4/356
Max. 24-Hr. Conc. (µg/m ³)	44.800	47.9	41.3	53.1

S=State Standard

F=Federal Standard

Source: South Coast AQMD

Upland Monitoring Station (5175) , ¹ Ontario Monitoring (near CA-60) Station for PM-2.5

AIR QUALITY PLANNING

The Federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The SCAB could not meet the deadlines for ozone, nitrogen dioxide, carbon monoxide, or PM-10. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with “serious” or worse ozone problems submit a revision to the State Implementation Plan (SIP). Amendments to the SIP have been proposed, revised and approved over the past decade. The most current regional attainment emissions forecast for ozone precursors (ROG and NO_x) and for carbon monoxide (CO) and for particulate matter are shown in Table 4. Substantial reductions in emissions of ROG, NO_x and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

The Air Quality Management District (AQMD) adopted an updated clean air “blueprint” in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM-10) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to “slip” from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM-2.5 standard.

Because Projected attainment by 2021 required control technologies that did not exist yet, the SCAQMD requested a voluntary “bump-up” from a “severe non-attainment” area to an “extreme non-attainment” designation for ozone. The extreme designation was to allow a longer time period for these technologies to develop. If attainment cannot be demonstrated within the specified deadline without relying on “black-box” measures, EPA would have been required to impose sanctions on the region had the bump-up request not been approved. In April 2010, the EPA approved the change in the non-attainment designation from “severe-17” to “extreme.” This reclassification set a later attainment deadline (2024), but also required the air basin to adopt even more stringent emissions controls.

Table 4
South Coast Air Basin Emissions Forecasts (Emissions in tons/day)

Pollutant	2015^a	2025^b	2030^b
NO_x	357	266	257
VOC	400	393	391
PM-10	161	170	172
PM-2.5	67	70	71

^a2015 Base Year.

^bWith current emissions reduction programs and adopted growth forecasts.

Source: California Air Resources Board, 2013 Almanac of Air Quality

In other air quality attainment plan reviews, EPA had disapproved part of the SCAB PM-2.5 attainment plan included in the AQMP. EPA stated that the current attainment plan relied on PM-2.5 control regulations that had not yet been approved or implemented. It was expected that a number of rules that were pending approval would remove the identified deficiencies. If these issues were not resolved within the next several years, federal funding sanctions for transportation Projects could result. The 2012 AQMP included in the current California State Implementation Plan (SIP) was expected to remedy identified PM-2.5 planning deficiencies.

The federal Clean Air Act requires that non-attainment air basins have EPA approved attainment plans in place. This requirement includes the federal one-hour ozone standard even though that standard was revoked almost ten years ago. There was no approved attainment plan for the one-hour federal standard at the time of revocation. Through a legal quirk, the SCAQMD is now required to develop an AQMP for the long since revoked one-hour federal ozone standard. Because the current SIP for the basin contains a number of control measures for the 8-hour ozone standard that are equally effective for one-hour levels, the 2012 AQMP was believed to satisfy hourly attainment planning requirements.

AQMPs are required to be updated every three years. The 2012 AQMP was adopted in early 2013. An updated AQMP was required for completion in 2016. The 2016 AQMP was adopted by the SCAQMD Board in March 2017 and has been submitted the California Air Resources Board for forwarding to the EPA. The 2016 AQMP acknowledges that motor vehicle emissions have been effectively controlled and that reductions in NO_x, the continuing ozone problem pollutant, may need to come from major stationary sources (power plants, refineries, landfill flares, etc.) . The current attainment deadlines for all federal non-attainment pollutants are now as follows:

8-hour ozone (70 ppb)	2032
Annual PM-2.5 (12 µg/m ³)	2025
8-hour ozone (75 ppb)	2024 (old standard)
1-hour ozone (120 ppb)	2023 (rescinded standard)

24-hour PM-2.5 (35 µg/m³) 2019

The key challenge is that NO_x emission levels, as a critical ozone precursor pollutant, are forecast to continue to exceed the levels that would allow the above deadlines to be met. Unless additional stringent NO_x control measures are adopted and implemented, ozone attainment goals may not be met.

The proposed project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing water improvement projects. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed recreational use is consistent with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis.

AIR QUALITY IMPACT

STANDARDS OF SIGNIFICANCE

Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following four tests of air quality impact significance. A Project would have a potentially significant impact if it:

- a) Conflicts with or obstructs implementation of the applicable air quality plan.
- b) Results in a cumulatively considerable net increase of any criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
- c) Exposes sensitive receptors to substantial pollutant concentrations.
- d) Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified number of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that

exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

Table 5
Daily Emissions Thresholds

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

CONSTRUCTION ACTIVITY IMPACTS

The proposed project is located within a highly industrial corridor along State Street, which is just south of the railroad tracks. The project site is surrounding to the east, south, and west by existing industrial uses, but there is a small mobile home park to the south that takes access from Mission Boulevard.

The proposed project consists of development of a State Street Water Treatment Facility (State Street WTF), which will be a new centralized treatment project that will treat water from Wells 12 and 14. The project also includes installation of offsite water transmission and brine pipelines, improvements to the existing wells, and site improvements.

A new 1000kVA (preliminary) pad-mounted utility transformer shall be provided by Southern California Edison (SCE) to supply sufficient power to the new distribution system. The major project components are as follows:

Ion Exchange Building

The Ion Exchange Facility will be a single-story building.

GAC Treatment

The GAC treatment area will be supported on a reinforced cast-in-place concrete mat slab foundation. The approximate footprint of the new mat slab for the GAC treatment area measures 23 feet x 167 feet. The GAC backwash tank will be a metal tank on a reinforced cast-in-place concrete ring foundation or a reinforced cast-in-place concrete mat slab foundation if required.

ISEP™ Treatment

The ISEP™ treatment will be housed in a rectangular building superstructure consistent with normal pre-engineered metal building-type construction, which includes built-up structural steel column and beam framing with metal panel roof system, secondary roof and wall framing, and metal wall panel siding.

Chlorine Dosing Buildings

The chlorine dosing buildings and chemical storage buildings will be prefabricated Fiber Reinforced Polymer (FRP) buildings.

Well Enclosures

Well 12 and Well 14 enclosures will be modified. Well 12 has existing canopies and privacy fencing and Well 14 has an existing CMU building adjacent to a canopy and privacy fencing. More secure enclosures for the two wells will be provided.

Offsite

The off-site pipelines include the raw water pipeline from Well 12; the parallel brine waste and softener waste lines to the IEUA waste line; and the sewer line. Construction of the various pipelines would involve trenching using a conventional cut and cover technique. On average, 100 to 200 linear feet of pipeline may be installed per day. The pipeline includes the following components:

- Pipeline from Well 12 to the State Street Wellhead Treatment Plant – 8,250 lineal feet (LF) of 16-inch diameter pipeline.
- Brine line to Phillips Blvd from the State Street Wellhead Treatment Plant– 5,850 LF 4-inch diameter pipeline.
- Softener waste brine pipeline to Phillips Blvd from the State Street Wellhead Treatment Plant– 5,850 LF 4-inch diameter pipeline .
- Sewer waste pipeline from the State Street Wellhead Treatment Plant to Mission Boulevard and Belson Avenue – 790 LF 6-inch diameter pipeline.

CalEEMod 2020.4.0 was developed by the SCAQMD to provide a model by which to calculate construction emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

Construction of the project is projected to require one and a half years with the start in mid-2022. Table 6 shows the modeled equipment fleet and durations that were developed with input from the project engineers.

Table 6
CalEEMod Construction Activity Equipment Fleet and Workdays

Wellhead Site

Demolition (1 month) 300 CY demo export	1 Concrete Saw
	1 Dozer
	1 Loader/Backhoe
	2 Skid Steer Loaders
Grade (1 month)	1 Loader/Backhoe
	1 Dozer
	1 Excavator
	1 Grader
Pave/Pour Concrete Slabs (3 months)	1 Paver
	2 Rollers
	1 Loader/Backhoe
	2 Mixers
	1 Compactor
Construction and Equipment Install (10 months)	1 Crane
	3 Forklifts
	2 Loader/Backhoes
	1 Welder
	1 Generator Set
Yard Piping/Drainage (3 months)	1 Trencher
	2 Forklifts
	1 Crane
	2 Skid Steer Loaders

Off-Site Pipeline Installation

Phase Name and Duration	Equipment
Prep and Concrete Removal (1 month)	1 Concrete Saw
	2 Skid Steer Loaders
	2 Loader/Backhoes
Trenching and Pipeline Install (3 months)	2 Trenchers
	2 Forklifts
	1 Loader/Backhoes
Backfill and Paving (1 month)	4 Mixers
	1 Paver
	1 Rollers
	1 Loader/Backhoes
	2 Compactors

Utilizing the indicated equipment fleet shown in Tables 6 the following worst-case daily construction emissions are calculated by CalEEMod and are listed in Table 7.

Table 7
Construction Activity Emissions
Maximum Daily Emissions (pounds/day)

Maximal Construction Emissions per Calendar Year	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
On-Site						
2022	1.7	17.5	16.0	0.0	3.4	2.1
2023	1.6	13.3	15.8	0.0	1.1	0.7
Off-Site						
2023	1.8	15.1	20.4	0.0	2.5	1.2
SCAQMD Thresholds	75	100	550	150	150	55

Source: CalEEMod.2020.4.0 output in appendix

SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.), are applicable to the project and were applied in CalEEMod to minimize fugitive dust emissions. With this measure, peak daily construction activity emissions are estimated to be below SCAQMD CEQA thresholds without the need for added mitigation.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure.

LOCALIZED SIGNIFICANCE THRESHOLDS

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional. For the proposed project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NO_x), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25, 50, 100, 200- and 500-meter source-receptor distances. For this project, there are possible residential in the mobile home park south of the site such that the most conservative 25 meter distance was modeled.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. The most stringent thresholds for a one-acre site were used for this analysis.

Only the on-site emissions resulting from construction of the treatment plant were used for this analysis since the pipeline installation is only in front of a single receptor for a very brief time.

The following thresholds and emissions in Table 8 are determined (pounds per day):

Table 8
LST and Project Emissions (pounds/day)

1 acre/25 meters Southwest San Bernardino Valley	CO	NO_x	PM-10	PM-2.5
LST Threshold	863	118	5	4
Max On-Site Emissions				
2022	16	18	3	2
2023	16	13	1	1

LSTs were compared to the maximum daily construction activities. As seen in Table 8, with active dust suppression, emissions meet the LST for construction thresholds. LST impacts are less-than-significant.

OPERATIONAL IMPACTS

Electrical generation of power will be used for pumping and water treatment. Electrical consumption has no single uniquely related air pollution emissions source because power is supplied to and drawn from a regional grid. Electrical power is generated regionally by a combination of non-combustion (nuclear, hydroelectric, solar, wind, geothermal, etc.) and fossil fuel combustion sources. There is no direct nexus between consumption and the type of power source or the air basin where the source is located. Operational air pollution emissions from electrical generation are therefore not attributable on a project-specific basis.

CONSTRUCTION EMISSIONS MINIMIZATION

Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds with active dust suppression. Recommended measures include:

Fugitive Dust Control

- Apply soil stabilizers or moisten inactive areas.
- Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day).
- Cover all stock piles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Minimize in-out traffic from construction zone
- Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard
- Sweep streets daily if visible soil material is carried out from the construction site

Similarly, ozone precursor emissions (ROG and NO_x) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Combustion emissions control options include:

Exhaust Emissions Control

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3 or better rated heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

GREENHOUSE GAS EMISSIONS

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statutes and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been

developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

THRESHOLDS OF SIGNIFICANCE

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative, or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO₂ equivalent/year. This threshold was used for the project.

PROJECT RELATED GHG EMISSIONS GENERATION

Construction Activity GHG Emissions

The project is assumed to occur over a one and a half year period. During project construction, the CalEEMod2020.4.0 computer model predicts that the construction activities will generate the annual CO₂e emissions identified in Table 10.

Table 10
Construction Emissions (Metric Tons CO₂e)

On-Site	CO₂e
Year 2022	151.8
Year 2023	246.9
Off-Site	
Year 2023	43.5
Total	442.2
Amortized	14.7

CalEEMod Output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less-than-significant.

Project Operational GHG Emissions

Except for occasional maintenance, the only operational source of GHG emissions would be associated with pumping operations. Electricity is generated from a variety of resources at various locations in the western United States. The California Climate Action Registry Protocol (2009) states that each megawatt-hour (MW-HR) of electricity consumption in California results in the release of 0.331 MT of CO₂(e).

Below is preliminary data on power consumption provided by the project engineer which, as a worst case, assumes that the equipment will be operating continuously at full load. This assumption will provide a maximum estimate.

Location	Connected Load (kW)	kWh per day	kWh per year
Well 12	684	16,416	5,991,840
Chino State Street	749	17,976	6,561,240

The total project consumption is almost 13 MW per year. Electricity use will result in GHG emissions from the fossil fueled fraction of Southern California's electrical resource calculated as follows:

13 MWH/year x 0.331 MT/MWH = 4.3 MT/year

The screening threshold of 10,000 MT of CO₂(e) GHG emissions will not be exceeded.

CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES

In March 2014, the San Bernardino Associated Governments and Participating San Bernardino County Cities Partnership (Partnership) created a final draft of the San Bernardino County Regional Greenhouse Gas Reduction Plan (Reduction Plan) for each of the 25 jurisdictional Partner Cities in the County. The plan was recently updated in March of 2021. The Reduction Plan was created in accordance with AB 32, which established a greenhouse gas limit for the state of California. The Reduction Plan seeks to create an inventory of GHG gases and develop jurisdiction specific GHG reduction measures and baseline information that could be used by the Partnership Cities of San Bernardino County, including the County itself.

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. The project will generate minimal GHG emissions as shown. There are no reduction measures which are applicable to this project and therefore no consistency is required.

CALEEMOD2020.4.0 COMPUTER MODEL OUTPUT

- **DAILY EMISISONS**
- **ANNUAL EMISSIONS**

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**HS-132 Chino Water Treatment On-Site****South Coast Air Basin, Summer****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	4.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - approximate 4 acre site

Construction Phase - Demo: 1 month, Grade: 1 month, Pour Concrete Slabs: 3 months, Construct Buildings and Equipment: 10 months, Yard: 3 months

Off-road Equipment - Demo, 1 concrete saw, 1 dozer, 1 loader/backhoe, 2 skid steer loaders

Off-road Equipment - Grade: 1 loader/backhoe, 1 dozer, 1 excavator, 1 grader

Off-road Equipment - Construction and Equipment: 1 crane, 3 forklifts, 2 loader/backhoes, 1 welder, 1 gen set

Off-road Equipment - Concrete Slabs: 1 paver, 2 rollers, 1 loader/backhoe, 2 mixers, 1 compactor

Off-road Equipment - Yard Pipeline: 1 trencher, 2 forklifts, 1 crane, 2 skid steer loaders

Trips and VMT - 10 concrete trips per day for slabs

Demolition - 50 tons debris

Construction Off-road Equipment Mitigation -

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	200.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	60.00
tblConstructionPhase	PhaseEndDate	6/2/2023	8/2/2023
tblConstructionPhase	PhaseEndDate	7/15/2022	8/2/2022
tblConstructionPhase	PhaseEndDate	6/28/2023	10/25/2022
tblConstructionPhase	PhaseStartDate	7/16/2022	10/27/2022
tblConstructionPhase	PhaseStartDate	6/3/2023	8/3/2022
tblGrading	AcresOfGrading	20.00	8.00
tblLandUse	LotAcreage	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	PhaseName		Concrete Slabs
tblOffRoadEquipment	PhaseName		Yard Pipeline and Drainage
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Yard Pipeline and Drainage
tblOffRoadEquipment	PhaseName		Yard Pipeline and Drainage
tblOffRoadEquipment	PhaseName		Yard Pipeline and Drainage
tblTripsAndVMT	PhaseName		Yard Pipeline and Drainage

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbITripsAndVMT	VendorTripNumber	0.00	2.00
tbITripsAndVMT	VendorTripNumber	0.00	5.00
tbITripsAndVMT	VendorTripNumber	0.00	10.00
tbITripsAndVMT	WorkerTripNumber	0.00	40.00
tbITripsAndVMT	WorkerTripNumber	20.00	40.00

2.0 Emissions Summary

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					
2022	1.7077	17.5400	15.9996	0.0292	6.6140	0.7616	7.3756	3.4005	0.7007	4.1012	0.0000	2,802.480 7	2,802.480 7	0.7380	0.0398	2,823.385 7
2023	1.5722	13.3094	15.7565	0.0290	0.4791	0.6369	1.1161	0.1278	0.6007	0.7285	0.0000	2,784.921 2	2,784.921 2	0.5611	0.0233	2,805.247 6
Maximum	1.7077	17.5400	15.9996	0.0292	6.6140	0.7616	7.3756	3.4005	0.7007	4.1012	0.0000	2,802.480 7	2,802.480 7	0.7380	0.0398	2,823.385 7

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					
2022	1.7077	17.5400	15.9996	0.0292	2.6817	0.7616	3.4433	1.3533	0.7007	2.0540	0.0000	2,802.480 7	2,802.480 7	0.7380	0.0398	2,823.385 7
2023	1.5722	13.3094	15.7565	0.0290	0.4791	0.6369	1.1161	0.1278	0.6007	0.7285	0.0000	2,784.921 2	2,784.921 2	0.5611	0.0233	2,805.247 6
Maximum	1.7077	17.5400	15.9996	0.0292	2.6817	0.7616	3.4433	1.3533	0.7007	2.0540	0.0000	2,802.480 7	2,802.480 7	0.7380	0.0398	2,823.385 7

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	55.44	0.00	46.31	58.02	0.00	42.39	0.00	0.00	0.00	0.00	0.00	0.00

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	6/1/2022	6/28/2022	5	20	
2	Grade	Grading	7/6/2022	8/2/2022	5	20	
3	Building Construction	Building Construction	10/27/2022	8/2/2023	5	200	
4	Concrete Slabs	Paving	8/3/2022	10/25/2022	5	60	
5	Yard Pipeline and Drainage	Trenching	9/1/2023	11/23/2023	5	60	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 8****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Concrete Slabs	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Concrete Slabs	Plate Compactors	1	1.00	8	0.43
Grade	Excavators	1	8.00	158	0.38

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grade	Graders	1	8.00	187	0.41
Concrete Slabs	Pavers	1	8.00	130	0.42
Yard Pipeline and Drainage	Trenchers	1	8.00	78	0.50
Concrete Slabs	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grade	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Skid Steer Loaders	2	7.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Grade	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Concrete Slabs	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Yard Pipeline and Drainage	Rough Terrain Forklifts	2	8.00	100	0.40
Building Construction	Welders	1	8.00	46	0.45
Yard Pipeline and Drainage	Cranes	1	6.00	231	0.29
Yard Pipeline and Drainage	Skid Steer Loaders	2	6.00	65	0.37

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
Yard Pipeline and Drainage	0	20.00	2.00		14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	40.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grade	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Concrete Slabs	8	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2022****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					0.0535	0.0000	0.0535	8.1000e-003	0.0000	8.1000e-003			0.0000			0.0000
Off-Road	1.4597	14.6735	11.6147	0.0211		0.7062	0.7062		0.6617	0.6617		2,031.4785	2,031.4785	0.4977		2,043.9203
Total	1.4597	14.6735	11.6147	0.0211	0.0535	0.7062	0.7597	8.1000e-003	0.6617	0.6698		2,031.4785	2,031.4785	0.4977		2,043.9203

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	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
Worker	0.0512	0.0361	0.5683	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.1717	153.1717	4.0100e-003	3.6600e-003	154.3616
Total	0.0512	0.0361	0.5683	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.1717	153.1717	4.0100e-003	3.6600e-003	154.3616

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2022****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					0.0209	0.0000	0.0209	3.1600e-003	0.0000	3.1600e-003			0.0000			0.0000
Off-Road	1.4597	13.0551	11.6147	0.0211		0.7062	0.7062		0.6617	0.6617	0.0000	2,031.4785	2,031.4785	0.4977		2,043.9203
Total	1.4597	13.0551	11.6147	0.0211	0.0209	0.7062	0.7271	3.1600e-003	0.6617	0.6649	0.0000	2,031.4785	2,031.4785	0.4977		2,043.9203

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	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
Worker	0.0512	0.0361	0.5683	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.1717	153.1717	4.0100e-003	3.6600e-003	154.3616
Total	0.0512	0.0361	0.5683	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.1717	153.1717	4.0100e-003	3.6600e-003	154.3616

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Grade - 2022****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					6.4463	0.0000	6.4463	3.3560	0.0000	3.3560			0.0000			0.0000
Off-Road	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.568 5	2,269.568 5	0.7340		2,287.919 1
Total	1.6192	17.5039	10.7968	0.0234	6.4463	0.7606	7.2069	3.3560	0.6998	4.0558		2,269.568 5	2,269.568 5	0.7340		2,287.919 1

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	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
Worker	0.0512	0.0361	0.5683	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.1717	153.1717	4.0100e-003	3.6600e-003	154.3616
Total	0.0512	0.0361	0.5683	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.1717	153.1717	4.0100e-003	3.6600e-003	154.3616

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Grade - 2022****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					2.5141	0.0000	2.5141	1.3089	0.0000	1.3089			0.0000			0.0000
Off-Road	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.568 5	2,269.568 5	0.7340		2,287.919 1
Total	1.6192	17.5039	10.7968	0.0234	2.5141	0.7606	3.2747	1.3089	0.6998	2.0086	0.0000	2,269.568 5	2,269.568 5	0.7340		2,287.919 1

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	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
Worker	0.0512	0.0361	0.5683	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.1717	153.1717	4.0100e-003	3.6600e-003	154.3616
Total	0.0512	0.0361	0.5683	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.1717	153.1717	4.0100e-003	3.6600e-003	154.3616

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2022****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	1.5621	14.1495	14.4052	0.0242		0.7302	0.7302		0.6886	0.6886		2,290.7495	2,290.7495	0.5267		2,303.9169
Total	1.5621	14.1495	14.4052	0.0242		0.7302	0.7302		0.6886	0.6886		2,290.7495	2,290.7495	0.5267		2,303.9169

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	0.0000
Vendor	9.1300e-003	0.2359	0.0789	9.6000e-004	0.0320	2.4000e-003	0.0344	9.2200e-003	2.3000e-003	0.0115		103.2734	103.2734	3.8000e-003	0.0150	107.8378
Worker	0.1365	0.0963	1.5155	4.0400e-003	0.4471	2.6800e-003	0.4498	0.1186	2.4600e-003	0.1210		408.4579	408.4579	0.0107	9.7500e-003	411.6310
Total	0.1456	0.3323	1.5944	5.0000e-003	0.4791	5.0800e-003	0.4842	0.1278	4.7600e-003	0.1326		511.7312	511.7312	0.0145	0.0248	519.4688

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2022****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	1.5621	14.1495	14.4052	0.0242		0.7302	0.7302		0.6886	0.6886	0.0000	2,290.7495	2,290.7495	0.5267		2,303.9169
Total	1.5621	14.1495	14.4052	0.0242		0.7302	0.7302		0.6886	0.6886	0.0000	2,290.7495	2,290.7495	0.5267		2,303.9169

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	0.0000
Vendor	9.1300e-003	0.2359	0.0789	9.6000e-004	0.0320	2.4000e-003	0.0344	9.2200e-003	2.3000e-003	0.0115		103.2734	103.2734	3.8000e-003	0.0150	107.8378
Worker	0.1365	0.0963	1.5155	4.0400e-003	0.4471	2.6800e-003	0.4498	0.1186	2.4600e-003	0.1210		408.4579	408.4579	0.0107	9.7500e-003	411.6310
Total	0.1456	0.3323	1.5944	5.0000e-003	0.4791	5.0800e-003	0.4842	0.1278	4.7600e-003	0.1326		511.7312	511.7312	0.0145	0.0248	519.4688

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2023****Unmitigated Construction 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	1.4403	13.0412	14.2916	0.0242		0.6334	0.6334		0.5974	0.5974		2,291.3305	2,291.3305	0.5225		2,304.3930
Total	1.4403	13.0412	14.2916	0.0242		0.6334	0.6334		0.5974	0.5974		2,291.3305	2,291.3305	0.5225		2,304.3930

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	0.0000
Vendor	5.3600e-003	0.1830	0.0702	9.1000e-004	0.0320	1.0100e-003	0.0330	9.2200e-003	9.7000e-004	0.0102		98.2901	98.2901	3.6400e-003	0.0143	102.6292
Worker	0.1265	0.0852	1.3947	3.9100e-003	0.4471	2.5200e-003	0.4496	0.1186	2.3200e-003	0.1209		395.3006	395.3006	9.5900e-003	9.0100e-003	398.2253
Total	0.1319	0.2682	1.4649	4.8200e-003	0.4791	3.5300e-003	0.4827	0.1278	3.2900e-003	0.1311		493.5907	493.5907	0.0132	0.0233	500.8545

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2023****Mitigated Construction 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	1.4403	13.0412	14.2916	0.0242		0.6334	0.6334		0.5974	0.5974	0.0000	2,291.3305	2,291.3305	0.5225		2,304.3930
Total	1.4403	13.0412	14.2916	0.0242		0.6334	0.6334		0.5974	0.5974	0.0000	2,291.3305	2,291.3305	0.5225		2,304.3930

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	0.0000
Vendor	5.3600e-003	0.1830	0.0702	9.1000e-004	0.0320	1.0100e-003	0.0330	9.2200e-003	9.7000e-004	0.0102		98.2901	98.2901	3.6400e-003	0.0143	102.6292
Worker	0.1265	0.0852	1.3947	3.9100e-003	0.4471	2.5200e-003	0.4496	0.1186	2.3200e-003	0.1209		395.3006	395.3006	9.5900e-003	9.0100e-003	398.2253
Total	0.1319	0.2682	1.4649	4.8200e-003	0.4791	3.5300e-003	0.4827	0.1278	3.2900e-003	0.1311		493.5907	493.5907	0.0132	0.0233	500.8545

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Concrete Slabs - 2022****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	0.7142	6.9471	8.4014	0.0129		0.3617	0.3617		0.3346	0.3346		1,217.737 0	1,217.737 0	0.3763		1,227.143 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7142	6.9471	8.4014	0.0129		0.3617	0.3617		0.3346	0.3346		1,217.737 0	1,217.737 0	0.3763		1,227.143 4

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	0.0000
Vendor	0.0183	0.4719	0.1578	1.9200e-003	0.0640	4.8100e-003	0.0688	0.0184	4.6000e-003	0.0230		206.5467	206.5467	7.6000e-003	0.0300	215.6755
Worker	0.1365	0.0963	1.5155	4.0400e-003	0.4471	2.6800e-003	0.4498	0.1186	2.4600e-003	0.1210		408.4579	408.4579	0.0107	9.7500e-003	411.6310
Total	0.1547	0.5682	1.6733	5.9600e-003	0.5111	7.4900e-003	0.5186	0.1370	7.0600e-003	0.1441		615.0046	615.0046	0.0183	0.0398	627.3066

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Concrete Slabs - 2022****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	0.7142	6.9156	8.4014	0.0129		0.3617	0.3617		0.3346	0.3346	0.0000	1,217.737 0	1,217.737 0	0.3763		1,227.143 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7142	6.9156	8.4014	0.0129		0.3617	0.3617		0.3346	0.3346	0.0000	1,217.737 0	1,217.737 0	0.3763		1,227.143 4

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	0.0000
Vendor	0.0183	0.4719	0.1578	1.9200e-003	0.0640	4.8100e-003	0.0688	0.0184	4.6000e-003	0.0230		206.5467	206.5467	7.6000e-003	0.0300	215.6755
Worker	0.1365	0.0963	1.5155	4.0400e-003	0.4471	2.6800e-003	0.4498	0.1186	2.4600e-003	0.1210		408.4579	408.4579	0.0107	9.7500e-003	411.6310
Total	0.1547	0.5682	1.6733	5.9600e-003	0.5111	7.4900e-003	0.5186	0.1370	7.0600e-003	0.1441		615.0046	615.0046	0.0183	0.0398	627.3066

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Yard Pipeline and Drainage - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9201	10.1968	10.6390	0.0177		0.4782	0.4782		0.4399	0.4399		1,715.6595	1,715.6595	0.5549		1,729.5315
Total	0.9201	10.1968	10.6390	0.0177		0.4782	0.4782		0.4399	0.4399		1,715.6595	1,715.6595	0.5549		1,729.5315

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	0.0000
Vendor	2.1500e-003	0.0732	0.0281	3.6000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.9000e-004	4.0700e-003		39.3160	39.3160	1.4600e-003	5.7000e-003	41.0517
Worker	0.0633	0.0426	0.6974	1.9600e-003	0.2236	1.2600e-003	0.2248	0.0593	1.1600e-003	0.0605		197.6503	197.6503	4.7900e-003	4.5000e-003	199.1127
Total	0.0654	0.1158	0.7255	2.3200e-003	0.2364	1.6600e-003	0.2380	0.0630	1.5500e-003	0.0645		236.9663	236.9663	6.2500e-003	0.0102	240.1644

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Yard Pipeline and Drainage - 2023****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	0.9201	2.8429	10.6390	0.0177		0.4782	0.4782		0.4399	0.4399	0.0000	1,715.6595	1,715.6595	0.5549		1,729.5315
Total	0.9201	2.8429	10.6390	0.0177		0.4782	0.4782		0.4399	0.4399	0.0000	1,715.6595	1,715.6595	0.5549		1,729.5315

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	0.0000
Vendor	2.1500e-003	0.0732	0.0281	3.6000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.9000e-004	4.0700e-003		39.3160	39.3160	1.4600e-003	5.7000e-003	41.0517
Worker	0.0633	0.0426	0.6974	1.9600e-003	0.2236	1.2600e-003	0.2248	0.0593	1.1600e-003	0.0605		197.6503	197.6503	4.7900e-003	4.5000e-003	199.1127
Total	0.0654	0.1158	0.7255	2.3200e-003	0.2364	1.6600e-003	0.2380	0.0630	1.5500e-003	0.0645		236.9663	236.9663	6.2500e-003	0.0102	240.1644

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	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
User Defined Industrial	0.544109	0.060768	0.184625	0.129879	0.023845	0.006339	0.011719	0.008584	0.000815	0.000515	0.024285	0.000743	0.003774

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.0 Energy Detail**

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
User Defined Industrial	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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail**7.1 Mitigation Measures Water**

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**HS-132 Chino Water Piping Off-Site****South Coast Air Basin, Summer****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - pipeline alignment

Construction Phase - Asphalt Removal: 1 month, Trench and Install Pipe: 3 months, Backfill and Pave: 1 month

Off-road Equipment - Demo: 1 concrete saw, 2 skid steer loaders, 2 loader/backhoes

Off-road Equipment - Paving: 4 mixers, 1 paver, 1 roller, 1 loader/backhoe, 2 compactors

Off-road Equipment - Trench and Install Pipe: 2 trenchers, 2 forklifts, 1 loader/backhoe

Trips and VMT - increased worker trips

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	PhaseEndDate	1/13/2023	1/27/2023

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseEndDate	6/14/2023	5/26/2023
tblConstructionPhase	PhaseStartDate	6/8/2023	5/1/2023
tblDemolition	PhaseName	Demolition	Paving
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	PhaseName	Paving	Demolition
tblOffRoadEquipment	PhaseName	Demolition	Paving
tblOffRoadEquipment	PhaseName	Paving	Demolition
tblOffRoadEquipment	PhaseName	Paving	Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName	Demolition	Paving
tblOffRoadEquipment	PhaseName	Paving	Demolition
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOnRoadDust	PhaseName	Trench and Install Pipe	Paving
tblOnRoadDust	PhaseName	Demolition	Paving
tblOnRoadDust	PhaseName	Paving	Demolition
tblTripsAndVMT	PhaseName		Paving
tblTripsAndVMT	PhaseName	Demolition	Paving
tblTripsAndVMT	PhaseName	Paving	Demolition
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	40.00

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbITripsAndVMT

WorkerTripNumber

18.00

40.00

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					
2023	1.8352	15.1356	20.4082	0.0335	1.6935	0.8560	2.5495	0.4339	0.7978	1.2317	0.0000	3,273.0795	3,273.0795	0.6483	0.0237	3,296.3568
Maximum	1.8352	15.1356	20.4082	0.0335	1.6935	0.8560	2.5495	0.4339	0.7978	1.2317	0.0000	3,273.0795	3,273.0795	0.6483	0.0237	3,296.3568

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					
2023	1.8352	6.4697	20.4082	0.0335	1.6935	0.8560	2.5495	0.4339	0.7978	1.2317	0.0000	3,273.0795	3,273.0795	0.6483	0.0237	3,296.3568
Maximum	1.8352	6.4697	20.4082	0.0335	1.6935	0.8560	2.5495	0.4339	0.7978	1.2317	0.0000	3,273.0795	3,273.0795	0.6483	0.0237	3,296.3568

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

[illegible]

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	Trench and Install Pipe	Trenching	2/2/2023	4/26/2023	5	60	
2	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
3	Paving	Paving	5/1/2023	5/26/2023	5	20	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Skid Steer Loaders	2	6.00	65	0.37
Demolition	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Plate Compactors	2	7.00	8	0.43
Paving	Trenchers	2	7.00	78	0.50
Paving	Forklifts	2	7.00	89	0.20
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Demolition	Pavers	1	7.00	130	0.42

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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
Paving	0	40.00	2.00		14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trench and Install Pipe										
Paving	4	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	7	40.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction**3.2 Trench and Install Pipe - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					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
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Trench and Install Pipe - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					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
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

3.3 Demolition - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6813	5.9443	7.3893	0.0121		0.2814	0.2814		0.2637	0.2637		1,096.4267	1,096.4267	0.3081		1,104.1286
Total	0.6813	5.9443	7.3893	0.0121		0.2814	0.2814		0.2637	0.2637		1,096.4267	1,096.4267	0.3081		1,104.1286

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Demolition - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0000
Vendor	2.1500e-003	0.0732	0.0281	3.6000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.9000e-004	4.0700e-003		39.3160	39.3160	1.4600e-003	5.7000e-003	41.0517
Worker	0.1265	0.0852	1.3947	3.9100e-003	0.4471	2.5200e-003	0.4496	0.1186	2.3200e-003	0.1209		395.3006	395.3006	9.5900e-003	9.0100e-003	398.2253
Total	0.1287	0.1584	1.4228	4.2700e-003	0.4599	2.9200e-003	0.4628	0.1223	2.7100e-003	0.1250		434.6167	434.6167	0.0111	0.0147	439.2770

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	0.6813	5.5046	7.3893	0.0121		0.2814	0.2814		0.2637	0.2637	0.0000	1,096.4267	1,096.4267	0.3081		1,104.1286
Total	0.6813	5.5046	7.3893	0.0121		0.2814	0.2814		0.2637	0.2637	0.0000	1,096.4267	1,096.4267	0.3081		1,104.1286

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Demolition - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0000
Vendor	2.1500e-003	0.0732	0.0281	3.6000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.9000e-004	4.0700e-003		39.3160	39.3160	1.4600e-003	5.7000e-003	41.0517
Worker	0.1265	0.0852	1.3947	3.9100e-003	0.4471	2.5200e-003	0.4496	0.1186	2.3200e-003	0.1209		395.3006	395.3006	9.5900e-003	9.0100e-003	398.2253
Total	0.1287	0.1584	1.4228	4.2700e-003	0.4599	2.9200e-003	0.4628	0.1223	2.7100e-003	0.1250		434.6167	434.6167	0.0111	0.0147	439.2770

3.4 Paving - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5800	14.8920	17.5907	0.0254		0.8505	0.8505		0.7928	0.7928		2,443.162 2	2,443.162 2	0.6277		2,458.854 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.5800	14.8920	17.5907	0.0254		0.8505	0.8505		0.7928	0.7928		2,443.162 2	2,443.162 2	0.6277		2,458.854 4

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Paving - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0000
Vendor	2.1500e-003	0.0732	0.0281	3.6000e-004	0.0219	4.0000e-004	0.0223	5.9300e-003	3.9000e-004	6.3100e-003		39.3160	39.3160	1.4600e-003	5.7000e-003	41.0517
Worker	0.2530	0.1704	2.7894	7.8200e-003	1.6716	5.0400e-003	1.6767	0.4280	4.6400e-003	0.4326		790.6012	790.6012	0.0192	0.0180	796.4507
Total	0.2552	0.2436	2.8175	8.1800e-003	1.6935	5.4400e-003	1.6990	0.4339	5.0300e-003	0.4389		829.9173	829.9173	0.0206	0.0237	837.5024

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	1.5800	6.2260	17.5907	0.0254		0.8505	0.8505		0.7928	0.7928	0.0000	2,443.162 2	2,443.162 2	0.6277		2,458.854 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.5800	6.2260	17.5907	0.0254		0.8505	0.8505		0.7928	0.7928	0.0000	2,443.162 2	2,443.162 2	0.6277		2,458.854 4

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Paving - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0000
Vendor	2.1500e-003	0.0732	0.0281	3.6000e-004	0.0219	4.0000e-004	0.0223	5.9300e-003	3.9000e-004	6.3100e-003		39.3160	39.3160	1.4600e-003	5.7000e-003	41.0517
Worker	0.2530	0.1704	2.7894	7.8200e-003	1.6716	5.0400e-003	1.6767	0.4280	4.6400e-003	0.4326		790.6012	790.6012	0.0192	0.0180	796.4507
Total	0.2552	0.2436	2.8175	8.1800e-003	1.6935	5.4400e-003	1.6990	0.4339	5.0300e-003	0.4389		829.9173	829.9173	0.0206	0.0237	837.5024

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	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
User Defined Industrial	0.544109	0.060768	0.184625	0.129879	0.023845	0.006339	0.011719	0.008584	0.000815	0.000515	0.024285	0.000743	0.003774

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.0 Energy Detail**

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
User Defined Industrial	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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail**7.1 Mitigation Measures Water**

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**HS-132 Chino Water Treatment On-Site****South Coast Air Basin, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	4.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - approximate 4 acre site

Construction Phase - Demo: 1 month, Grade: 1 month, Pour Concrete Slabs: 3 months, Construct Buildings and Equipment: 10 months, Yard: 3 months

Off-road Equipment - Demo, 1 concrete saw, 1 dozer, 1 loader/backhoe, 2 skid steer loaders

Off-road Equipment - Grade: 1 loader/backhoe, 1 dozer, 1 excavator, 1 grader

Off-road Equipment - Construction and Equipment: 1 crane, 3 forklifts, 2 loader/backhoes, 1 welder, 1 gen set

Off-road Equipment - Concrete Slabs: 1 paver, 2 rollers, 1 loader/backhoe, 2 mixers, 1 compactor

Off-road Equipment - Yard Pipeline: 1 trencher, 2 forklifts, 1 crane, 2 skid steer loaders

Trips and VMT - 10 concrete trips per day for slabs

Demolition - 50 tons debris

Construction Off-road Equipment Mitigation -

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	200.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	60.00
tblConstructionPhase	PhaseEndDate	6/2/2023	8/2/2023
tblConstructionPhase	PhaseEndDate	7/15/2022	8/2/2022
tblConstructionPhase	PhaseEndDate	6/28/2023	10/25/2022
tblConstructionPhase	PhaseStartDate	7/16/2022	10/27/2022
tblConstructionPhase	PhaseStartDate	6/3/2023	8/3/2022
tblGrading	AcresOfGrading	20.00	8.00
tblLandUse	LotAcreage	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	PhaseName		Concrete Slabs
tblOffRoadEquipment	PhaseName		Yard Pipeline and Drainage
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Yard Pipeline and Drainage
tblOffRoadEquipment	PhaseName		Yard Pipeline and Drainage
tblOffRoadEquipment	PhaseName		Yard Pipeline and Drainage
tblTripsAndVMT	PhaseName		Yard Pipeline and Drainage

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbITripsAndVMT	VendorTripNumber	0.00	2.00
tbITripsAndVMT	VendorTripNumber	0.00	5.00
tbITripsAndVMT	VendorTripNumber	0.00	10.00
tbITripsAndVMT	WorkerTripNumber	0.00	40.00
tbITripsAndVMT	WorkerTripNumber	20.00	40.00

2.0 Emissions Summary

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0978	0.8900	0.9077	1.7200e-003	0.0944	0.0430	0.1374	0.0415	0.0402	0.0817	0.0000	150.4637	150.4637	0.0335	1.7200e-003	151.8146
2023	0.1496	1.3293	1.5381	2.8100e-003	0.0430	0.0631	0.1061	0.0115	0.0592	0.0707	0.0000	245.0292	245.0292	0.0525	1.9500e-003	246.9231
Maximum	0.1496	1.3293	1.5381	2.8100e-003	0.0944	0.0631	0.1374	0.0415	0.0592	0.0817	0.0000	245.0292	245.0292	0.0525	1.9500e-003	246.9231

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					
2022	0.0978	0.8729	0.9077	1.7200e-003	0.0548	0.0430	0.0978	0.0210	0.0402	0.0612	0.0000	150.4635	150.4635	0.0335	1.7200e-003	151.8145
2023	0.1496	1.1087	1.5381	2.8100e-003	0.0430	0.0631	0.1061	0.0115	0.0592	0.0707	0.0000	245.0289	245.0289	0.0525	1.9500e-003	246.9229
Maximum	0.1496	1.1087	1.5381	2.8100e-003	0.0548	0.0631	0.1061	0.0210	0.0592	0.0707	0.0000	245.0289	245.0289	0.0525	1.9500e-003	246.9229

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	10.71	0.00	0.00	28.87	0.00	16.28	38.73	0.00	13.47	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	6-1-2022	8-31-2022	0.4411	0.4246
2	9-1-2022	11-30-2022	0.3677	0.3671
3	12-1-2022	2-28-2023	0.4936	0.4936
4	3-1-2023	5-31-2023	0.4892	0.4892
5	6-1-2023	8-31-2023	0.3348	0.3348
6	9-1-2023	9-30-2023	0.1211	0.0423
		Highest	0.4936	0.4936

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

	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
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	6/1/2022	6/28/2022	5	20	
2	Grade	Grading	7/6/2022	8/2/2022	5	20	
3	Building Construction	Building Construction	10/27/2022	8/2/2023	5	200	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Concrete Slabs	Paving	8/3/2022	10/25/2022	5	60
5	Yard Pipeline and Drainage	Trenching	9/1/2023	11/23/2023	5	60

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 8****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Concrete Slabs	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Concrete Slabs	Plate Compactors	1	1.00	8	0.43
Grade	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grade	Graders	1	8.00	187	0.41
Concrete Slabs	Pavers	1	8.00	130	0.42
Yard Pipeline and Drainage	Trenchers	1	8.00	78	0.50
Concrete Slabs	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grade	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Skid Steer Loaders	2	7.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Grade	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Concrete Slabs	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Yard Pipeline and Drainage	Rough Terrain Forklifts	2	8.00	100	0.40
Building Construction	Welders	1	8.00	46	0.45
Yard Pipeline and Drainage	Cranes	1	6.00	231	0.29
Yard Pipeline and Drainage	Skid Steer Loaders	2	6.00	65	0.37

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
Yard Pipeline and Drainage	0	20.00	2.00		14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	40.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grade	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Concrete Slabs	8	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2022****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					5.3000e-004	0.0000	5.3000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0146	0.1467	0.1162	2.1000e-004		7.0600e-003	7.0600e-003		6.6200e-003	6.6200e-003	0.0000	18.4293	18.4293	4.5100e-003	0.0000	18.5421
Total	0.0146	0.1467	0.1162	2.1000e-004	5.3000e-004	7.0600e-003	7.5900e-003	8.0000e-005	6.6200e-003	6.7000e-003	0.0000	18.4293	18.4293	4.5100e-003	0.0000	18.5421

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	5.0000e-004	4.1000e-004	5.3100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	4.0000e-005	4.0000e-005	1.3422
Total	5.0000e-004	4.1000e-004	5.3100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	4.0000e-005	4.0000e-005	1.3422

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2022****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					2.1000e-004	0.0000	2.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0146	0.1306	0.1162	2.1000e-004		7.0600e-003	7.0600e-003		6.6200e-003	6.6200e-003	0.0000	18.4292	18.4292	4.5100e-003	0.0000	18.5421
Total	0.0146	0.1306	0.1162	2.1000e-004	2.1000e-004	7.0600e-003	7.2700e-003	3.0000e-005	6.6200e-003	6.6500e-003	0.0000	18.4292	18.4292	4.5100e-003	0.0000	18.5421

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	5.0000e-004	4.1000e-004	5.3100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	4.0000e-005	4.0000e-005	1.3422
Total	5.0000e-004	4.1000e-004	5.3100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	4.0000e-005	4.0000e-005	1.3422

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Grade - 2022****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					0.0645	0.0000	0.0645	0.0336	0.0000	0.0336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0162	0.1750	0.1080	2.3000e-004		7.6100e-003	7.6100e-003		7.0000e-003	7.0000e-003	0.0000	20.5892	20.5892	6.6600e-003	0.0000	20.7557
Total	0.0162	0.1750	0.1080	2.3000e-004	0.0645	7.6100e-003	0.0721	0.0336	7.0000e-003	0.0406	0.0000	20.5892	20.5892	6.6600e-003	0.0000	20.7557

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	5.0000e-004	4.1000e-004	5.3100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	4.0000e-005	4.0000e-005	1.3422
Total	5.0000e-004	4.1000e-004	5.3100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	4.0000e-005	4.0000e-005	1.3422

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Grade - 2022****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					0.0251	0.0000	0.0251	0.0131	0.0000	0.0131	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0162	0.1750	0.1080	2.3000e-004		7.6100e-003	7.6100e-003		7.0000e-003	7.0000e-003	0.0000	20.5892	20.5892	6.6600e-003	0.0000	20.7556
Total	0.0162	0.1750	0.1080	2.3000e-004	0.0251	7.6100e-003	0.0328	0.0131	7.0000e-003	0.0201	0.0000	20.5892	20.5892	6.6600e-003	0.0000	20.7556

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	5.0000e-004	4.1000e-004	5.3100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	4.0000e-005	4.0000e-005	1.3422
Total	5.0000e-004	4.1000e-004	5.3100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	4.0000e-005	4.0000e-005	1.3422

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2022****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	0.0367	0.3325	0.3385	5.7000e-004		0.0172	0.0172		0.0162	0.0162	0.0000	48.8361	48.8361	0.0112	0.0000	49.1168
Total	0.0367	0.3325	0.3385	5.7000e-004		0.0172	0.0172		0.0162	0.0162	0.0000	48.8361	48.8361	0.0112	0.0000	49.1168

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	2.1000e-004	5.8200e-003	1.8800e-003	2.0000e-005	7.4000e-004	6.0000e-005	8.0000e-004	2.1000e-004	5.0000e-005	2.7000e-004	0.0000	2.2020	2.2020	8.0000e-005	3.2000e-004	2.2994
Worker	3.1400e-003	2.5400e-003	0.0333	9.0000e-005	0.0103	6.0000e-005	0.0104	2.7400e-003	6.0000e-005	2.8000e-003	0.0000	8.3381	8.3381	2.3000e-004	2.2000e-004	8.4108
Total	3.3500e-003	8.3600e-003	0.0351	1.1000e-004	0.0111	1.2000e-004	0.0112	2.9500e-003	1.1000e-004	3.0700e-003	0.0000	10.5401	10.5401	3.1000e-004	5.4000e-004	10.7103

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2022****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	0.0367	0.3325	0.3385	5.7000e-004		0.0172	0.0172		0.0162	0.0162	0.0000	48.8361	48.8361	0.0112	0.0000	49.1168
Total	0.0367	0.3325	0.3385	5.7000e-004		0.0172	0.0172		0.0162	0.0162	0.0000	48.8361	48.8361	0.0112	0.0000	49.1168

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	2.1000e-004	5.8200e-003	1.8800e-003	2.0000e-005	7.4000e-004	6.0000e-005	8.0000e-004	2.1000e-004	5.0000e-005	2.7000e-004	0.0000	2.2020	2.2020	8.0000e-005	3.2000e-004	2.2994
Worker	3.1400e-003	2.5400e-003	0.0333	9.0000e-005	0.0103	6.0000e-005	0.0104	2.7400e-003	6.0000e-005	2.8000e-003	0.0000	8.3381	8.3381	2.3000e-004	2.2000e-004	8.4108
Total	3.3500e-003	8.3600e-003	0.0351	1.1000e-004	0.0111	1.2000e-004	0.0112	2.9500e-003	1.1000e-004	3.0700e-003	0.0000	10.5401	10.5401	3.1000e-004	5.4000e-004	10.7103

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2023****Unmitigated Construction 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	0.1102	0.9977	1.0933	1.8500e-003		0.0485	0.0485		0.0457	0.0457	0.0000	159.0175	159.0175	0.0363	0.0000	159.9240
Total	0.1102	0.9977	1.0933	1.8500e-003		0.0485	0.0485		0.0457	0.0457	0.0000	159.0175	159.0175	0.0363	0.0000	159.9240

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	4.0000e-004	0.0147	5.4500e-003	7.0000e-005	2.4100e-003	8.0000e-005	2.4900e-003	7.0000e-004	7.0000e-005	7.7000e-004	0.0000	6.8261	6.8261	2.5000e-004	9.9000e-004	7.1276
Worker	9.5000e-003	7.3200e-003	0.0997	2.9000e-004	0.0336	1.9000e-004	0.0338	8.9200e-003	1.8000e-004	9.0900e-003	0.0000	26.2711	26.2711	6.8000e-004	6.8000e-004	26.4893
Total	9.9000e-003	0.0220	0.1052	3.6000e-004	0.0360	2.7000e-004	0.0363	9.6200e-003	2.5000e-004	9.8600e-003	0.0000	33.0971	33.0971	9.3000e-004	1.6700e-003	33.6169

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2023****Mitigated Construction 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	0.1102	0.9977	1.0933	1.8500e-003		0.0485	0.0485		0.0457	0.0457	0.0000	159.0173	159.0173	0.0363	0.0000	159.9238
Total	0.1102	0.9977	1.0933	1.8500e-003		0.0485	0.0485		0.0457	0.0457	0.0000	159.0173	159.0173	0.0363	0.0000	159.9238

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	4.0000e-004	0.0147	5.4500e-003	7.0000e-005	2.4100e-003	8.0000e-005	2.4900e-003	7.0000e-004	7.0000e-005	7.7000e-004	0.0000	6.8261	6.8261	2.5000e-004	9.9000e-004	7.1276
Worker	9.5000e-003	7.3200e-003	0.0997	2.9000e-004	0.0336	1.9000e-004	0.0338	8.9200e-003	1.8000e-004	9.0900e-003	0.0000	26.2711	26.2711	6.8000e-004	6.8000e-004	26.4893
Total	9.9000e-003	0.0220	0.1052	3.6000e-004	0.0360	2.7000e-004	0.0363	9.6200e-003	2.5000e-004	9.8600e-003	0.0000	33.0971	33.0971	9.3000e-004	1.6700e-003	33.6169

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Concrete Slabs - 2022****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	0.0214	0.2084	0.2520	3.9000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	33.1414	33.1414	0.0102	0.0000	33.3974
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0214	0.2084	0.2520	3.9000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	33.1414	33.1414	0.0102	0.0000	33.3974

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	5.4000e-004	0.0149	4.8100e-003	6.0000e-005	1.8900e-003	1.4000e-004	2.0400e-003	5.5000e-004	1.4000e-004	6.8000e-004	0.0000	5.6222	5.6222	2.1000e-004	8.2000e-004	5.8708
Worker	4.0100e-003	3.2500e-003	0.0425	1.2000e-004	0.0132	8.0000e-005	0.0133	3.5000e-003	7.0000e-005	3.5700e-003	0.0000	10.6444	10.6444	2.9000e-004	2.9000e-004	10.7373
Total	4.5500e-003	0.0181	0.0473	1.8000e-004	0.0151	2.2000e-004	0.0153	4.0500e-003	2.1000e-004	4.2500e-003	0.0000	16.2665	16.2665	5.0000e-004	1.1100e-003	16.6081

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Concrete Slabs - 2022****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	0.0214	0.2075	0.2520	3.9000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	33.1413	33.1413	0.0102	0.0000	33.3973
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0214	0.2075	0.2520	3.9000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	33.1413	33.1413	0.0102	0.0000	33.3973

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	5.4000e-004	0.0149	4.8100e-003	6.0000e-005	1.8900e-003	1.4000e-004	2.0400e-003	5.5000e-004	1.4000e-004	6.8000e-004	0.0000	5.6222	5.6222	2.1000e-004	8.2000e-004	5.8708
Worker	4.0100e-003	3.2500e-003	0.0425	1.2000e-004	0.0132	8.0000e-005	0.0133	3.5000e-003	7.0000e-005	3.5700e-003	0.0000	10.6444	10.6444	2.9000e-004	2.9000e-004	10.7373
Total	4.5500e-003	0.0181	0.0473	1.8000e-004	0.0151	2.2000e-004	0.0153	4.0500e-003	2.1000e-004	4.2500e-003	0.0000	16.2665	16.2665	5.0000e-004	1.1100e-003	16.6081

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Yard Pipeline and Drainage - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0276	0.3059	0.3192	5.3000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	46.6926	46.6926	0.0151	0.0000	47.0701
Total	0.0276	0.3059	0.3192	5.3000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	46.6926	46.6926	0.0151	0.0000	47.0701

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	6.0000e-005	2.3000e-003	8.6000e-004	1.0000e-005	3.8000e-004	1.0000e-005	3.9000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	1.0708	1.0708	4.0000e-005	1.6000e-004	1.1181
Worker	1.8600e-003	1.4400e-003	0.0196	6.0000e-005	6.5800e-003	4.0000e-005	6.6200e-003	1.7500e-003	3.0000e-005	1.7800e-003	0.0000	5.1512	5.1512	1.3000e-004	1.3000e-004	5.1940
Total	1.9200e-003	3.7400e-003	0.0204	7.0000e-005	6.9600e-003	5.0000e-005	7.0100e-003	1.8600e-003	4.0000e-005	1.9000e-003	0.0000	6.2220	6.2220	1.7000e-004	2.9000e-004	6.3120

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Yard Pipeline and Drainage - 2023****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	0.0276	0.0853	0.3192	5.3000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	46.6926	46.6926	0.0151	0.0000	47.0701
Total	0.0276	0.0853	0.3192	5.3000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	46.6926	46.6926	0.0151	0.0000	47.0701

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	6.0000e-005	2.3000e-003	8.6000e-004	1.0000e-005	3.8000e-004	1.0000e-005	3.9000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	1.0708	1.0708	4.0000e-005	1.6000e-004	1.1181
Worker	1.8600e-003	1.4400e-003	0.0196	6.0000e-005	6.5800e-003	4.0000e-005	6.6200e-003	1.7500e-003	3.0000e-005	1.7800e-003	0.0000	5.1512	5.1512	1.3000e-004	1.3000e-004	5.1940
Total	1.9200e-003	3.7400e-003	0.0204	7.0000e-005	6.9600e-003	5.0000e-005	7.0100e-003	1.8600e-003	4.0000e-005	1.9000e-003	0.0000	6.2220	6.2220	1.7000e-004	2.9000e-004	6.3120

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	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
User Defined Industrial	0.544109	0.060768	0.184625	0.129879	0.023845	0.006339	0.011719	0.008584	0.000815	0.000515	0.024285	0.000743	0.003774

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

[illegible]

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated

[illegible]

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail**7.1 Mitigation Measures Water**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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HS-132 Chino Water Treatment On-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**HS-132 Chino Water Piping Off-Site****South Coast Air Basin, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - pipeline alignment

Construction Phase - Asphalt Removal: 1 month, Trench and Install Pipe: 3 months, Backfill and Pave: 1 month

Off-road Equipment - Demo: 1 concrete saw, 2 skid steer loaders, 2 loader/backhoes

Off-road Equipment - Paving: 4 mixers, 1 paver, 1 roller, 1 loader/backhoe, 2 compactors

Off-road Equipment - Trench and Install Pipe: 2 trenchers, 2 forklifts, 1 loader/backhoe

Trips and VMT - increased worker trips

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	PhaseEndDate	1/13/2023	1/27/2023

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseEndDate	6/14/2023	5/26/2023
tblConstructionPhase	PhaseStartDate	6/8/2023	5/1/2023
tblDemolition	PhaseName	Demolition	Paving
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	PhaseName	Paving	Demolition
tblOffRoadEquipment	PhaseName	Demolition	Paving
tblOffRoadEquipment	PhaseName	Paving	Demolition
tblOffRoadEquipment	PhaseName	Paving	Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName	Demolition	Paving
tblOffRoadEquipment	PhaseName	Paving	Demolition
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOnRoadDust	PhaseName	Trench and Install Pipe	Paving
tblOnRoadDust	PhaseName	Demolition	Paving
tblOnRoadDust	PhaseName	Paving	Demolition
tblTripsAndVMT	PhaseName		Paving
tblTripsAndVMT	PhaseName	Demolition	Paving
tblTripsAndVMT	PhaseName	Paving	Demolition
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	40.00

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbITripsAndVMT

WorkerTripNumber

18.00

40.00

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					
2023	0.0264	0.2128	0.2895	4.9000e-004	0.0211	0.0114	0.0325	5.4600e-003	0.0106	0.0161	0.0000	43.1268	43.1268	8.7800e-003	3.7000e-004	43.4562
Maximum	0.0264	0.2128	0.2895	4.9000e-004	0.0211	0.0114	0.0325	5.4600e-003	0.0106	0.0161	0.0000	43.1268	43.1268	8.7800e-003	3.7000e-004	43.4562

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0264	0.1217	0.2895	4.9000e-004	0.0211	0.0114	0.0325	5.4600e-003	0.0106	0.0161	0.0000	43.1268	43.1268	8.7800e-003	3.7000e-004	43.4561
Maximum	0.0264	0.1217	0.2895	4.9000e-004	0.0211	0.0114	0.0325	5.4600e-003	0.0106	0.0161	0.0000	43.1268	43.1268	8.7800e-003	3.7000e-004	43.4561

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	42.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	0.0668	0.0626
2	4-1-2023	6-30-2023	0.1576	0.0771
		Highest	0.1576	0.0771

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

	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
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	Trench and Install Pipe	Trenching	2/2/2023	4/26/2023	5	60	
2	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
3	Paving	Paving	5/1/2023	5/26/2023	5	20	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Skid Steer Loaders	2	6.00	65	0.37
Demolition	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Plate Compactors	2	7.00	8	0.43
Paving	Trenchers	2	7.00	78	0.50
Paving	Forklifts	2	7.00	89	0.20
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Demolition	Pavers	1	7.00	130	0.42
Demolition	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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
Paving	0	40.00	2.00		14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trench and Install Pipe										
Paving	4	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	7	40.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trench and Install Pipe - 2023

Unmitigated Construction Off-Site

[illegible]

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Trench and Install Pipe - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 Demolition - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.8100e-003	0.0594	0.0739	1.2000e-004		2.8100e-003	2.8100e-003		2.6400e-003	2.6400e-003	0.0000	9.9466	9.9466	2.7900e-003	0.0000	10.0165
Total	6.8100e-003	0.0594	0.0739	1.2000e-004		2.8100e-003	2.8100e-003		2.6400e-003	2.6400e-003	0.0000	9.9466	9.9466	2.7900e-003	0.0000	10.0165

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Demolition - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.7000e-004	2.9000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3569	0.3569	1.0000e-005	5.0000e-005	0.3727
Worker	1.2400e-003	9.6000e-004	0.0130	4.0000e-005	4.3900e-003	3.0000e-005	4.4100e-003	1.1700e-003	2.0000e-005	1.1900e-003	0.0000	3.4341	3.4341	9.0000e-005	9.0000e-005	3.4627
Total	1.2600e-003	1.7300e-003	0.0133	4.0000e-005	4.5200e-003	3.0000e-005	4.5400e-003	1.2100e-003	2.0000e-005	1.2300e-003	0.0000	3.7910	3.7910	1.0000e-004	1.4000e-004	3.8353

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	6.8100e-003	0.0551	0.0739	1.2000e-004		2.8100e-003	2.8100e-003		2.6400e-003	2.6400e-003	0.0000	9.9466	9.9466	2.7900e-003	0.0000	10.0165
Total	6.8100e-003	0.0551	0.0739	1.2000e-004		2.8100e-003	2.8100e-003		2.6400e-003	2.6400e-003	0.0000	9.9466	9.9466	2.7900e-003	0.0000	10.0165

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Demolition - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.7000e-004	2.9000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3569	0.3569	1.0000e-005	5.0000e-005	0.3727
Worker	1.2400e-003	9.6000e-004	0.0130	4.0000e-005	4.3900e-003	3.0000e-005	4.4100e-003	1.1700e-003	2.0000e-005	1.1900e-003	0.0000	3.4341	3.4341	9.0000e-005	9.0000e-005	3.4627
Total	1.2600e-003	1.7300e-003	0.0133	4.0000e-005	4.5200e-003	3.0000e-005	4.5400e-003	1.2100e-003	2.0000e-005	1.2300e-003	0.0000	3.7910	3.7910	1.0000e-004	1.4000e-004	3.8353

3.4 Paving - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0158	0.1489	0.1759	2.5000e-004		8.5100e-003	8.5100e-003		7.9300e-003	7.9300e-003	0.0000	22.1640	22.1640	5.6900e-003	0.0000	22.3064
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0158	0.1489	0.1759	2.5000e-004		8.5100e-003	8.5100e-003		7.9300e-003	7.9300e-003	0.0000	22.1640	22.1640	5.6900e-003	0.0000	22.3064

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Paving - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.7000e-004	2.9000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.3569	0.3569	1.0000e-005	5.0000e-005	0.3727
Worker	2.4800e-003	1.9100e-003	0.0261	7.0000e-005	0.0164	5.0000e-005	0.0164	4.2000e-003	5.0000e-005	4.2500e-003	0.0000	6.8683	6.8683	1.8000e-004	1.8000e-004	6.9253
Total	2.5000e-003	2.6800e-003	0.0264	7.0000e-005	0.0166	5.0000e-005	0.0167	4.2600e-003	5.0000e-005	4.3100e-003	0.0000	7.2252	7.2252	1.9000e-004	2.3000e-004	7.2980

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	0.0158	0.0623	0.1759	2.5000e-004		8.5100e-003	8.5100e-003		7.9300e-003	7.9300e-003	0.0000	22.1640	22.1640	5.6900e-003	0.0000	22.3063
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0158	0.0623	0.1759	2.5000e-004		8.5100e-003	8.5100e-003		7.9300e-003	7.9300e-003	0.0000	22.1640	22.1640	5.6900e-003	0.0000	22.3063

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Paving - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.7000e-004	2.9000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.3569	0.3569	1.0000e-005	5.0000e-005	0.3727
Worker	2.4800e-003	1.9100e-003	0.0261	7.0000e-005	0.0164	5.0000e-005	0.0164	4.2000e-003	5.0000e-005	4.2500e-003	0.0000	6.8683	6.8683	1.8000e-004	1.8000e-004	6.9253
Total	2.5000e-003	2.6800e-003	0.0264	7.0000e-005	0.0166	5.0000e-005	0.0167	4.2600e-003	5.0000e-005	4.3100e-003	0.0000	7.2252	7.2252	1.9000e-004	2.3000e-004	7.2980

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	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
User Defined Industrial	0.544109	0.060768	0.184625	0.129879	0.023845	0.006339	0.011719	0.008584	0.000815	0.000515	0.024285	0.000743	0.003774

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

[illegible]

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated

[illegible]

Mitigated

[illegible]

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail**7.1 Mitigation Measures Water**

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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HS-132 Chino Water Piping Off-Site - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

**APPENDIX 3
BIOLOGICAL RESOURCES**



February 2, 2022

TOM DODSON & ASSOCIATES

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San Bernardino, California 92405

SUBJECT: Biological Resources Report for the City of Chino State Street Water Treatment Project in San Bernardino County, California

Introduction

This report contains the findings of ELMT Consulting's (ELMT) biological resources report for the City of Chino State Street Water Treatment Project (project site, site) located in the City of Fontana, San Bernardino County, California. The habitat assessment was conducted by biologist Jacob H. Lloyd Davies on November 2, 2021 to document baseline conditions and assess the potential for special-status¹ plant and wildlife species to occur within the project boundaries that could pose a constraint to implementation of the proposed project. Special attention was given to the suitability of the habitat to support special-status plant and wildlife species identified by the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB), and other electronic databases as potentially occurring in the general vicinity of the project site.

Project Location

The project site encompasses two existing facilities, northern and southern, and the subterranean pipeline that connects them. The project site is generally located north of State Route 60, west of State Route 83, south of Interstate 10, and east of State Route 71 in unincorporated San Bernardino County, California. The overall project site is depicted on the Ontario quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within and Sections 26 and 35 of Township 1 South, Range 8 West.

Specifically, the northern project site is located at the southwest corner of the intersection of West State Street and South Benson Avenue within Assessor Parcel Numbers (APN) 101-124-117 and -118; the southern project site is located immediately south of Phillips Boulevard and west of Central Avenue within APN 101-404-210; and the offsite pipelines extend along South Benson Avenue, West Mission Boulevard, Vernon Avenue, and Phillips Boulevard within public road right-of-way easements. Refer to Exhibits 1 thru 3 in Attachment A.

¹ As used in this report, "special-status" refers to plant and wildlife species that are federally and State listed, proposed, or candidates; plant species that have been designated with a California Native Plant Society Rare Plant Rank; wildlife species that are designated by the CDFW as fully protected, species of special concern, or watch list species; and specially protected natural vegetation communities as designated by the CDFW.

Project Description

The proposed project consists of development of a State Street Water Treatment Facility (State Street WTF), which will be a new centralized treatment project that will treat water from Wells 12 and 14 for nitrate, perchlorate, and 1,2,3-TCP. The project also includes installation of offsite water transmission and brine pipelines, improvements to the existing wells, and site improvements. The water treatment facility will have a capacity to treat up to 4,000 gallons per minute (gpm) and the anticipated extraction rate from each well is 2,000 gpm.

As stated above, the proposed project would provide treatment for nitrate, perchlorate, and 1,2,3-TCP at Wells 12 and 14. Treatment is anticipated to include pretreatment through sand separators followed by cartridge filters (solids removal), 1,2,3-TCP Removal through Granular Activated Carbon (GAC), perchlorate and nitrate removal through a proprietary ion exchange (IX) treatment system, then disinfection and storage in Reservoir 5 before distribution. The IX treatment system generates waste water known as brine, that will be disposed of through a new connection to the Santa Ana Regional Interceptor (SARI) brine disposal pipeline that is managed locally by the Inland Empire Utilities Agency (IEUA). The GAC system generates a periodic backwash water when the media is replaced that will be disposed of through a local sewer connection. Refer to Attachment B, *Site Plans*.

Methodology

A literature review and records search were conducted to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site. In addition to the literature review, a general habitat assessment or field investigation of the project site was conducted to document existing conditions and assess the potential for special-status biological resources to occur within the project site.

Literature Review

Prior to conducting the habitat assessment, a literature review and records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the project site. Previously recorded occurrences of special-status plant and wildlife species and their proximity to the project site were determined through a query of the CDFW's QuickView Tool in the Biogeographic Information and Observation System (BIOS), CNDDDB Rarefind 5, the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special-status species published by CDFW, and the United States Fish and Wildlife Service (USFWS) species listings.

All available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site were reviewed to understand existing site conditions and note the extent of any disturbances that have occurred within the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources, as well as the following resources:

- Google Earth Pro historic aerial imagery (1994-2021);
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Survey;

- USFWS Critical Habitat designations for Threatened and Endangered Species; and
- USFWS Endangered Species Profiles.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the project site. The CNDDDB database was used, in conjunction with ArcGIS software, to locate the nearest recorded occurrences of special-status species and determine the distance from the project site.

Habitat Assessment/Field Investigation

Following the literature review, biologist Jacob H. Lloyd Davies inventoried and evaluated the condition of the habitat within the project site on November 23, 2021. Plant communities and land cover types identified on aerial photographs during the literature review were verified by walking meandering transects throughout the project site. In addition, aerial photography was reviewed prior to the site investigation to locate potential natural corridors and linkages that may support the movement of wildlife through the area. These areas identified on aerial photography were then walked during the field investigation.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Plant species observed during the field investigation were identified by visual characteristics and morphology in the field. Unusual and less familiar plant species were photographed during the field investigation and identified in the laboratory using taxonomical guides. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities and land cover types, and presence of potential jurisdictional drainage and/or wetland features were noted.

Soil Series Assessment

On-site and adjoining soils were researched prior to the field investigation using the USDA NRCS Soil Survey for San Bernardino County, Southwestern Part. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes that the project site have undergone.

Plant Communities

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities were classified in accordance with Sawyer, Keeler-Wolf and Evens (2009), delineated on an aerial photograph, and then digitized into GIS Arcview. The Arcview application was used to compute the area of each plant community and/or land cover type in acres.

Plants

Common plant species observed during the field investigation were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less familiar plants were photographed in the field and identified in the office using taxonomic guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual (Hickman 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only).

Wildlife

Wildlife species detected during the field investigation by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of wildlife species during the survey included The Sibley Field Guide to the Birds of Western North America (Sibley 2003), A Field Guide to Western Reptiles and Amphibians (Stebbins 2003), and A Field Guide to Mammals of North America (Reid 2006). Although common names of wildlife species are well standardized, scientific names are provided immediately following common names in this report (first reference only).

Jurisdictional Drainages and Wetlands

Aerial photography was reviewed prior to conducting a field investigation in order to locate and inspect any potential natural drainage features, ponded areas, or water bodies that may fall under the jurisdiction of the United States Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential riparian/riverine habitat and are also subject to state and federal regulatory jurisdiction. In addition, ELMT reviewed jurisdictional waters information through examining historical aerial photographs to gain an understanding of the impact of land-use on natural drainage patterns in the area. The USFWS National Wetland Inventory (NWI) and Environmental Protection Agency (EPA) Water Program “My Waters” data layers were also reviewed to determine whether any hydrologic features and wetland areas have been documented on or within the vicinity of the project site.

Existing Site Conditions

The overall project site occurs in an almost entirely developed area in the Cities of Ontario, Montclair, Chino, and unincorporated San Bernardino County. The northern site is bounded to the north by West State Street with a Southern Pacific and Union Pacific railyard beyond; to the east by South Benson Avenue with industrial development beyond; to the south by residential and industrial developments; and to the west by industrial development. The southern site is bounded to the north by Phillips Boulevard; to the east and south by the remainder of the existing City Well 12 Facility; and to the west by residential development. The pipeline, as currently proposed, occurs within right-of-way easements beneath South Benson Avenue, West Mission Boulevard, Vernon Avenue, and Phillips Boulevard, and is immediately bounded by these thoroughfares; beyond the thoroughfares, the pipeline is surrounded by a mosaic of industrial, commercial, and residential developments with scattered undeveloped parcels throughout.

The northern site is entirely developed and supports the existing City Well 14 and Reservoir 5, a seven million gallon storage tank. This site is currently secured with ornamental iron fencing, chain link fencing, and cinderblock walls and supports ornamental landscaping. The southern site supports a portion of the existing City Well 12 facility and supports some ornamental landscaping. The pipeline is entirely developed, as it occurs beneath existing thoroughfares.

Topography and Soils

The overall project site is relatively flat with no areas of significant topographic relief, ranges in elevation from 881 to 963 feet above mean sea level, and slopes marginally from north to south. Based on the NRCS

USDA Web Soil Survey², the project site is underlain by Tujunga loamy sand (0 to 5 percent slopes) and Hanford sandy loam (0 to 2 percent slopes). Soils on-site have been mechanically disturbed and heavily compacted from historic land uses (i.e., historic agricultural activities, grading, and existing development). Historic aerials indicate that these disturbances have been ongoing since at least 1938.

Vegetation

Due to historic and existing land uses, no native plant communities or natural communities of special concern were observed on or adjacent to the project site. The project site consists of heavily disturbed and developed land that supports the existing facility containing City Well 14 and Reservoir 5, the existing facility containing City Well 12, and paved roads. These disturbances have eliminated and/or greatly disturbed the natural plant communities that historically occurred within the immediate vicinity of the project site. Refer to Attachment C, *Site Photographs*, for representative site photographs. No native plant communities will be impacted from implementation of the proposed project.

The site supports two (2) land cover types that would be classified as disturbed and developed. The existing facilities support heavily disturbed areas that no longer comprise a plant community. These disturbed areas are typically unvegetated except for pockets of ornamental landscaping and compacted gravel lots that support some weedy/early successional plant species. Plant species observed during the field investigation include creeping fig (*Ficus pumila*), American sycamore (*Platanus occidentalis*), tree of heaven (*Ailanthus altissima*), ornamental pine (*Pinus* sp.), magnolia tree (*Magnolia* sp.), Mexican fan palm (*Washingtonia robusta*), goosefoot (*Chenopodium* sp.), tumbleweed (*Amaranthus albus*), ragweed (*Ambrosia psilostachya*), Mediterranean mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), cheeseweed (*Malva parviflora*), and non-native grasses (*Bromus* spp., *Digitaria sanguinalis*, and *Cynodon dactylon*).

The proposed pipeline alignments will extend along previously developed road right-of-way.

Wildlife

Plant communities provide foraging habitat, nesting/denning site, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species that were observed or are expected to occur within the project site. The discussion is to be used as a general reference and is limited by the season, time of day, and weather conditions in which the field investigation was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation. The project site provides limited habitat for wildlife species except those adapted to a high degree of anthropogenic disturbances and development.

Fish

No fish or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for fish were observed on or within the vicinity of the project site. Therefore, no fish are expected to occur and are presumed absent from the project site.

² A soil series is defined as a group of soils with similar profiles developed from similar parent materials under comparable climatic and vegetation conditions. These profiles include major horizons with similar thickness, arrangement, and other important characteristics, which may promote favorable conditions for certain biological resources.

Amphibians

No amphibians or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for amphibian species were observed on or within the vicinity of the project site. Therefore, no amphibians are expected to occur and are presumed absent from the project site.

Reptiles

The project site provides limited foraging and cover habitat for reptile species adapted to a high degree of anthropogenic disturbance. No reptile species were observed during the field investigation. Common reptilian species adapted to a high degree of anthropogenic disturbances that have the potential to occur on-site include western side-blotched lizard (*Uta stansburiana elegans*), Great Basin fence lizard (*Sceloporus occidentalis longipes*) and alligator lizard (*Elgaria multicarinata*). Due to the high level of anthropogenic disturbances on-site, and surrounding development, no special-status reptilian species are expected to occur within project site.

Birds

The project site provides suitable foraging and nesting habitat for a variety of local bird species adapted to a high degree of anthropogenic disturbance. Bird species detected during the field investigation included common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorhous mexicanus*), and house sparrow (*Passer domesticus*).

Mammals

The project site provides limited foraging and cover habitat for mammalian species adapted to a high degree of anthropogenic disturbance. No mammalian species were detected during the field investigation. Common mammalian species adapted to a high degree of anthropogenic disturbance that could be expected to occur include fox squirrel (*Sciurus niger*), black rat (*Rattus rattus*), domestic cat (*Felis catus*), and coyote (*Canis latrans*).

Nesting Birds

No active nests or birds displaying nesting behavior were observed during the field survey. Although subjected to routine disturbance, the ornamental trees found on-site and in neighboring parcels have the potential to provide suitable nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that could occur in the area that area adapted to urban environments. Additionally, the open, areas on-site also provides nesting opportunities for ground-nesting species such as killdeer (*Charadrius vociferus*). No raptors are expected to nest on-site due to lack of suitable nesting opportunities.

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction.

Migratory Corridors and Linkages

Habitat linkages provide connections between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet still inadequate for others. Wildlife corridors are features that allow for the dispersal, seasonal migration, breeding, and foraging of a variety of wildlife species. Additionally, open space can provide a buffer against both anthropogenic disturbance and natural fluctuations in resources.

According to the San Bernardino County General Plan, the project site has not been identified as occurring within a Wildlife Corridor or Linkage. As designated by the San Bernardino County General Plan Open Space Element, the nearest major open space area documented in the vicinity of the project site is the Chino Dairy Preserve, located approximately 2.81 miles to the southeast, which is separated from the project by existing developments.

The proposed project will be confined to existing areas that have been heavily disturbed and/or developed that are isolated from regional wildlife corridors and linkages. In addition, there are no riparian corridors, creeks, or useful patches of steppingstone habitat (natural areas) within or connecting the site to a recognized wildlife corridor or linkage. As such, implementation of the proposed project is not expected to impact wildlife movement opportunities. Therefore, impacts to wildlife corridors or linkages are not expected to occur.

Jurisdictional Areas

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill materials into “waters of the United States” pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates alterations to streambed and bank under Fish and Wildlife Code Sections 1600 et seq., and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

The project site does not support any discernible drainage courses, inundated areas, wetland features, or hydric soils that would be considered jurisdictional by the Corps, Regional Board, or CDFW. A query of the NWI database found no potential blueline streams, riverine, or other aquatic resources within or adjacent to the project site. Therefore, project activities will not result in impacts to Corps, Regional Board, or CDFW jurisdictional areas and regulatory approvals will not be required.

Special-Status Biological Resources

The CNDDDB Rarefind 5 and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California were queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the Ontario USGS 7.5-minute quadrangle. The habitat assessment evaluated the conditions of the habitat(s) within the boundaries of the project site to determine if the existing plant communities, at the time of the survey, have the potential to provide suitable habitat(s) for special-

status plant and wildlife species. Only one quadrangle was searched since the project site is located near the middle of the quadrangle and is surrounded by existing development.

The literature search identified seventeen (17) special-status plant species, forty (40) special-status, and one (1) special-status plant communities as having potential to occur within the Ontario USGS 7.5-minute quadrangle. Special-status plant and wildlife species were evaluated for their potential to occur within the project site based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity of the project site is presented in *Table D-1: Potentially Occurring Special-Status Biological Resources*, provided in Attachment D.

Special-Status Plants

According to the CNDDDB and CNPS, seventeen (17) special-status plant species have been recorded in the Ontario quadrangle (refer to Attachment D). No special-status plant species were observed on-site during the field investigation. The project site consists of heavily disturbed and developed land with associated ornamental vegetation that has been subject to a variety of anthropogenic disturbances that is surrounded almost entirely by existing development. These disturbances have eliminated the natural plant communities that once occurred on-site which has removed ability of the habitat on the project site to provide suitable habitat for special-status plant species known to occur in the general vicinity. Based on habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the project site do not provide suitable habitat for any of the special-status plant species known to occur in the area and all are presumed to be absent. No focused surveys are recommended.

Special-Status Wildlife

According to the CNDDDB, forty (40) special-status wildlife species have been reported in the Ontario quadrangle (refer to Attachment D). No special-status wildlife species were observed on-site during the habitat assessment. The project site consists of heavily disturbed and developed land. These disturbances have eliminated the natural plant communities that once occurred on-site which has greatly reduced suitability for wildlife species. Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the proposed project site has a moderate potential to provide suitable habitat for Cooper's hawk (*Accipiter cooperii*). It was further determined that the project site does not have the potential to support any of the other special-status wildlife species known to occur in the area since the site has been heavily impacted by on-site disturbances and surrounding development.

Cooper's hawk is not federally or state listed as endangered or threatened. In order to ensure impacts to the Cooper's hawk do not occur from implementation of the proposed project, a pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction nesting bird clearance survey, impacts to the aforementioned species will be less than significant and no mitigation will be required.

Special-Status Plant Communities

According to the CNDDDB, one (1) special-status plant communities have been reported in the Ontario USGS 7.5-minute quadrangle: Riversidean Alluvial Fan Sage Scrub. Based on the results of the field

investigation, no special-status plant communities were observed onsite. Therefore, no special-status plant communities will be impacted by project implementation.

Critical Habitat

Under the federal Endangered Species Act, “Critical Habitat” is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All federal agencies are required to consult with the United States Fish and Wildlife Service (USFWS) regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated Critical Habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the listed species or adversely modify or destroy its designated Critical Habitat. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing is on federal lands, uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highways Administration or a CWA Permit from the Corps). If there is a federal nexus, then the federal agency that is responsible for providing the funding or permit would consult with the USFWS.

The project site is not located within federally designated Critical Habitat. The nearest Critical Habitat designation is located approximately 5.9 miles northwest of the site for coastal California gnatcatcher (*Poliophtila californica californica*). Therefore, no impacts to federally designated Critical Habitat will occur from implementation of the proposed project.

Conclusion

Based literature review and field survey, and existing site conditions discussed in this report, implementation of the project will have no significant impacts on federally or State listed species known to occur in the general vicinity of the project site. Additionally, the project will have no effect on designated Critical Habitat, since there is no federal nexus, or regional wildlife corridors/linkage because none exists within the area. No jurisdictional drainage and/or wetland features were observed on the project site during the field investigation. No further surveys are recommended. With completion of the recommendations provided below, no impacts to year-round, seasonal, or special-status avian residents or special-status species will occur from implementation of the proposed project.

Recommendations

Migratory Bird Treaty Act and Fish and Game Code

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). In order to protect migratory bird species, a nesting bird clearance survey should be conducted prior to any ground disturbance or vegetation removal activities that may disrupt the birds during the nesting season.

If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any vegetation removal or ground disturbing

activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities should stay outside of a no-disturbance buffer. The size of the no-disturbance buffer will be determined by the wildlife biologist and will depend on the level of noise and/or surrounding anthropogenic disturbances, line of sight between the nest and the construction activity, type and duration of construction activity, ambient noise, species habituation, and topographical barriers. These factors will be evaluated on a case-by-case basis when developing buffer distances. Limits of construction to avoid an active nest will be established in the field with flagging, fencing, or other appropriate barriers; and construction personnel will be instructed on the sensitivity of nest areas. A biological monitor should be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the buffer area can occur.

Please do not hesitate to contact Tom McGill at (951) 285-6014 or tmcgill@elmtconsulting.com or Travis McGill at (909) 816-1646 or travismcgill@elmtconsulting.com should you have any questions regarding this proposal.

Sincerely,



Thomas J. McGill, Ph.D.
Managing Director



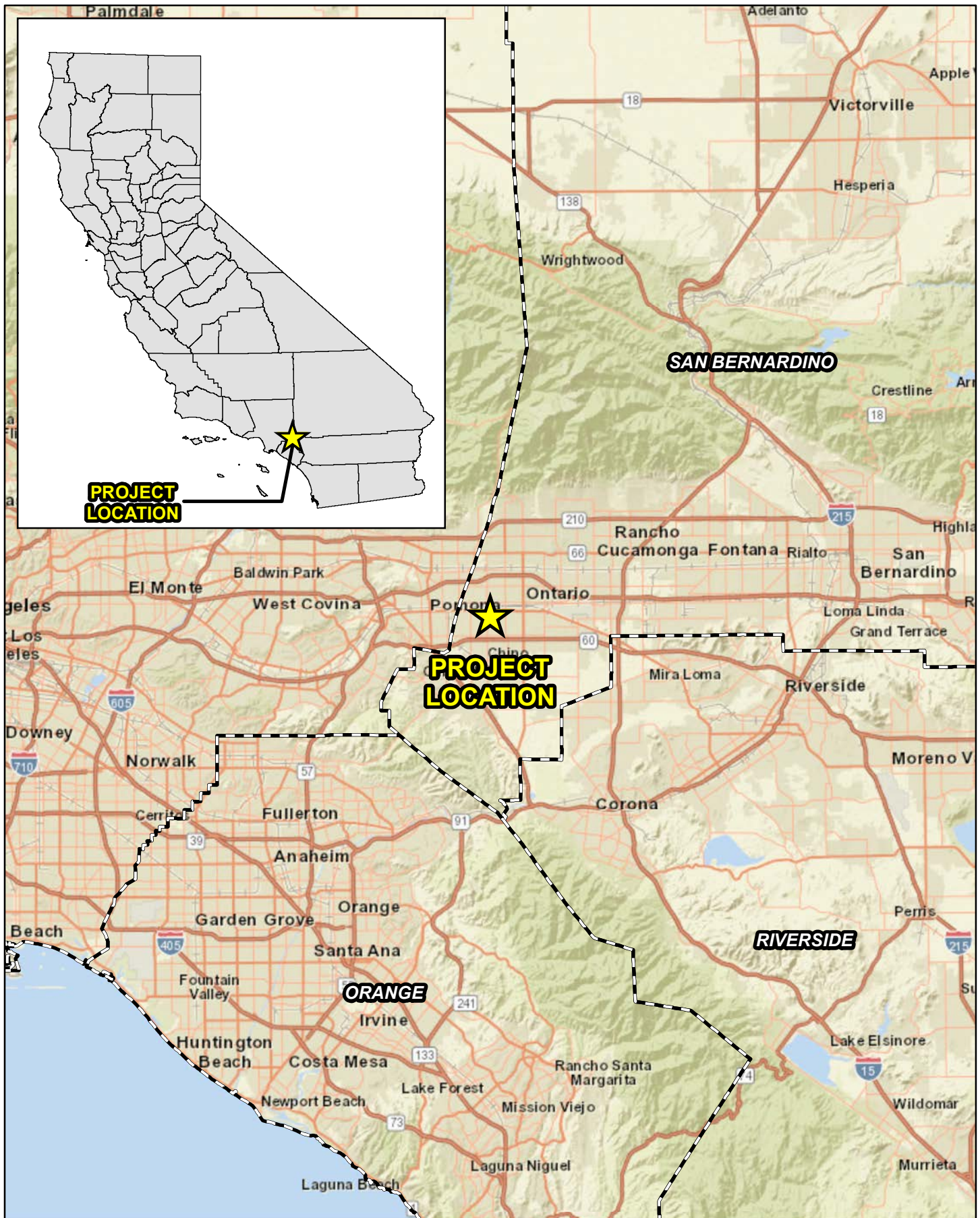
Travis J. McGill
Director

Attachments:

- A. *Project Exhibits*
- B. *Project Site Plan*
- C. *Site Photographs*
- D. *Potentially Occurring Special-Status Biological Resources*
- E. *Regulations*

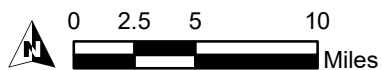
Attachment A

Project Exhibits



STATE STREET WATER TREATMENT PROJECT
BIOLOGICAL RESOURCES ASSESSMENT

Regional Vicinity

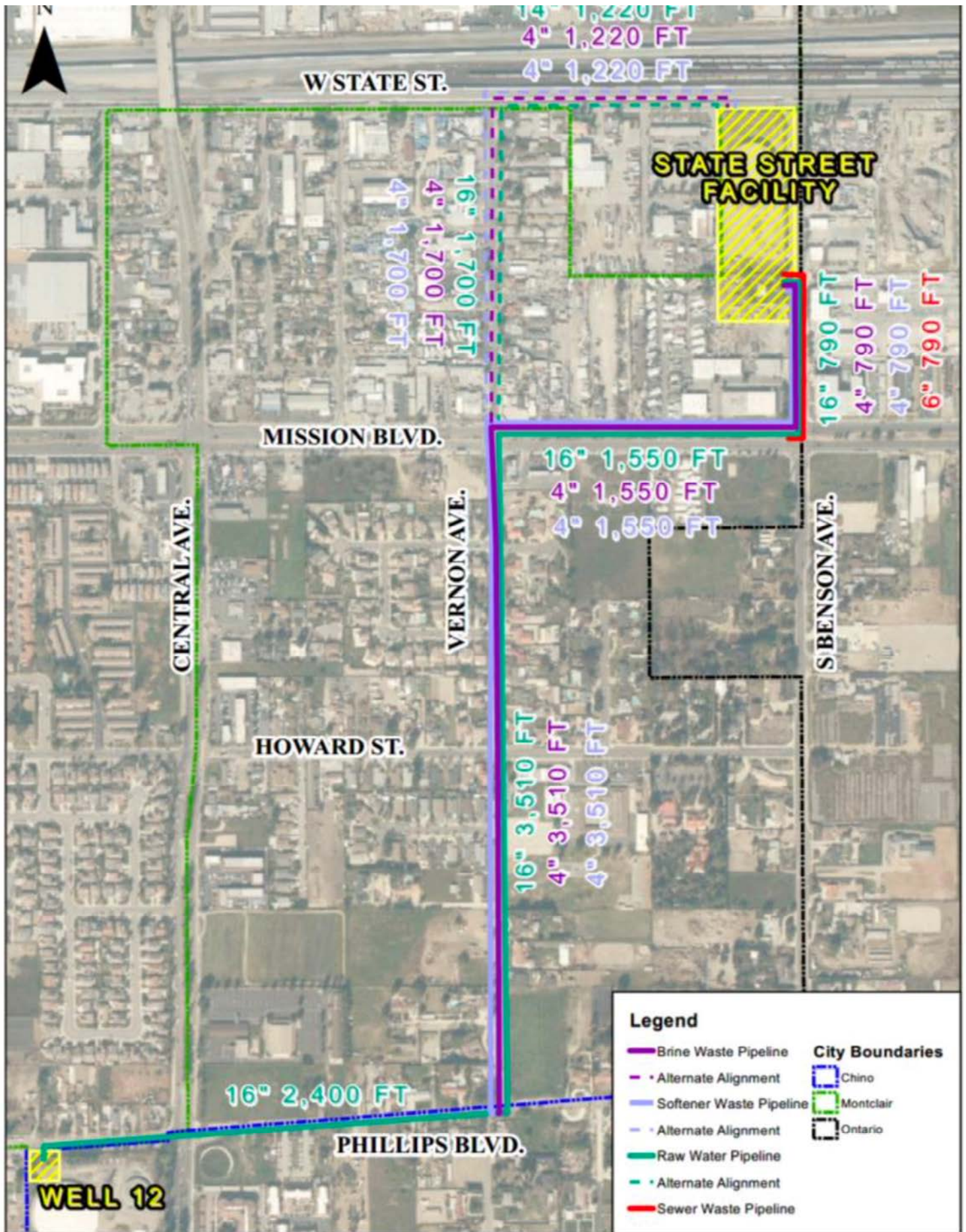


Source: World Street Map, San Bernardino County

Exhibit 1

Attachment B

Project Site Plan



Attachment C

Site Photographs



Photograph 1: From the northwest corner of the northern project site looking south along the western boundary.



Photograph 2: From the northwest corner of the northern project site looking east along the northern boundary.



Photograph 3: From the southeast corner of the northern project site looking west along the southern boundary.



Photograph 4: From the southeast corner of the northern project site looking north along the eastern boundary.



Photograph 5: From the southwest corner of the southern project site looking northeast.



Photograph 6: Looking west across the southern project site.



Photograph 7: From within South Benson Avenue looking south along the northern terminus of the proposed pipeline alignment.



Photograph 8: From the intersection of South Benson Avenue and Mission Boulevard looking north along the proposed pipeline alignment.



Photograph 9: From the intersection of South Benson Avenue and Mission Boulevard looking west along the proposed pipeline alignment.



Photograph 10: From the intersection of Mission Boulevard and Vernon Avenue looking east along the proposed pipeline alignment.



Photograph 11: From the intersection of Mission Boulevard and Vernon Avenue looking south along the proposed pipeline alignment.



Photograph 12: From the intersection of Vernon Avenue and Phillips Boulevard looking north along the proposed pipeline alignment.



Photograph 13: From the intersection of Vernon Avenue and Phillips Boulevard looking west along the proposed pipeline alignment.



Photograph 14: From within Phillips Boulevard looking east along the southern terminus of the proposed pipeline alignment.

Attachment D

Potentially Occurring Special-Status Biological Resources

Table D-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
SPECIAL-STATUS WILDLIFE SPECIES				
<i>Accipiter cooperii</i> Cooper's hawk	Fed: None CA: WL	Common yearlong resident of California. Typically forages in broken woodland and habitat edges with dense stands of coast live oak (<i>Quercus agrifolia</i>), riparian deciduous, or other forest habitat near water. Usually nests in dense riparian areas, usually near streams.	No	Moderate The project site provides suitable foraging opportunities, but no nesting opportunities are present. This species is adapted to urban environments and occurs commonly.
<i>Anniella stebbinsi</i> southern California legless lizard	Fed: None CA: SSC	Occurs in sparsely vegetated habitat types including coastal sand dunes, chaparral, pine-oak woodland, desert scrub, open grassland, and riparian areas. Requires sandy or loose loamy substrates conducive to burrowing.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Antrozous pallidus</i> pallid bat	Fed: None CA: SSC	Locally common species of low elevation in California. Occurs in grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Arizona elegans occidentalis</i> California glossy snake	Fed: None CA: SSC	Occurs in a wide variety of habitat types including open desert, grasslands, shrublands, chaparral, and woodlands. Prefers areas where the soil is loose and sandy which allows for burrowing.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Artemisiospiza belli belli</i> Bell's sparrow	Fed: None CA: WL	Generally prefers semi-open habitats with evenly spaced shrubs 1 – 2 meters in height. Dry chaparral and coastal sage scrub. Less common in tall dense, old chaparral.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	Fed: None CA: SSC	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Athene cunicularia</i> burrowing owl	Fed: None CA: SSC	Primarily a grassland species, but it persists and even thrives in some landscapes highly altered by human activity. Occurs in open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. The overriding characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation.	No	Presumed Absent Portions of the project site provide line-of-sight opportunities favored by burrowing owls; however, no suitable burrows (>4 inches) were observed. In addition, the site supports and/or is surrounded by trees, structures, and utility poles that provide perching opportunities for large raptor species that prey on burrowing owls. In addition, existing on-site and adjacent land uses present significant routine disturbances.
<i>Bombus crotchii</i> Crotch bumble bee	Fed: None CA: None	Exclusive to coastal California east towards the Sierra-Cascade Crest; less common in western Nevada.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Buteo swainsoni</i> Swainson's hawk	Fed: None CA: THR	Typical habitat is 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 grassland or suitable grain or alfalfa fields or livestock pastures.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Calypte costae</i> Costa's hummingbird	Fed: None CA: None	Desert and semi-desert, arid brushy foothills and chaparral. A desert hummingbird that breeds in the Sonoran and Mojave Deserts. Departs desert heat moving into chaparral, scrub, and woodland habitats.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Campylorhynchus brunneicapillus sandiegensis</i> coastal cactus wren	Fed: None CA: SSC	The coastal population inhabits cactus scrub from southern Ventura County and southwestern San Bernardino County to northwestern Baja California.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	Fed: None CA: SSC	Occurs in desert and coastal habitats in southern California, Mexico, and northern Baja California, from sea level to at least 1,400 meters above msl. Found in a variety of temperate habitats ranging from chaparral and grasslands to scrub forests and deserts. Requires low growing vegetation or rocky outcroppings, as well as sandy soils for burrowing.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Diadophis punctatus modestus</i> San Bernardino ringneck snake	Fed: None CA: None	Common in open, relatively rocky areas within valley-foothill, mixed chaparral, and annual grass habitats.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Diplectrona californica</i> California diplectronan caddisfly	Fed: None CA: None	Larvae of other <i>Diplectrona</i> species inhabit fast-flowing, cool streams in fixed retreats made from plant materials and spin attached silken capture nets which filter food particles from the water. Adults have been collected in May. Larvae limited to San Bernardino County.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	Fed: END CA: CE/SSC	Primarily found in Riversidean alluvial fan sage scrub (RAFSS) and sandy loam soils, alluvial fans and flood plains, and along washes with nearby sage scrub. May also occur at lower densities in Riversidean upland sage scrub, chaparral and grassland in uplands and tributaries in proximity to RAFSS habitat. Tends to avoid rocky substrates.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Emys marmorata</i> western pond turtle	Fed: None CA: SSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Found at elevations from sea level to over 5,900 feet (1,800 m).	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Eumops perotis californicus</i> western mastiff bat	Fed: None CA: SSC	Primarily a cliff-dwelling species, roost generally under exfoliating rock slabs. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 3 meters below the entrance for flight. In California, it is most frequently encountered in broad open areas including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas.	No	Presumed Absent The project site provides limited foraging habitat; however, no suitable roosting habitat is present.
<i>Falco columbarius</i> merlin	Fed: None CA: WL	Nest in forested openings, edges, and along rivers across northern North America. Found in open forests, grasslands, and especially coastal areas with flocks of small songbirds or shorebirds.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Falco mexicanus</i> prairie falcon	Fed: None CA: WL	Commonly occur in arid and semiarid shrubland and grassland community types. Also occasionally found in open parklands within coniferous forests. During the breeding season, they are found commonly in foothills and mountains which provide cliffs and escarpments suitable for nest sites.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Falco peregrinus anatum</i> American peregrine falcon	Fed: DL CA: DL; FP	Uncommon winter resident of the inland region of southern California. Active nesting sites are known along the coast north of Santa Barbara, in the Sierra Nevada, and in other mountains of northern California. Breeds mostly in woodland, forest, and coastal habitats. Riparian areas and coastal and inland wetlands are important habitats yearlong, especially in nonbreeding seasons.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Gonidea angulata</i> Western ridged mussel	Fed: None CA: None	Occurs on the benthos of streams, rivers, and lakes with substrates that vary from gravel to firm mud, and include at least some sand, silt or clay.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Icteria virens</i> yellow-breasted chat	Fed: None CA: SSC	Primarily found in tall, dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories. Nesting areas are associated with streams, swampy ground, and the borders of small ponds. Breeding habitat must be dense to provide shade and concealment. It winters south the Central America.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Lanius ludovicianus</i> loggerhead shrike	Fed: None CA: SSC	Common yearlong resident of California. Prefers open habitats with bare ground, scattered shrubs, and areas with low or sparse herbaceous cover. Requires suitable perches including trees, posts, fences, utility lines, or other perches.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Lasiurus xanthinus</i> western yellow bat	Fed: None CA: SSC	Occurs in valley/foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts under palm trees and feeds in, and near, palm oases and riparian habitats.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Laterallus jamaicensis coturniculus</i> California black rail	Fed: None CA: THR/FP	Shallow marshes, and wet meadows; in winter, drier fresh-water and brackish marshes, as well as dense, deep grass.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Neolarra alba</i> white cuckoo bee	Fed: None CA: None	Found in dry, sandy areas (particularly deserts) in the American southwest near the host plants for <i>Perdita</i> bee species, of which it is a nest parasite.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	Fed: None CA: SSC	Occurs in coastal scrub communities between San Luis Obispo and San Diego Counties. Prefers moderate to dense canopies, and especially rocky outcrops.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Nyctinomops macrotis</i> big free-tailed bat	Fed: None CA: SSC	Found in rugged and rocky terrain.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	Fed: None CA: SSC	Occurs in lower elevation grasslands and coastal sage scrub communities in and around the Los Angeles Basin. Prefers open ground with fine sandy soils. May not dig extensive burrows, but instead will seek refuge under weeds and dead leaves instead.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Phrynosoma blainvillii</i> coast horned lizard	Fed: None CA: SSC	Found in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Poliophtila californica californica</i> coastal California gnatcatcher	Fed: THR CA: SSC	Common yearlong resident of southern California in sage scrub habitats that are dominated by California sagebrush (<i>Artemisia californica</i>). Prefers scrub habitat with more low-growing vegetation. Species generally occurs below 750 feet above mean sea level (msl) along the coast and below 1,500 feet above msl within inland regions.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Rana draytonii</i> California red-legged frog	Fed: THR CA: SSC	Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Occurs along the coast ranges from Mendocino County south and in portions of the Sierra Nevada and Cascades ranges.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Salvadora hexalepis virgulata</i> coast patch-nosed snake	Fed: None CA: SSC	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains. Requires friable soils for burrowing.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Setophaga petechia</i> yellow warbler	Fed: None CA: SSC	Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes and the eastern side of the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties. Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral. May also use oaks, conifers, and urban areas near stream courses.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Spea hammondi</i> western spadefoot	Fed: None CA: SSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washed, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Spinus lawrencei</i> Lawrence's finch	Fed: None CA: None	Open woodlands, chaparral, and weedy fields. Closely associated with oaks. Nests in open oak or other arid woodland and chaparral near water.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Taricha torosa</i> Coast Range newt	Fed: None CA: SSC	Resides in coastal areas. Found near small ponds, creeks, and seeps in woodlands and chaparral.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Thamnophis hammondi</i> two-striped garter snake	Fed: None CA: SSC	Occurs in or near permanent fresh water, often along streams with rocky beds and riparian growth up to 7,000 feet in elevation.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Thamnophis sirtalis</i> pop. 1 south coast gartersnake	Fed: None CA: SSC	Utilizes a variety of habitats including forests, mixed woodlands, grassland, chaparral, and farmlands. Often found near ponds, marshes, or streams.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	Fed: None CA: SSC	Uncommon yearlong resident of southern California throughout freshwater emergent wetlands, and moist, open areas along agricultural areas, and mudflats of lacustrine habitats. Prefers to nest in dense wetland vegetation characterized by cattails, tules, or other similar plant species along the border of lakes and ponds.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
SPECIAL-STATUS PLANT SPECIES				
<i>Berberis nevinii</i> Nevin's barberry	Fed: END CA: END CNPS: 1B.1	Occurs on steep, north-facing slopes or in low-grade sandy washes in chaparral, cismontane woodland, coastal scrub, and riparian scrub. Found at elevations ranging from 951 to 5,167 feet. Blooming period is from March to June.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Calochortus catalinae</i> Catalina mariposa-lily	Fed: None CA: None CNPS: 4.2	Grows in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Found at elevations ranging from 49 to 2,297 feet. Blooming period is from March to June.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Calochortus plummerae</i> Plummer's mariposa-lily	Fed: None CA: None CNPS: 4.2	Prefers openings in chaparral, foothill woodland, coastal sage scrub, valley and foothill grasslands, cismontane woodland, lower montane coniferous forest and yellow pine forest. Often found on dry, rocky slopes and soils and brushy areas. Can be very common after a fire. From 328 to 5,577 feet in elevation. Blooming period is from May to July.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Calystegia felix</i> lucky morning-glory	Fed: None CA: None CNPS: 1B.1	Grows within meadows and seeps (sometimes alkaline) and riparian scrub (alluvial) habitats. Found at elevations ranging from 100 to 705 feet. Blooming period is from March to September.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Cladium californicum</i> California saw-grass	Fed: None CA: None CNPS: 2B.2	Found in meadows and seeps, marshes and alkaline swamps or freshwater habitats. Found at elevations ranging from 197 to 5,249 feet. Blooming period is from June to September.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Dodecahema leptoceras</i> slender-horned spineflower	Fed: END CA: END CNPS: 1B.1	Chaparral, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes. Found at elevations ranging from 1,181 to 2,690 feet. Blooming period is from April to June.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa horkelia	Fed: None CA: None CNPS: 1B.1	Occurs on sandy or gravelly soils in chaparral, woodlands, and coastal scrub plant communities. Found at elevations ranging from 230 to 2,657 feet. Blooming period is from February to September.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Juglans californica</i> southern California black walnut	Fed: None CA: None CNPS: 4.2	Found in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Found at elevations ranging from 164 to 2,953 feet. Blooming period is from March to August.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Juncus acutus</i> ssp. <i>leopoldii</i> southwestern spiny rush	Fed: None CA: None CNPS: 4.2	Found in coastal dunes (mesic), meadows and seeps (alkaline seeps), and marshes and swamps (coastal salt). Found at elevations ranging from 0 to 3,115 feet. Blooming period is from May to July.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	Fed: None CA: None CNPS: 4.3	Dry soils on chaparral and coastal sage scrub. Found at elevations ranging from 3 to 2,904 feet. Blooming period is from January to July.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Muhlenbergia californica</i> California muhly	Fed: None CA: None CNPS: 4.3	Found in mesic, seeps, and streambanks within chaparral, coastal scrub, lower montane coniferous forest, and meadows and seeps. Found at elevations ranging from 328 to 6,562 feet. Blooming period is from June to September.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Muhlenbergia utilis</i> aparego grass	Fed: None CA: None CNPS: 2B.2	Grows in wet habitats, including riverbanks and meadows, sometimes alkaline soils. Found at elevations ranging from 80 to 7,630 feet. Blooming period is from October to March.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	Fed: None CA: None CNPS: 1B.2	Found in mesic soils in coastal scrub, meadows and seeps, valley and foothill grasslands (alkaline), and vernal pools. Found at elevations ranging from 65 to 2,100 feet. Blooming period is from April to July.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	Fed: None CA: None CNPS: 2B.2	Grows in sandy, gravelly soils within chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Found at elevations ranging from 0 to 6,890 feet. Blooming period is from July to December.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Sidalcea neomexicana</i> Salt Spring checkerbloom	Fed: None CA: None CNPS: 2B.2	Habitat includes chaparral, coastal scrub, lower montane coniferous forest, plays, and mojavean desert scrub. Found at elevations ranging from 49 to 5,020 feet. Blooming period is from March to June.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Symphotrichum defoliatum</i> San Bernardino aster	Fed: None CA: None CNPS: 1B.2	Grows in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic). Can be found growing near ditches, streams, and springs within these habitats. Found at elevations ranging from 7 to 6,693 feet. Blooming period is from July to November.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site.
<i>Thysanocarpus rigidus</i> rigid fringe-pod	Fed: None CA: None CNPS: 1B.2	Occurs along rocky ridges, slopes and washes in woodland and chaparral plant communities. From 1,969 to 7,218 feet in elevation. Blooming period is from February to May.	No	Presumed Absent There is no suitable habitat present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.
SPECIAL-STATUS PLANT COMMUNITIES				
Riversidian Alluvial Fan Sage Scrub	CDFW Sensitive Habitat	Occur within broad washes of sandy alluvial drainages that carry rainfall runoff sporadically in winter and spring, but remain relatively dry through the remainder of the year. Is restricted to drainages and floodplains with very sandy substrates that have a dearth of decomposed plant material. These areas do not develop into riparian woodland or scrub due to the limited water resources and scouring by occasional floods.	No	Absent

U.S. Fish and Wildlife Service (USFWS) - Federal
 END - Federally Endangered
 THR - Federally Threatened

California Department of Fish and Wildlife (CDFW) - California
 END - State Endangered
 CEND - State Candidate Endangered
 SSC - Species of Special Concern
 WL - Watch List

California Native Plant Society (CNPS)
California Rare Plant Rank
 1A Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
 1B Plants Rare, Threatened, or Endangered in California and Elsewhere

Threat Ranks
 0.1 - Seriously threatened in California
 0.2 - Moderately threatened in California
 0.3 - Not very threatened in California

FP - Fully Protected

- 2B Plants Rare, Threatened, or Endangered
in California, but More Common
Elsewhere
- 4 Plants of Limited Distribution – A
Watch List

Attachment E

Regulations

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Regulations

Endangered Species Act of 1973

As defined within the Federal Endangered Species Act (FESA) of 1973, an endangered species is any animal or plant listed by regulation as being in danger of extinction throughout all or a significant portion of its geographical range. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future throughout all or a significant portion of its geographical range. Without a special permit, federal law prohibits the “take” of any individuals or habitat of federally listed species. Under Section 9 of the FESA, take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” The term “harm” has been clarified to include “any act which actually kills or injures fish or wildlife, and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” The presence of any federally threatened or endangered species within a project area generally imposes severe constraints on development, particularly if development would result in “take” of the species or its habitat. Under the regulations of the FESA, the United States Fish and Wildlife Service (USFWS) may authorize “take” when it is incidental to, but not the purpose of, an otherwise lawful act.

Critical Habitat is designated for the survival and recovery of species listed as threatened or endangered under the ESA. Critical Habitat includes those areas occupied by the species, in which are found physical and biological features that are essential to the conservation of an FESA listed species and which may require special management considerations or protection. Critical Habitat may also include unoccupied habitat if it is determined that the unoccupied habitat is essential for the conservation of the species.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the ESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers (Corps)).

If the USFWS determines that Critical Habitat will be adversely modified or destroyed from a proposed action, the USFWS will develop reasonable and prudent alternatives in cooperation with the federal institution to ensure the purpose of the proposed action can be achieved without loss of Critical Habitat. If the action is not likely to adversely modify or destroy Critical Habitat, USFWS will include a statement in its biological opinion concerning any incidental take that may be authorized and specify terms and conditions to ensure the agency is in compliance with the opinion.

Migratory Bird Treaty Act

Pursuant to the Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) of 1918, as amended in 1972, federal law prohibits the taking of migratory birds or their nests or eggs (16 USC 703; 50 CFR 10, 21). The statute states:

Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill...any migratory bird, any part, nest, or egg of any such bird...included in the terms of the [Migratory Bird] conventions...

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered “take.” This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

State Regulations

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines “endangered” and “rare” species separately from the definitions of the California Endangered Species Act (CESA). Under CEQA, “endangered” species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while “rare” species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act (CESA)

In addition to federal laws, the state of California implements the CESA which is enforced by CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in “take” of individuals (defined in CESA as; “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) are regulated by CDFW. Habitat degradation or modification is not included in the definition of “take” under CESA. Nonetheless, CDFW has interpreted “take” to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, as an informal term that refers to species which might be in need of concentrated conservation actions. As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

Fish and Game Code

Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds’ nest or any birds’ eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Fish and Game Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Fish and Game Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected by the State include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Section 3513 of the Fish and Game Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Native Plant Protection Act

Sections 1900–1913 of the Fish and Game Code were developed to preserve, protect, and enhance Rare and Endangered plants in the state of California. The act requires all state agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at

least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Native Plant Society Rare and Endangered Plant Species

Vascular plants listed as rare or endangered by the CNPS, but which have no designated status under FESA or CESA are defined as follows:

California Rare Plant Rank

- 1A- Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere
- 1B- Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2A- Plants Presumed Extirpated in California, But More Common Elsewhere
- 2B- Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3- Plants about Which More Information is Needed - A Review List
- 4- Plants of Limited Distribution - A Watch List

Threat Ranks

- .1- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3- Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Federal Regulations

Section 404 of the Clean Water Act

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of “waters of the U.S.,” including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define “fill material” to include any “material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States.” Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and “materials used to create any structure or infrastructure in the waters of the United States.” In order to further define the scope of waters protected under the CWA, the Corps and EPA published the Clean Water Rule on June 29, 2015. Pursuant to the Clean Water Rule, the term “waters of the United States” is defined as follows:

- (i) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- (ii) All interstate waters, including interstate wetlands¹.
- (iii) The territorial seas.
- (iv) All impoundments of waters otherwise defined as waters of the United States under the definition.
- (v) All tributaries² of waters identified in paragraphs (i) through (iii) mentioned above.
- (vi) All waters adjacent³ to a water identified in paragraphs (i) through (v) mentioned above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

¹ The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

² The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (iv) mentioned above), to a water identified in paragraphs (i) through (iii) mentioned above, that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark.

³ The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (i) through (v) mentioned above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like.

- (vii) All prairie potholes, Carolina bays and Delmarva bays, Pocosins, western vernal pools, Texas coastal prairie wetlands, where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (i) through (iii) mentioned above.
- (viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) mentioned above and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (i) through (v) mentioned above, where they are determined on a case-specific basis to have a significant nexus to a waters identified in paragraphs (i) through (iii) mentioned above.

The following features are not defined as “waters of the United States” even when they meet the terms of paragraphs (iv) through (viii) mentioned above:

- (i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.
- (ii) Prior converted cropland.
- (iii) The following ditches:
 - (A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
 - (B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
 - (C) Ditches that do not flow, either directly or through another water, into a water of the United States as identified in paragraphs (i) through (iii) of the previous section.
- (iv) The following features:
 - (A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
 - (B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
 - (C) Artificial reflecting pools or swimming pools created in dry land;
 - (D) Small ornamental waters created in dry land;
 - (E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
 - (F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways; and
 - (G) Puddles.
- (v) Groundwater, including groundwater drained through subsurface drainage systems.
- (vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

- (vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Section 401 of the Clean Water Act

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Water Quality Control Boards (Regional Board) that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

State Regulations

Fish and Game Code

Fish and Game Code Sections 1600 et. seq. establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

- (1) substantially obstruct or divert the natural flow of a river, stream, or lake;
- (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake;
- or
- (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. A Section 1602 Streambed Alteration Agreement would be required if impacts to identified CDFW jurisdictional areas occur.

Porter Cologne Act

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state’s authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although “waste” is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

**APPENDIX 4
CULTURAL RESOURCES**

IDENTIFICATION AND EVALUATION OF HISTORIC PROPERTIES

STATE STREET WATER TREATMENT PROJECT

**In and near the City of Chino
San Bernardino County, California**

For Submittal to:

City of Chino
13220 Central Avenue
Chino, CA 91710

and

U.S. Bureau of Reclamation, Southern California Area Office
27226 Via Industria, Suite A
Temecula CA 92590

Prepared for:

Tom Dodson & Associates
2150 N. Arrowhead Avenue
San Bernardino, CA 92405

Prepared by:

CRM TECH
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

Bai “Tom” Tang, Principal Investigator, History
Michael Hogan, Principal Investigator, Archaeology
Deirdre Encarnación, Archaeologist/Report Writer
Hunter O’Donnell, Archaeologist

February 21, 2022

CRM TECH Project No. 3789

USGS Ontario, Calif., 7.5' (1:24,000) quadrangle

Sections 26 and 35; T1S R8W, San Bernardino Baseline and Meridian

Keywords: Western San Bernardino Valley; Phase I survey; no “historic properties” or “historical resources” affected

EXECUTIVE SUMMARY

Between October 2021 and February 2022, at the request of Tom Dodson & Associates, CRM TECH performed a Phase I cultural resources survey on the Area of Potential Effects (APE) for the proposed State Street Water Treatment Project in and near the City of Chino, San Bernardino County, California. The undertaking entails primarily the development of treatment facilities and associated water and brine pipelines for the removal of contaminants such as nitrate, perchlorate, and 1, 2, 3-TCP from the currently inactive Wells 12 and 14. The APE encompasses the portions of the existing well sites where improvements are planned, namely Well 14/Reservoir 5 at 10762 South Benson Avenue and Wells 10 and 12/Reservoirs 2 and 4 at 5251 Phillips Boulevard, as well as the pipeline rights-of-way between the two facilities. It is located within Sections 26 and 35, T1S R8W, San Bernardino Baseline and Meridian, and a portion of the Rancho Santa Ana del Chino (Addition) land grant. The vertical extent of the APE, or the maximum depth of ground disturbance, is anticipated to be five feet for trenching and pipeline installation.

The study is a part of the environmental review process for the undertaking, as required by the City of Chino pursuant to the California Environmental Quality Act (CEQA). As the undertaking may require federal funding administered by the U.S. Bureau of Reclamation (BOR), the study was designed to comply with both CEQA and Section 106 of the National Historic Preservation Act (NHPA). The purpose of the study is to provide the City and the BOR with the necessary information and analysis to determine whether the undertaking would have an effect on any “historic properties,” as defined by 36 CFR 800.16(l), or “historical resources,” as defined by Calif. Title 14 CCR §15064.5(a)(1)-(3), that may exist in the APE.

In order to accomplish this objective, CRM TECH performed a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey. Throughout the course of the study, no potential “historic properties”/“historical resources” were encountered within the APE, and the subsurface sediments in the vertical extent of the APE appear to be relatively low in sensitivity for buried deposits of potentially significant archaeological remains from the prehistoric era. Although evidence of development was noted at both well sites in the early 20th century, no physical remains of the early features were observed within or adjacent to the APE during the field survey. Along the pipeline alignment, all of the existing roadways trace their origin to the historic period, but as working components of the modern urban infrastructure they do not demonstrate any distinctively historical characteristics and are therefore not considered potential “historic properties”/“historical resources.”

Based on these findings, and pursuant to 36 CFR 800.4(d)(1) and Calif. PRC §21084.1, CRM TECH recommends to the City of Chino and the BOR a conclusion that *no “historic properties” or “historical resources” will be affected by the proposed undertaking.* No further cultural resources investigation is recommended for the undertaking unless project plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during earth-moving operations associated with the undertaking, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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INTRODUCTION

Between October 2021 and February 2022, at the request of Tom Dodson & Associates, CRM TECH performed a Phase I cultural resources survey on the Area of Potential Effects (APE) for the proposed State Street Water Treatment Project in and near the City of Chino, San Bernardino County, California (Fig. 1). The undertaking entails primarily the development of treatment facilities and associated water and brine pipelines for the removal of contaminants such as nitrate, perchlorate, and 1, 2, 3-TCP from the currently inactive Wells 12 and 14. The APE encompasses the portions of the existing well sites where improvements are planned, namely Well 14/Reservoir 5 at 10762 South Benson Avenue and Wells 10 and 12/Reservoirs 2 and 4 at 5251 Phillips Boulevard, as well as the pipeline rights-of-way between the two facilities (Figs. 2, 3).

The proposed pipeline alignment begins at Well 14, located at the southwest corner of State Street and Benson Avenue, and runs south along Benson Avenue, west along Mission Boulevard, south along Vernon Avenue, and finally west along Phillips Boulevard to Well 12, located on the south side of Phillips Boulevard and to the west of Central Avenue. An alternate alignment runs west along State Street from Well 14 before turning south on Vernon Avenue to join the other alignment on Mission Boulevard. The APE is located within Sections 26 and 35, T1S R8W, San Bernardino Baseline and Meridian, and a portion of the Rancho Santa Ana del Chino (Addition) land grant (Fig. 2). The vertical extent of the APE, or the maximum depth of ground disturbance, is anticipated to be five feet for trenching and pipeline installation.

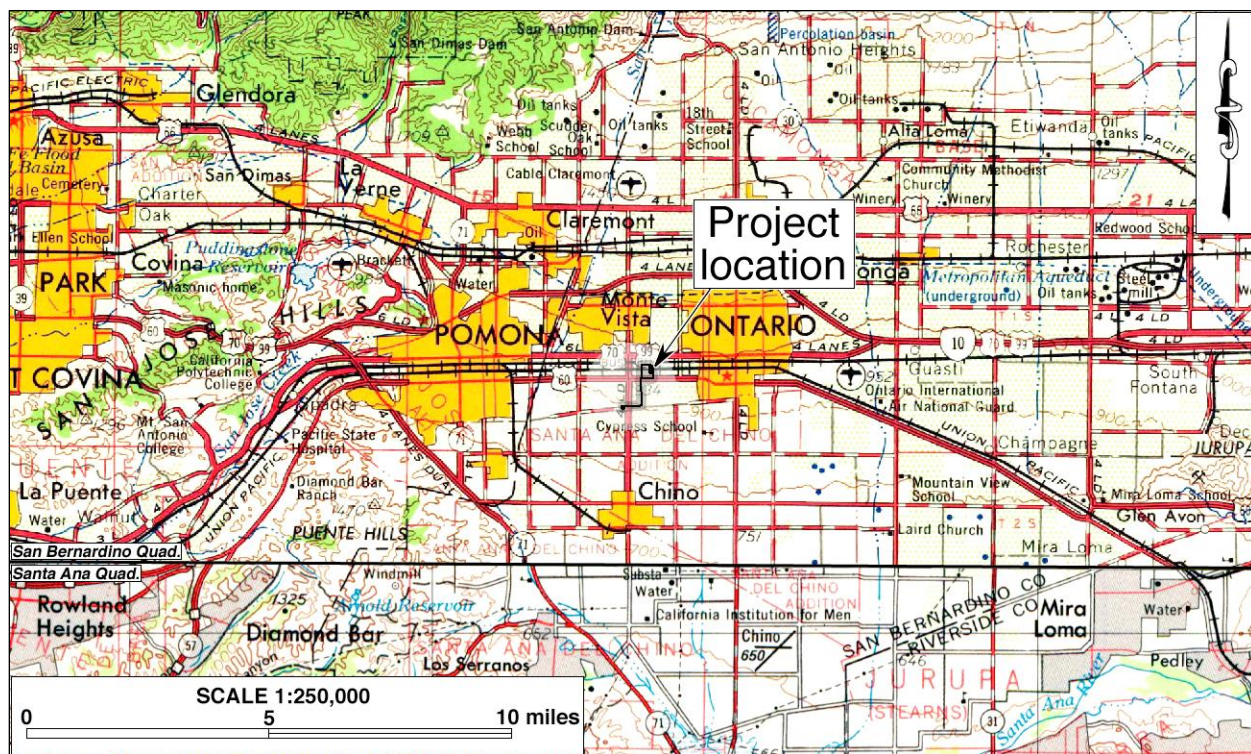


Figure 1. Project vicinity. (Based on USGS San Bernardino and Santa Ana, Calif., 120'x60' quadrangles [USGS 1969; 1979])

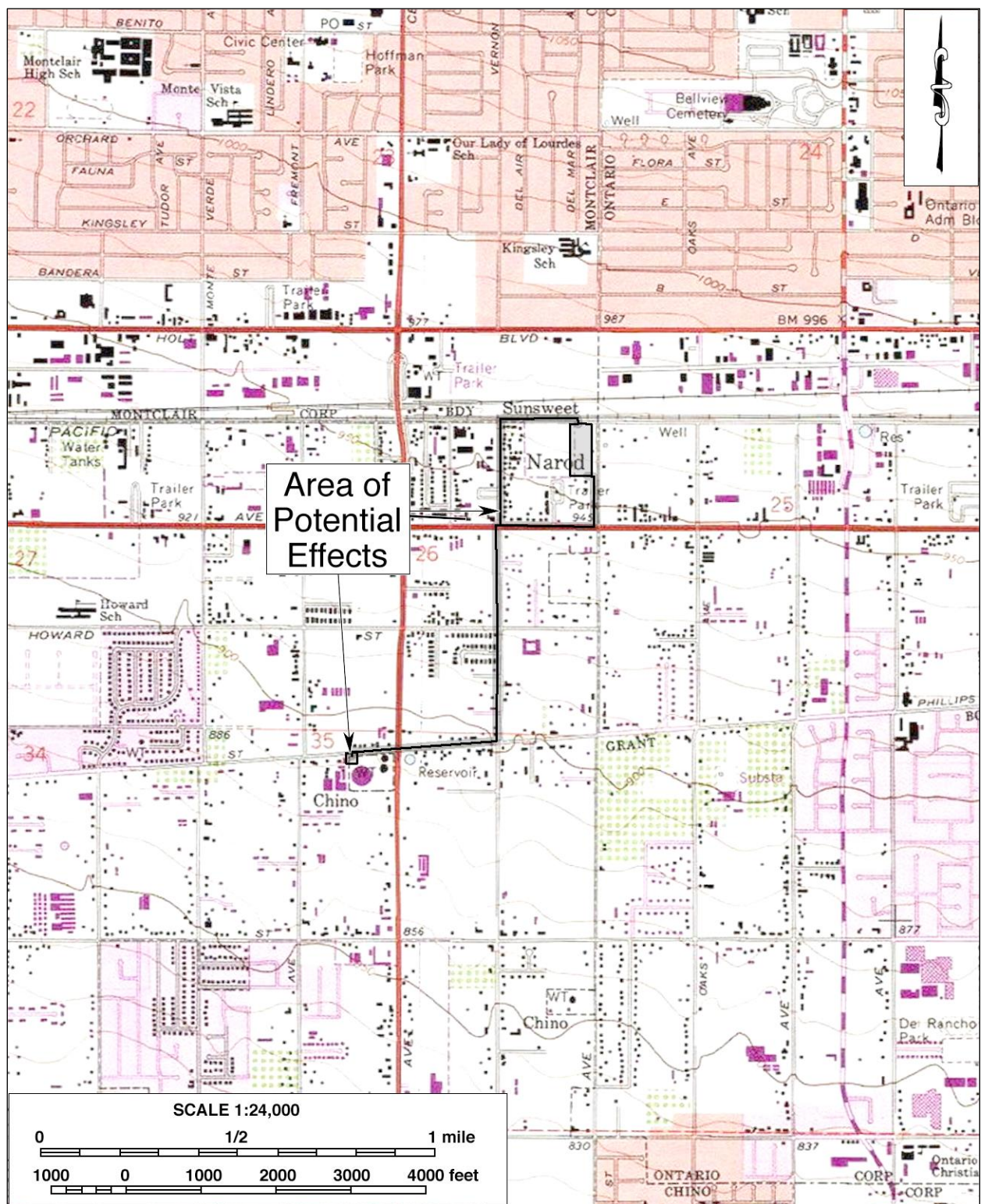


Figure 2. Project location. (Based on USGS Ontario, Calif., 7.5' quadrangle [USGS 1981])

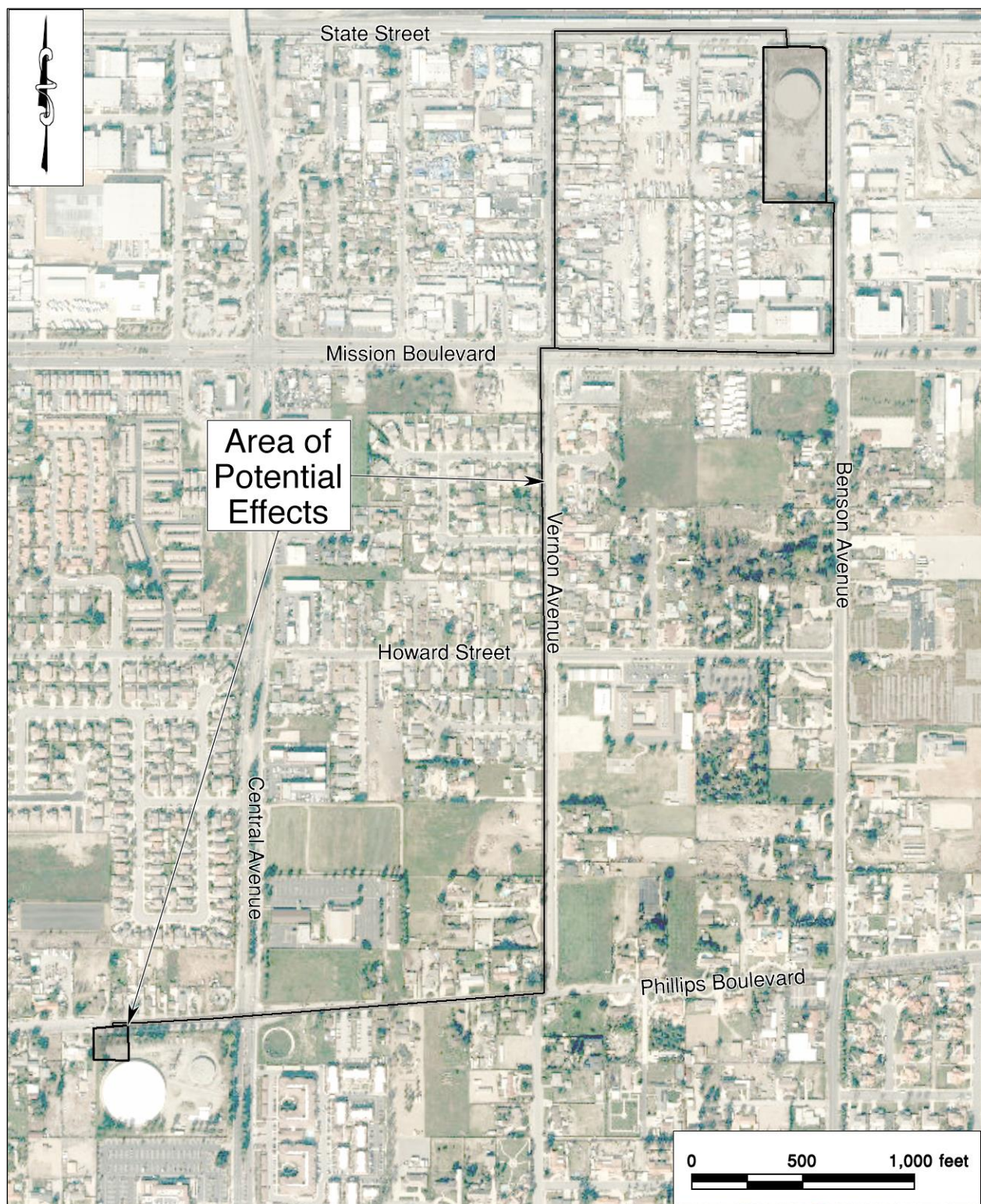


Figure 3. Area of Potential Effects.

The study is a part of the environmental review process for the undertaking, as required by the City of Chino pursuant to the California Environmental Quality Act (CEQA). As the undertaking may require federal funding administered by the U.S. Bureau of Reclamation (BOR), the study was designed to comply with both CEQA and Section 106 of the National Historic Preservation Act (NHPA). The purpose of the study is to provide the City and the BOR with the necessary information and analysis to determine whether the undertaking would have an effect on any “historic properties,” as defined by 36 CFR 800.16(l), or “historical resources,” as defined by Calif. Title 14 CCR §15064.5(a)(1)-(3), that may exist in the APE.

In order to accomplish this objective, CRM TECH performed a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

SETTING

CURRENT NATURAL SETTING

The City of Chino is located in the southern portion of the Transverse Ranges geomorphic province, where the natural landscape is characterized by an east-west trending series of steep mountain ranges and valleys (Jenkins 1980). The area lies on the gentle slope of an alluvial fan extending south from the foothills of the San Gabriel Mountains to the Santa Ana River, the main natural waterway in the San Bernardino Valley. The Mediterranean climate of the region is typical of inland southern California lowlands, featuring hot, dry summers and mild, wet winters. The average annual rainfall in the region is approximately 12 inches, most of which typically occurs between November and March.

The APE consists of the proposed 4.15-acre treatment facility site at the existing site of Well 14/Reservoir 5, a 0.4-acre new well site at Wells 10 and 12/Reservoirs 2 and 4, and a total of



Figure 4. Typical landscapes within the APE. *Left:* site of Wells 10 and 12/Reservoirs 2 and 4, view to the east; *right:* pipeline alignment along Phillips Boulevard, view to the east. (Photographs taken on December 23, 2021)

approximately 11,170 linear feet of pipeline rights-of-way (Figs. 3, 4). It is situated in an urban setting, and the prevailing land use around Well 14/Reservoir 5 is industrial, while the rest of the APE is surrounded by light industrial, commercial, and residential properties. Elevations in the APE range around 885-963 feet above mean sea level, and the terrain is relatively level with a gradual incline to the northeast. The ground surface in the entire APE has been extensively disturbed by past construction and maintenance activities associated with the existing roadways and water producing/storage facilities, and the pipeline alignments are contained in the rights-of-way of paved and heavily used urban streets (Fig. 4). Vegetation is rare in the APE, consisting mostly of introduced landscaping plants.

CULTURAL SETTING

Prehistoric Context

The earliest evidence of human occupation in inland southern California, or the Inland Empire, was discovered below the surface of an alluvial fan in the northern portion of the Lakeview Mountains, overlooking the San Jacinto Valley, with radiocarbon dates clustering around 9,500 B.P. (Horne and McDougall 2008). Another site found near the shoreline of Lake Elsinore, close to the confluence of Temescal Wash and the San Jacinto River, yielded radiocarbon dates between 8,000 and 9,000 B.P. (Grenda 1997). Additional sites with isolated Archaic dart points, bifaces, and other associated lithic artifacts from the same age range have been found in the nearby Cajon Pass area of the San Bernardino Mountains, typically atop knolls with good viewsheds (Basgall and True 1985; Goodman and McDonald 2001; Goodman 2002; Milburn et al. 2008).

The cultural history of southern California has been summarized into numerous chronologies, including those developed by Chartkoff and Chartkoff (1984), Warren (1984), and others. Specifically, the prehistory of the Inland Empire has been addressed by O'Connell et al. (1974), McDonald et al. (1987), Keller and McCarthy (1989), Grenda (1993), Goldberg (2001), and Horne and McDougall (2008). Although the beginning and ending dates of the recognized cultural horizons vary among different parts of the region, the general framework of the prehistory of the Inland Empire can be broken into three primary periods:

- **Paleoindian Period (ca. 18,000-9,000 B.P.):** Native peoples of this period created fluted spearhead bases designed to be hafted to wooden shafts. The distinctive method of thinning bifaces and spearhead preforms by removing long, linear flakes leaves diagnostic Paleoindian markers at tool-making sites. Other artifacts associated with the Paleoindian toolkit include choppers, cutting tools, retouched flakes, and perforators. Sites from this period are very sparse across the landscape and most are deeply buried.
- **Archaic Period (ca. 9,000-1,500 B.P.):** Archaic sites are characterized by abundant lithic scatters of considerable size with many biface thinning flakes, bifacial preforms broken during manufacture, and well-made groundstone bowls and basin metates. As a consequence of making dart points, many biface thinning waste flakes were generated at individual production stations, which is a diagnostic feature of Archaic sites.
- **Late Prehistoric Period (ca. 1,500 B.P.-contact):** Sites from this period typically contain small lithic scatters from the manufacture of small arrow points, expedient groundstone tools such as

tabular metates and unshaped manos, wooden mortars with stone pestles, acorn or mesquite bean granaries, ceramic vessels, shell beads suggestive of extensive trading networks, and steatite implements such as pipes and arrow shaft straighteners.

Ethnohistoric Context

The City of Chino is situated on the eastern edge of the traditional territory of the Gabrielino, a Takic-speaking people who were considered among the most populous and powerful ethnic group in aboriginal southern California (Bean and Smith 1978a:538). The Gabrielino's territory spanned from San Clemente Island along the coast to the present-day San Bernardino-Riverside area and south into southern Orange County, and their influence spread as far as the San Joaquin Valley, the Colorado River, and Baja California. The leading ethnographic sources on Gabrielino culture and history include Bean and Smith (1978a), Miller (1991), and McCawley (1996). The following summary is based mainly on these sources.

Prior to European contact, native subsistence practices were defined by the varying surrounding landscape and primarily based on the cultivating and gathering of wild foods, hunting, and fishing, exploiting nearly all of the resources available in a highly developed seasonal mobility system. In inland areas, the predominant food sources included acorns, piñon nuts, other seeds, roots, wild fruits/berries, and wild onions. Medicinal and ceremonial plants such as yerba buena, elderberry, and sage were typically cultivated near villages. Common game animals included deer, antelope, rabbits, wood rats, fish, and waterfowl. Coastal Gabrielino utilized marine resources and had an advanced maritime navigation technology with an emphasis on the *ti'at*, the plank canoe used by only a handful of groups in North America (Gamble 2002).

Both inland and coastal Gabrielino populations had a variety of technological skills that they used to acquire subsistence, shelter, and medicine or to create ornaments and decorations. Common tools included manos and metates, mortars and pestles, hammerstones, fire drills, awls, arrow straighteners, and stone knives and scrapers. These lithic tools were made from locally sourced material as well as those procured through trade or travel. They also used wood, horn, and bone spoons and stirrers, as well as baskets for winnowing, leaching, grinding, transporting, parching, storing, and cooking. However, much of this material cultural, elaborately decorated, does not survive in the archaeological record. As usual, the main items found archaeologically relate to subsistence activities.

The intricacies of Gabrielino social organization are not well known, although evidence suggests the existence of a moiety system in which various clans belonged to one or the other of two main social/cultural divisions. There also seems to have existed at least three hierarchically ordered social classes, topped with an elite consisting of the chiefs, their immediate families, and the very rich. Some individuals owned land, and property boundaries were marked by the owner's personalized symbol. Villages were politically autonomous, composed of nonlocalized lineages, each with its own leader. The dominant lineage's leader was usually the village chief, whose office was generally hereditary through the male line. Often several villages were allied under the leadership of a single chief. The villages did engage in warfare against one another, resulting in what some consider to be a state of enmity between coastal and inland Gabrielino groups.

As early as 1542, the Gabrielino were in contact with the Spanish during the historic expedition of Juan Rodríguez Cabrillo, but it was not until 1769 that the Spaniards took steps to colonize Gabrielino territory. Shortly afterwards, most of the Gabrielino people were incorporated into Mission San Gabriel and other missions in southern California. Due to forced labor, dietary deficiencies, introduced diseases, and forceful reduction, Gabrielino population dwindled rapidly. By 1900, they had almost ceased to exist as a culturally identifiable group (Bean and Smith 1978a:540). In recent decades, however, there has been a renaissance of Native American activism and cultural revitalization among groups of Gabrielino descendants, including the reconstruction and utilization of *ti'at* and incorporating the ethnographic names *Kizh* and *Tongva* into official documentation (Stickel 2016).

Historic Context

The present-day Chino area, along with the rest of Alta California, was claimed by Spain in the late 18th century, and the first European explorers traveled through the area as early as the 1770s (Beck and Haase 1974:15). For more than half a century afterwards, however, the arid inland region of the remote province received little attention from the Spanish colonizers, who concentrated their efforts in the coastal regions. Following the establishment of Mission San Gabriel in 1771, the Chino area became one of the mission's 24 principal cattle ranches, known as Rancho Santa Ana del Chino at least by 1834 (Gunther 1984:111), but no Europeans are known to have settled in the area until the late 1830s.

After gaining independence from Spain in 1821, the Mexican government began to dismantle the mission system in 1834 in Alta California through the process of secularization. During the next 12 years, former mission ranchos throughout Alta California were surrendered to the Mexican government, and subsequently divided and granted to various prominent citizens of the province. In 1841, Rancho Santa Ana del Chino was granted to Antonio Maria Lugo, an influential figure in the pueblo of Los Angeles at the time. By 1856, Lugo's son-in-law Isaac Williams, a Yankee-turned *ranchero*, had acquired all interest in the rancho, and developed it into a prosperous agricultural empire. The southernmost portion of the APE lies within the boundaries of an addition to Rancho Santa Ana del Chino, which Williams obtained in 1843. In addition to cattle raising, Williams' ranch also boasted wheat fields, vineyards, fruit orchards, a flour mill, and a soap factory (Schuling 1984:34).

The American annexation of Alta California in 1848 brought waves of American immigrants into the once sparsely populated territory. In the 1880s, spurred by the completion of the Southern Pacific Railroad and the competing Santa Fe Railroad, a land boom swept through much of southern California. A large number of towns, surrounded by irrigated farmland, were laid out in the San Bernardino Valley before the end of the 19th century. The townsite of Chino was laid out in 1887 by Richard Gird, who had purchased the former Williams ranch in 1881 (Schuling 1984:84). In the meantime, Gird built up a herd of 200 dairy cows on the ranch, and thus started the Chino area's long history as the dairy center of southern California (*ibid.*). Around the turn of the century, however, the area was better known for the cultivation of sugar beets and the industrial production of sugar (Slawson 1998:8-9).

In the wake of the financial failure of Gird's enterprises in the 1890s, the Chino ranch was gradually subdivided into smaller farms and ranches. During the post-WWII years, with the metropolis of Los

Angeles embarking on a rapid expansion, displaced dairy farmers flocked into the Chino area in the 1940s-1950s, greatly contributing to the establishment of milk as the leading agricultural product in both San Bernardino and Riverside Counties. In recognition of the importance of its agricultural economy, the County of San Bernardino officially designated the Chino Basin as an agricultural reserve. Starting in the 1990s, however, the reserve was incrementally dismantled, losing the majority of its dairies and other agricultural enterprises to an ever-increasing demand for affordable housing. As elsewhere in southern California, urban expansion and residential development have now assumed a dominant role in regional growth.

RESEARCH METHODS

RECORDS SEARCH

On December 9, 2021, CRM TECH archaeologist Nina Gallardo completed the historical/archaeological resources records search for this study at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System. Located on the campus of California State University, Fullerton, the SCCIC is the State of California's official cultural resource records repository for the County of San Bernardino. During the records search, Gallardo examined digital maps, records, and databases for previously identified cultural resources and existing cultural resources reports within a half-mile radius of the APE. Previously identified cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, San Bernardino County Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

HISTORICAL BACKGROUND RESEARCH

Historical background research for this study was conducted by CRM TECH principal investigator/historian Bai "Tom" Tang. Sources consulted during the research included published literature in local history, historic maps of the Chino area, and aerial/satellite photographs of the project vicinity. The maps consulted for this study included the U.S. General Land Office (GLO) survey plat map dated 1865 and the U.S. Geological Survey (USGS) topographic maps dated 1903-1981, which are accessible in digital format at the websites of the U.S. Bureau of Land Management and the USGS. The aerial and satellite photographs, taken in 1938-2021, are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

NATIVE AMERICAN PARTICIPATION

On October 6, 2021, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the Commission's Sacred Lands File. Following the NAHC's recommendations and previously established consultation protocol, CRM TECH further contacted seven tribal representatives in the region between November 15 and December 23, 2021, both in writing and by telephone, for additional information on potential Native American cultural resources in or near the APE. The correspondence between CRM TECH and the Native American representatives is attached to this report as Appendix 2.

GEOARCHAEOLOGICAL ANALYSIS

As part of the research procedures, CRM TECH archaeologist Deirdre Encarnación conducted a geoarchaeological analysis to assess the APE's potential to contain subsurface cultural deposits from the prehistoric period, which cannot be detected through a standard surface archaeological survey alone. Sources consulted for this purpose included primarily topographic and geologic maps pertaining to the surrounding area. Findings from these sources were used to develop a geomorphologic profile of the area and to address the archaeological sensitivity of the vertical APE.

FIELD SURVEY

On December 23, 2021, CRM TECH archaeologist Hunter O'Donnell carried out the field survey of the APE. During the survey, all accessible open grounds were inspected on foot along parallel transects spaced 15 meters (approximately 50 feet) apart. Areas around buildings or structures at the well and reservoir sites, mostly covered by asphalt, were treated with a cursory inspection, as were the proposed pipeline alignments along paved roadways. In this way, the ground surface in the APE was systematically examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older). Visibility of the native ground surface was mostly poor where pavement and/or gravel were prevalent but was excellent (95-100%) in unpaved areas where the ground had been cleared. In light of the heavily disturbed condition of the surface soil in the APE and the reduced archaeological sensitivity, the survey methods and the ground visibility were deemed adequate for this study.

RESULTS AND FINDINGS

RECORDS SEARCH

According to SCCIC records, three past cultural resources studies have involved portions of the current APE, including a 1979 survey at the intersection of Central Avenue and Phillips Boulevard for a traffic signal, a 2004 survey for street improvements along a 2.5-mile stretch of Mission Boulevard, and a large-scale 2008 survey for a water management program covering many locations scattered throughout the Chino Basin (San Bernardino County Museum Association 1979; Shepard 2004; Tang et al. 2008). None of these studies included a systematic survey of the current APE in its entirety, and all of them are now well over 10 years old and are thus considered out-of-date for statutory compliance purposes today.

Within the half-mile scope of the records search, SCCIC records showed at least 12 other previous studies on various tracts of land and linear features (Fig. 5). In all, some 10% of the land within the scope of the records search has been surveyed, resulting in the recordation of one historic-period site. Site 36-010330 consists of various segments of the Union Pacific (formerly Southern Pacific) Railroad throughout western San Bernadino County. The segment recorded closest to the APE runs adjacent to the north side of the State Street right-of-way, but the proposed undertaking, involving only subsurface trenching for pipeline installation at this location, has no potential to affect the current condition of the rail line, either directly or indirectly. Therefore, Site 36-010330 requires no further consideration during this study.

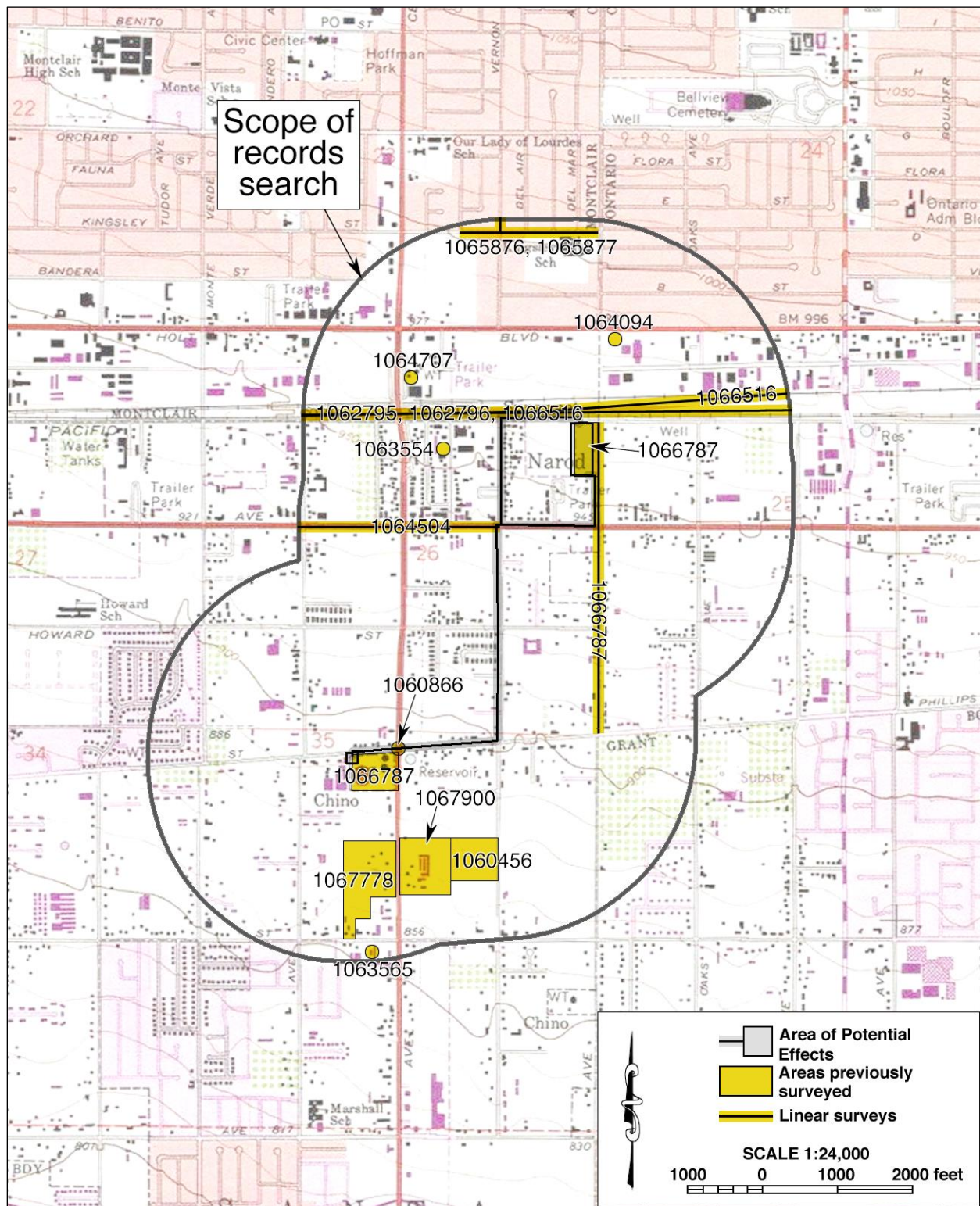


Figure 5. Previous cultural resources studies in the vicinity of the project area as listed by SCCIC file number. Locations of historical/archaeological resources are not shown as a protective measure.

HISTORICAL BACKGROUND RESEARCH

Historic maps and aerial photographs consulted during this study suggest that the APE is relatively low in sensitivity for potentially significant cultural resources from the historic period. Prior to 1900, no notable human-made features were known to be present within or adjacent to the APE except the Southern Pacific Railroad and the ubiquitous roads, such as the forerunners of State Street and Phillips Avenue, both of which were in place in the 1890s (Figs. 6, 7). During the late 19th and early to mid-20th century, land use in the project vicinity was dominated by agriculture, with orchards covering most of the land and scattered buildings lining the grid of roads (Figs. 7-9; NETR Online 1938-1959).

One of the well sites in the APE, Wells 10 and 12/Reservoirs 2 and 4 on Phillips Boulevard, is known to have been occupied by a public utility facility at least by the 1930s, when a water tank was observed in the northeastern corner of the site (Fig. 8; NETR Online 1938). However, the portion of the site where the APE is located, approximately 200 feet to the west of this early tank, remained vacant at the time (*ibid.*). In 1946-1948, a second tank was built directly to the south of the first, and a third, much larger tank was added in the 1970s to their west, immediately adjacent to the APE (NETR Online 1946-1980; USGS 1981). The oldest tank among the three was apparently replaced or rebuilt in the 1960s, and this replacement was eventually removed between 1980 and 1992 (NETR Online 1964-1992).

Meanwhile, the site of Well 14/Reservoir 5 on Benson Avenue contained what appeared to be two farmsteads during the 1930s-1950s, with part of an expansive orchard covering the rest of the land (Figs. 8, 9; NETR Online 1938-1948). In the post-WWII era, as elsewhere in the southern California “citrus belt,” orchards in the project vicinity began to give way to residential development and other agricultural crops, and the acreage devoted to the cultivation of fruit trees dwindled rapidly during the 1950s-1960s (Figs. 9, 10; NETR Online 1959-1965). By the late 1950s, this portion of the APE had become one of the last remaining tracts of land in the vicinity still occupied by orchards (NETR Online 1959). Between then and 1972, the orchard on the property was gradually abandoned and removed (NETR Online 1959-1972). The current water production and storage facility at this location was constructed in the 1980-1992 period, obliterating all traces of the former agrarian landscape, including buildings at both of the farmsteads (NETR Online 1959-1992).

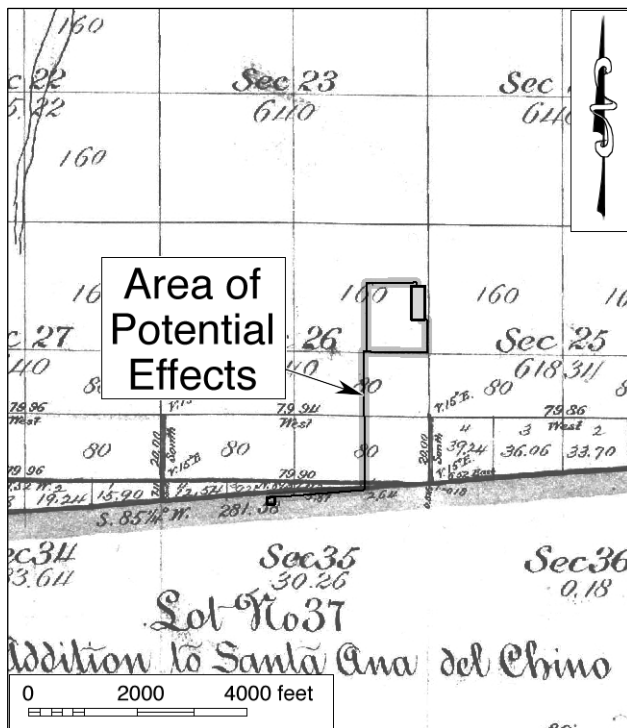


Figure 6. The APE and vicinity in 1852-1865. (Source: GLO 1865)

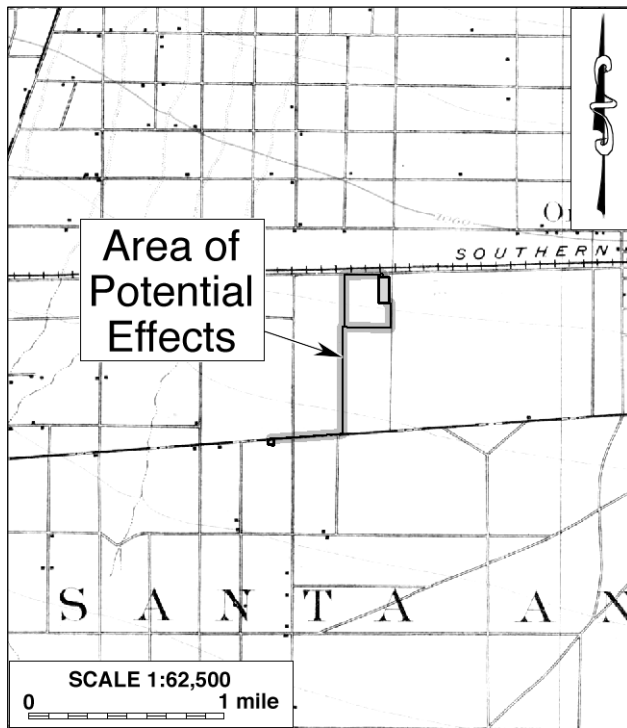


Figure 7. The APE and vicinity in 1894. (Source: USGS 1903)

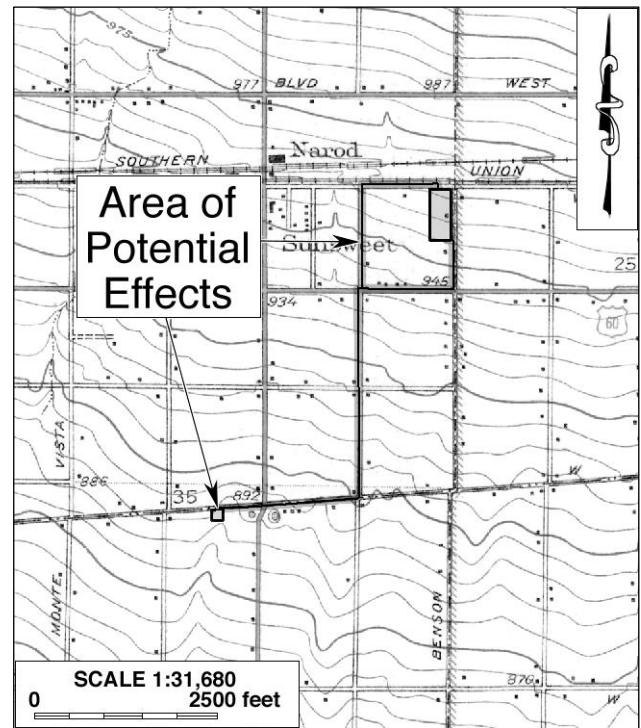


Figure 8. The APE and vicinity in 1933. (Source: USGS 1942)

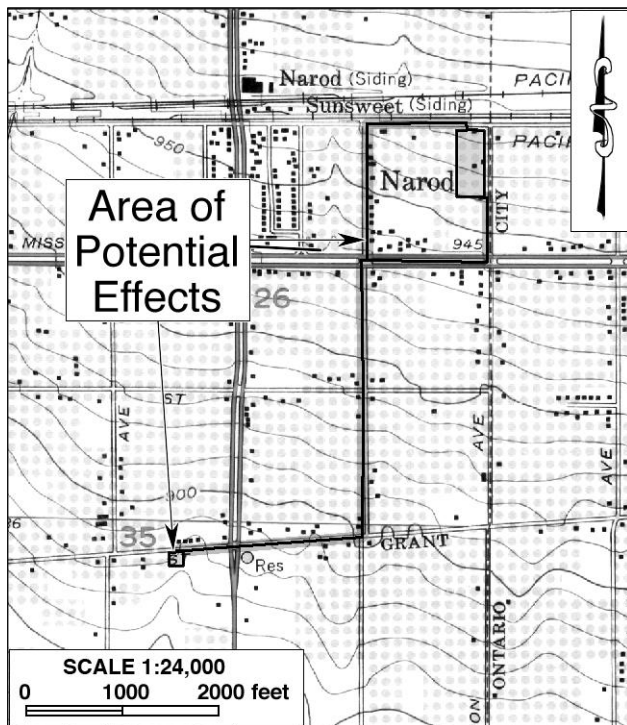


Figure 9. The APE and vicinity in 1952-1954. (Source: USGS 1954)

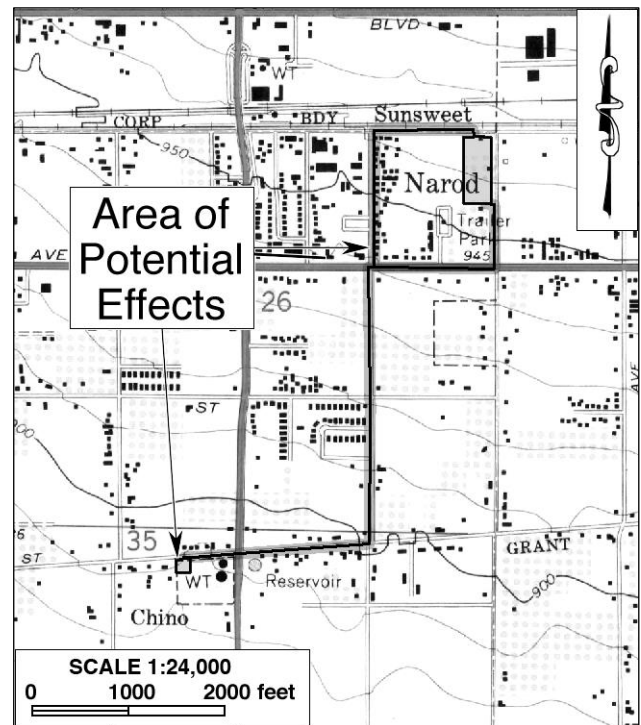


Figure 10. The APE and vicinity in 1966-1967. (Source: USGS 1967)

NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the NAHC replied in a letter dated November 14, 2021, that the Sacred Lands File identified no Native American cultural resources in or near the APE but recommended that local Native American groups be contacted for further information. For that purpose, the NAHC provided a referral list of 16 potential contacts representing 11 tribal organizations in the region (see App. 2). Upon receiving the NAHC's reply, CRM TECH sent written requests for comments to all 11 tribal organizations on the referral list on November 15, 2021 (see App. 2). Follow-up telephone solicitations were then carried out between December 15 and 23, 2021. The tribal representatives contacted are listed below:

- Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians-Kizh Nation;
- Sandonne Goad, Chairperson, Gabrielino/Tongva Nation;
- Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians;
- Robert Dorame, Chairperson, Gabrielino Tongva Indians of California Tribal Council;
- Charles Alvarez, Chairperson, Gabrielino Tongva Tribe;
- Ann Brierty, Tribal Historic Preservation Officer, Morongo Band of Mission Indians;
- Jill McCormick, Historic Preservation Officer, Quechan Tribe of the Fort Yuma Reservation;
- Jessica Mauck, Cultural Resources Director, San Manuel Band of Mission Indians;
- Vanessa Minott, Tribal Administrator, Santa Rosa Band of Cahuilla Indians;
- Mark Cochrane, Co-Chairperson, Serrano Nation of Mission Indians;
- Joseph Ontiveros, Tribal Historic Preservation Officer, Soboba Band of Luiseño Indians.

As of this time, three of the tribes have responded in writing, and two others have provided their comments via telephone (see App. 2). Among them, Jill McCormick of the Quechan Tribe deferred to tribes in closer proximity to the APE. Similarly, Jessica Valdez, Cultural Resource Specialist for the Soboba Band, deferred further consultation to Anthony Morales of the Gabrieleno/Tongva San Gabriel Band. Ryan Nordness, Cultural Resource Analyst for the San Manuel Band, stated that the project location was outside the tribe's ancestral territory and declined to pursue further consultation over this undertaking.

Brandy Salas, Tribal Administrative Specialist for the Gabrieleño Band of Mission Indians-Kizh Nation, requested contact information for the lead agency, which CRM TECH provided by e-mail on the same day. Co-Chairperson Mark Cochrane of the Serrano Nation requested to be notified immediately if any Native American cultural resources were discovered during ground-disturbing activities. None of the Native American representatives who responded identified any specific sites or issues of concern.

GEOARCHAEOLOGICAL ANALYSIS

The surface sediments in the APE were mapped by Morton and Miller (2006) as young alluvial-fan deposits (*Qyf*₃), described as "slightly to moderately consolidated silt, sand, and coarse-grained sand to bouldery alluvial-fan deposits having slightly to moderately dissected surfaces," which dates to the middle Holocene Epoch. Dibblee and Minch (2002) mapped much of the San Bernardino Valley floor in the vicinity of the APE as alluvial gravel and sand of valley areas (*Qa*), Holocene in age.

Geospatial analyses of known prehistoric sites in inland southern California suggest that long-term residential settlements of the Native population were more likely to occur in sheltered areas near the base of hills and/or on elevated terraces, hills, and finger ridges near permanent or reliable sources of water, while the level, unprotected valley floor was used mainly for resource procurement, travel, and occasional camping during these activities. This is corroborated by the ethnographic literature that identifies foothills as preferred settlement environment for Native Americans of the Inland Empire region (Bean 1978; Bean and Shipek 1978; Bean and Smith 1978b).

Based on this settlement pattern, the general location of the APE, on the open valley floor with only intermittent drainages nearby, would not have provided a favorable setting for permanent or long-term habitation by the aboriginal population during prehistoric times. Instead, as the type of prehistoric archaeological sites previously recorded in similar setting suggests, the area was more likely used for resource gathering and processing, and perhaps temporary camping. As mentioned above, no prehistoric archaeological sites or isolates were previously recorded within a half-mile radius of the APE.

In light of its geoarchaeological profile, the APE appears to be relatively low in sensitivity for buried deposits of potentially significant archaeological remains of prehistoric origin. Furthermore, virtually the entire APE has been extensively disturbed by past agricultural operations and/or construction activities. Along the roadways containing the proposed pipeline alignment, existing disturbance of four to six feet in depth can be assumed from road construction and underground utility installation, based on general information provided by local public works officials in the past and reviews of as-built plans for roadways of similar nature. These disturbances further reduce the archaeological sensitivity of the vertical APE.

FIELD SURVEY

The field survey produced negative results for potential “historic properties”/“historical resources” within the APE. As noted above, the Wells 10 and 12/Reservoirs 2 and 4 facility was originally developed in the early 20th century, and one of the existing water tanks at this location dates to the 1940s. The portion of the facility within the APE, however, was not involved in the early development, and the larger water tank standing adjacent to the APE boundary, between the project location and the 1940s tank, is a modern structure built in the 1970s (NETR Online 1972; 1980). At Well 14/Reservoir 5, all existing features are clearly modern in appearance, consistent with their 1980-1992 origin (NETR Online 1980; 1992), and no remnants of the early 20th century farmsteads that once occupied the property were found.

Historical maps and aerial photographs indicate that all of the public roadways containing the proposed pipeline alignments, namely State Street, Benson Avenue, Mission Boulevard, Vernon Avenue, and Phillips Boulevard, came into being during the historic period (Figs. 7-10). However, during the field survey they were found to be modern in appearance due to upgrading and maintenance in recent decades. Like most other elements of the historic-era infrastructure that remain in service today, these roads do not demonstrate any distinctively historical characteristics and are therefore not considered potential “historic properties”/“historical resources.”

MANAGEMENT CONSIDERATIONS

The purpose of this study is to identify any “historic properties” or “historical resources” that may exist within or adjacent to the APE. “Historic properties,” as defined by the Advisory Council on Historic Preservation, include “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior” (36 CFR 800.16(l)). The eligibility for inclusion in the National Register is determined by applying the following criteria, developed by the National Park Service as per provision of NHPA:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history. (36 CFR 60.4)

For CEQA-compliance considerations, the State of California Public Resources Code (PRC) establishes the definitions and criteria for “historical resources,” which require similar protection to what NHPA Section 106 mandates for “historic properties.” “Historical resources,” according to PRC §5020.1(j), “includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.”

More specifically, CEQA guidelines state that the term “historical resources” applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria of historical significance, CEQA guidelines mandate that “generally a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing on the California Register of Historical Resources” (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) 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.
- (4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c))

In summary of the research results outlined above, no potential “historic properties”/“historical resources” were previously identified within the APE, and none were encountered during this study. Although evidence of development was noted at both well sites in the early 20th century, no physical remains of the early features were observed within or adjacent to the APE during the field survey. Along the pipeline alignment, all of the existing roadways trace their origin to the historic period, but as working components of the modern urban infrastructure they do not demonstrate any distinctively historical characteristics and are therefore not considered potential “historic properties”/“historical resources.” Based on these findings, and in light of the criteria listed above, this study concludes that no “historic properties” or “historical resources” are present within the APE.

CONCLUSION AND RECOMMENDATIONS

Section 106 of NHPA mandates that federal agencies take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize, or mitigate any adverse effects on such properties (36 CFR 800.1(a)). Similarly, CEQA establishes that “a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (PRC §21084.1). “Substantial adverse change,” according to PRC §5020.1(q), “means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.”

As stated above, the present study encountered no “historic properties” or “historical resources” within the APE, and the subsurface sediments in the vertical APE appear to be relatively low in archaeological sensitivity. Therefore, CRM TECH presents the following recommendations to the City of Chino and the BOR pursuant to 36 CFR 800.4(d)(1) and PRC §21084.1:

- No “historic properties” or “historical resources” will be affected by the proposed undertaking.
- No further cultural resources investigation will be necessary for the undertaking unless project plans undergo such changes as to include areas not covered by this study.
- If buried cultural materials are inadvertently discovered during earth-moving operations associated with the undertaking, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the find.

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 2008 Archaeological Investigation at Baldy Mesa-Cajon Divide for the Baldy Mesa Off-Highway-Vehicle Recreation Trails Project San Bernardino National Forest, San Bernardino County, California. On file, San Bernardino National Forest (ARR #05-12-53-091), San Bernardino.
- Miller, Bruce W.
 1991 *The Gabrielino*. Sand River Press, Los Osos, California.
- Morton, D.M. and Miller, F.K.
 2006 Geologic Map of the San Bernardino and Santa Ana 30'x60' Quadrangles, California. United States Geological Survey Open-File Report OF-2006-1217. Washington, D.C.
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 1938-1992 Aerial and satellite photographs of the project vicinity; taken in 1938, 1946, 1948, 1959, 1964, 1965, 1966, 1972, 1980, and 1992. <http://www.historicaerials.com>.
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 1979 Cultural Resources Assessment: Central Avenue at Phillips Boulevard. On file, South Central Coastal Information Center, California State University, Fullerton.
- Schuiling, Walter C.
 1984 *San Bernardino County: Land of Contrast*. Windsor Publications, Woodland Hills, California.
- Shepard, Richard S.
 2005 Preliminary Cultural Resources Assessment: Mission Boulevard Corridor Improvements, City of Montclair, San Bernardino County. On file, South Central Coastal Information Center, California State University, Fullerton.
- Slawson, Dana
 1998 Cultural Resources Survey for the Proposed Inland Empire Utilities Agency Wastewater Treatment Plant—Regional Plant Number 5. On file, South Central Coastal Information Center, California State University, Fullerton.
- Stickel, E. Gary
 2016 *Why the Original Indian Tribe of the Greater Los Angeles Area Is Called Kizh Not Tongva*. Kizh Tribal Press, San Gabriel, California.
- Tang, Bai “Tom,” Deirdre Encarnación, and Daniel Ballester
 2008 Historical/Archaeological Resources Survey Report: Chino Groundwater Basin Dry-Year Yield Program Expansion, Los Angeles, Riverside, and San Bernardino Counties, California. On file, South Central Coastal Information Center, California State University, Fullerton.
- USGS (United States Geological Survey, U.S. Department of the Interior)
 1903 Map: Cucamonga, Calif. (15', 1:62,500); surveyed in 1894.
 1942 Map: Ontario and Vicinity, Calif. (1:31,680); surveyed in 1933.
 1954 Map: Ontario, Calif. (7.5', 1:24,000); aerial photographs taken in 1952, field checked 1954.

- 1967 Map: Ontario, Calif. (7.5', 1:24,000); aerial photographs taken in 1966, field checked 1967.
- 1969 Map: San Bernardino, Calif. (120'x60', 1:250,000); 1958 edition revised.
- 1979 Map: Santa Ana, Calif. (120'x60', 1:250,000); 1959 edition revised.
- 1981 Map: Ontario, Calif. (7.5', 1:24,000); 1967 edition photorevised in 1978.
- Warren, Claude N.
- 1984 The Desert Region. In Michael J. Moratto (ed.): *California Archaeology*; pp. 339-430. Academic Press, Orlando, Florida.

APPENDIX 1 PERSONNEL QUALIFICATIONS

PRINCIPAL INVESTIGATOR/HISTORIAN Bai “Tom” Tang, M.A.

Education

- | | |
|-----------|--|
| 1988-1993 | Graduate Program in Public History/Historic Preservation, University of California, Riverside. |
| 1987 | M.A., American History, Yale University, New Haven, Connecticut. |
| 1982 | B.A., History, Northwestern University, Xi'an, China. |
| 2000 | “Introduction to Section 106 Review,” presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno. |
| 1994 | “Assessing the Significance of Historic Archaeological Sites,” presented by the Historic Preservation Program, University of Nevada, Reno. |

Professional Experience

- | | |
|-----------|---|
| 2002- | Principal Investigator, CRM TECH, Riverside/Colton, California. |
| 1993-2002 | Project Historian/Architectural Historian, CRM TECH, Riverside, California. |
| 1993-1997 | Project Historian, Greenwood and Associates, Pacific Palisades, California. |
| 1991-1993 | Project Historian, Archaeological Research Unit, University of California, Riverside. |
| 1990 | Intern Researcher, California State Office of Historic Preservation, Sacramento. |
| 1990-1992 | Teaching Assistant, History of Modern World, University of California, Riverside. |
| 1988-1993 | Research Assistant, American Social History, University of California, Riverside. |
| 1985-1988 | Research Assistant, Modern Chinese History, Yale University. |
| 1985-1986 | Teaching Assistant, Modern Chinese History, Yale University. |
| 1982-1985 | Lecturer, History, Xi'an Foreign Languages Institute, Xi'an, China. |

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California's Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST
Michael Hogan, Ph.D., RPA (Registered Professional Archaeologist)

Education

- 1991 Ph.D., Anthropology, University of California, Riverside.
- 1981 B.S., Anthropology, University of California, Riverside; with honors.
- 1980-1981 Education Abroad Program, Lima, Peru.

- 2002 “Section 106—National Historic Preservation Act: Federal Law at the Local Level,”
UCLA Extension Course #888.
- 2002 “Recognizing Historic Artifacts,” workshop presented by Richard Norwood,
Historical Archaeologist.
- 2002 “Wending Your Way through the Regulatory Maze,” symposium presented by the
Association of Environmental Professionals.
- 1992 “Southern California Ceramics Workshop,” presented by Jerry Schaefer.
- 1992 “Historic Artifact Workshop,” presented by Anne Duffield-Stoll.

Professional Experience

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
- 1999-2002 Project Archaeologist/Field Director, CRM TECH, Riverside, California.
- 1996-1998 Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.
- 1992-1998 Assistant Research Anthropologist, University of California, Riverside.
- 1992-1995 Project Director, Archaeological Research Unit, U.C. Riverside.
- 1993-1994 Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C.
Riverside, Chapman University, and San Bernardino Valley College.
- 1991-1992 Crew Chief, Archaeological Research Unit, U.C. Riverside.
- 1984-1998 Project Director, Field Director, Crew Chief, and Archaeological Technician for
various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

Principal investigator for, author or co-author of, and contributor to numerous cultural resources management study reports since 1986.

Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

PROJECT ARCHAEOLOGIST/REPORT WRITER
Deirdre Encarnación, M.A.

Education

- 2003 M.A., Anthropology, San Diego State University, California.
2000 B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.
2021 Certificate of Specialization, Kumeyaay Studies, Cuyamaca College, California.

Professional Experience

- 2004- Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.
2001-2003 Part-time Lecturer, San Diego State University, California.
2001 Research Assistant for Dr. Lynn Gamble, San Diego State University.
2001 Archaeological Collection Catalog, SDSU Foundation.

Memberships

Society for California Archaeology; Society for Hawaiian Archaeology; California Native Plant Society.

PROJECT ARCHAEOLOGIST
Hunter C. O'Donnell, B.A.

Education

- 2016- M.A. Program, Applied Archaeology, California State University, San Bernardino.
2015 B.A. (*cum laude*), Anthropology, California State University, San Bernardino.
2012 A.A., Social and Behavioral Sciences, Mt. San Antonio College, Walnut, California.
2011 A.A., Natural Sciences and Mathematics, Mt. San Antonio College, Walnut, California.

Professional Experience

- 2017- Project Archaeologist, CRM TECH, Colton, California.
2016-2018 Graduate Research Assistant, Applied Archaeology, California State University, San Bernardino.
2016-2017 Cultural Intern, Cultural Department, Pechanga Band of Luiseño Indians, Temecula, California.
2015 Archaeological Intern, U.S. Bureau of Land Management, Barstow, California.
2015 Peer Research Consultant: African Archaeology, California State University, San Bernardino.

APPENDIX 2

**CORRESPONDENCE WITH
NATIVE AMERICAN REPRESENTATIVES***

* Seven local Native American representatives were contacted during this study; a sample letter is included in the appendix.

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION

915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 (fax)
nahc@pacbell.net

Project: Proposed City of Chino State Street Water Treatment Project (CRM TECH No. 3789)

County: San Bernardino

USGS Quadrangle Name: Ontario, Calif.

Township 1 South **Range** 8 West **SB BM; Section(s)** 26 and 35

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

Street Address: 1016 E. Cooley Drive, Suite A/B

City: Colton, CA **Zip:** 92324

Phone: (909) 824-6400 **Fax:** (909) 824-6405

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to make improvements to the existing State Street Water Treatment Facility (SSWTF), modifications at Well 12, and the installation of segments of both water transmission and brine pipelines within several public roadways in the service area of the City of Chino, San Bernardino County, California.

October 6, 2021



NATIVE AMERICAN HERITAGE COMMISSION

November 14, 2021

Nina Gallardo
CRM TECH

Via Email to: ngallardo@crmtech.us

Re: Proposed City of Chino State Street Water Treatment Project, San Bernardino County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
William Mungary
Paiute/White Mountain
Apache

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoano

COMMISSIONER
Sara Dutschke
Miwok

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki,
Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

**Native American Heritage Commission
Native American Contact List
San Bernardino County
11/14/2021**

Gabrieleno Band of Mission Indians - Kizh Nation

Andrew Salas, Chairperson
P.O. Box 393
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno

Morongo Band of Mission Indians

Ann Brierty, THPO
12700 Pumarra Road
Banning, CA, 92220
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

Cahuilla
Serrano

Gabrieleno/Tongva San Gabriel Band of Mission Indians

Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrieleno

Morongo Band of Mission Indians

Robert Martin, Chairperson
12700 Pumarra Road
Banning, CA, 92220
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

Cahuilla
Serrano

Gabrielino /Tongva Nation

Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St.,
#231
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino

Quechan Tribe of the Fort Yuma Reservation

Jill McCormick, Historic
Preservation Officer
P.O. Box 1899
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Quechan

Gabrielino Tongva Indians of California Tribal Council

Christina Conley, Tribal
Consultant and Administrator
P.O. Box 941078
Simi Valley, CA, 93094
Phone: (626) 407 - 8761
christina.marsden@alumni.usc.edu

Gabrielino

Quechan Tribe of the Fort Yuma Reservation

Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Quechan

Gabrielino Tongva Indians of California Tribal Council

Robert Dorame, Chairperson
P.O. Box 490
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino

San Manuel Band of Mission Indians

Jessica Mauck, Director of
Cultural Resources
26569 Community Center Drive
Highland, CA, 92346
Phone: (909) 864 - 8933
Jessica.Mauck@sanmanuel-nsn.gov

Serrano

Gabrielino-Tongva Tribe

Charles Alvarez,
23454 Vanowen Street
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

Gabrielino

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed City of Chino State Street Water Treatment Project, San Bernardino County.

**Native American Heritage Commission
Native American Contact List
San Bernardino County
11/14/2021**

***Santa Rosa Band of Cahuilla
Indians***

Lovina Redner, Tribal Chair
P.O. Box 391820 Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
Isaul@santarosa-nsn.gov

***Serrano Nation of Mission
Indians***

Wayne Walker, Co-Chairperson
P. O. Box 343 Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

***Serrano Nation of Mission
Indians***

Mark Cochrane, Co-Chairperson
P. O. Box 343 Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

***Soboba Band of Luiseno
Indians***

Isaiah Vivanco, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

***Soboba Band of Luiseno
Indians***

Joseph Ontiveros, Cultural
Resource Department
P.O. BOX 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed City of Chino State Street Water Treatment Project, San Bernardino County.

November 15, 2021

RE: Proposed State Street Water Treatment Facility Improvements Project
Modifications at Well 12 and Approximately 1.8 Linear Miles of Water Pipeline Alignment
City of Chino, San Bernardino County, California
CRM TECH Contract #3789

Dear Tribal Representative:

I am writing to bring your attention to an ongoing CEQA- and Section 106-compliance study for the proposed project referenced above, which entails improvements at the existing State Street Water Treatment Facility (SSWTF), specifically modifications at Well 12, and the installation of approximately 1.8 linear miles of pipeline within several public roadways within the SSWTF service area in the City of Chino. The accompanying map, based on the USGS Ontario, Calif., 7.5' quadrangle, depict the Area of Potential Effects (APE) within Sections 26 and 35, T1S R8W, SBBM.

The Native American Heritage Commission reports in a letter dated November 14, 2021, that the results of the Sacred Lands File search were negative but recommends that local Native American groups be contacted for further information (see attached). Therefore, as part of the cultural resources study for this project, I am writing to request your input on potential Native American cultural resources in or near the APE.

Please respond at your earliest convenience if you have any specific knowledge of sacred/religious sites or other sites of Native American traditional cultural value in or near the APE, or any other information to consider during the cultural resources investigations. Any information or concerns may be forwarded to CRM TECH by telephone, e-mail, facsimile, or standard mail. Requests for documentation or information we cannot provide will be forwarded to our client and/or the lead agencies, namely the City of Chino and the Bureau of Reclamation.

We would also like to clarify that, as the cultural resources consultant for the project, CRM TECH is not involved in the AB 52-compliance process or in government-to-government consultations. The purpose of this letter is to seek any information that you may have to help us determine if there are cultural resources in or near the project area that we should be aware of and to help us assess the sensitivity of the APE. Thank you for your time and effort in addressing this important matter.

Respectfully,

Nina Gallardo
Project Archaeologist/Native American liaison
CRM TECH
Email: ngallardo@crmtech.us

Encl.: NAHC response letter and project location map

From: Quechan Historic Preservation Officer <historicpreservation@quechantribe.com>
Sent: Tuesday, November 16, 2021 11:17 AM
To: ngallardo@crmtech.us
Subject: RE: NA Scoping Letter for the Proposed State Street Water Treatment Facility Improvements Project in the City of Chino, San Bernardino County (CRM TECH #3789)

This email is to inform you that we have no comments on this project. We defer to the more local Tribes and support their decisions on the projects.

From: Gabrieleno Administration <admin@gabrielenoindians.org>
Sent: Thursday, November 18, 2021 10:23 AM
To: Nina Gallardo
Cc: bsalas@tcrmanagement.net
Subject: Re: NA Scoping Letter for the Proposed State Street Water Treatment Facility Improvements Project in the City of Chino, San Bernardino County (CRM TECH #3789)

Hello Nina

Can you please provide us with the lead agency's contact information?

Thank you

Brandy Salas

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org

From: Nina Gallardo <ngallardo@crmtech.us>
Sent: Thursday, November 18, 2021 11:29 AM
To: 'Gabrieleno Administration'
Subject: RE: NA Scoping Letter for the Proposed State Street Water Treatment Facility Improvements Project in the City of Chino (CRM TECH #3789)

Hello Brandy,

The City of Chino's point of contact is Natalie Ávila. Ms. Ávila can be contacted by phone at (909) 334-3406 or by e-mail at navila@cityofchino.org.

Thank you for your time and input on this project.
Nina Gallardo
Project Archaeologist/Native American liaison
CRM TECH

From: Ryan Nordness <Ryan.Nordness@sanmanuel-nsn.gov>
Sent: Wednesday, December 15, 2021 12:46 PM
To: ngallardo@crmtech.us
Cc: Jessica Mauck
Subject: RE: NA Scoping Letter for the Proposed State Street Water Treatment Facility
Improvements Project in the City of Chino, San Bernardino County (CRM TECH #3789)

Hey Nina,

Thanks for reaching out about this project, and I apologize for letting it lapse for a time. Please place me, and not Jessica, as the POC for all upcoming information requests and notices. This project is outside of Serrano ancestral territory and, as such, SMBMI will not be requesting to receive consulting party status with the lead agency or to participate in the scoping, development, or review of documents created pursuant to legal and regulatory mandates.

Kind regards,
Ryan Nordness
Cultural Resource Analyst
San Manuel Band of Mission Indians

TELEPHONE LOG

Name	Tribe/Affiliation	Telephone Contacts	Note
Sandonne Goad, Chairperson	Gabrielino/Tongva Nation	10:20 am, December 15, 2021; 12:25 pm, December 23, 2021	Left voice messages; no response to date.
Andrew Salas, Chairman	Gabrieleño Band of Mission Indians - Kizh Nation	None	Brandy Salas, Tribal Administrative Specialist, responded by e-mail on November 18, 2021 (copy attached).
Anthony Morales, Chairperson	Gabrieleño/Tongva San Gabriel Band of Mission Indians	10:25 am, December 15, 2021; 12:27 pm, December 23, 2021	Left voice messages; no response to date.
Charles Alvarez, Chairperson	Gabrielino-Tongva Tribe	10:32 am, December 15, 2021; 12:32 pm, December 23, 2021	Left voice messages; no response to date.
Robert F. Dorame, Chairperson	Gabrielino Tongva Indians of California Tribal Council	10:28 am, December 15, 2021; 12:29 pm, December 23, 2021	Mr. Dorame stated that he would contact the Tribal Consultant/Administrator for comments, if any. No further response to date.
Ann Brierty, Tribal Historic Preservation Officer	Morongo Band of Mission Indians	10:35 am, December 15, 2021; 12:44 pm, December 23, 2021	Left voice messages; no response to date.
Jill McCormick, Historic Preservation Officer	Quechan Tribe of the Fort Yuma Reservation	None	Ms. McCormick responded by e-mail on November 16, 2021 (copy attached).
Jessica Mauck, Director of Cultural Resources	San Manuel Band of Mission Indians	10:48 am, December 15, 2021	Ryan Nordness, Cultural Resource Analyst, responded by e-mail on December 15, 2021 (copy attached).
Lovina Redner, Chairperson	Santa Rosa Band of Cahuilla Indians	1:16 pm, December 15, 2021; 12:48 pm, December 23, 2021	Left voice messages, including for Vanessa Minott, assistant to the Chairperson; no response to date.
Mark Cochrane, Co-Chairperson	Serrano Nation of Mission Indians	1:21 pm, December 15, 2021; 1:34 pm, December 15, 2021	Mr. Cochrane requested notification if any Native American cultural resources were discovered during ground-disturbing activities.
Joseph Ontiveros, Tribal Historic Preservation Officer	Soboba Band of Luiseño Indians	1:25 pm, December 15, 2021	Jessica Valdez, Cultural Resource Specialist, stated that the Tribe would defer to Anthony Morales of the Gabrieleño/Tongva San Gabriel Band.

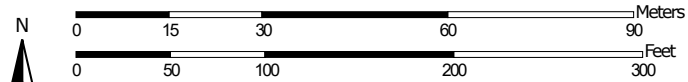
**APPENDIX 5
SOILS MAPS**

Soil Map—San Bernardino County Southwestern Part, California
(State Street Water Treatment Facility)



Soil Map may not be valid at this scale.

Map Scale: 1:1,220 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

11/8/2021
Page 1 of 3

Soil Map—San Bernardino County Southwestern Part, California
(State Street Water Treatment Facility)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County Southwestern Part, California

Survey Area Data: Version 13, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 5, 2020—Feb 6, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
TuB	Tujunga loamy sand, 0 to 5 percent slopes	5.7	100.0%
Totals for Area of Interest		5.7	100.0%

Soil Map—San Bernardino County Southwestern Part, California
(State Street Water Treatment Facility Well 12 Site)



Soil Map—San Bernardino County Southwestern Part, California
(State Street Water Treatment Facility Well 12 Site)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

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Survey Area Data: Version 13, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 5, 2020—Feb 6, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HbA	Hanford sandy loam, 0 to 2 percent slopes	0.1	1.0%
TuB	Tujunga loamy sand, 0 to 5 percent slopes	6.9	99.0%
Totals for Area of Interest		7.0	100.0%